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Exploratory Analysis of the Design of Multimodal Digital Storytelling Rubrics for Strengthening Communication in the 21st Century

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ABSTRACT

Communication skills are in essential competencies 21st-century education, requiring individuals to convey ideas effectively across multiple modes. Although digital storytelling (DS) has been widely recognized as an approach to developing multimodal communication, evaluation instruments that systematically capture its narrative and multimodal complexity remain limited. This study aims to develop dimensional indicators for a multimodal digital storytelling rubric grounded in real-world digital communication practices. A qualitative-exploratory approach was employed by analyzing 100 high-engagement creators across YouTube, TikTok, and Instagram Reels. Data were analyzed using NVivo software via open coding, axial coding, and selective coding procedures. The findings reveal four key dimensions of effective digital storytelling: narrative hook, narrative structure, multimodal integration, and closing message. These dimensions highlight that successful digital communication relies on structured narratives, strategic audience engagement, and the integration of multiple semiotic modes. Based on these findings, a rubric consisting of eight indicators and four performance levels was developed to support assessment in educational contexts. This study contributes a practice-informed and empirically grounded assessment tool that bridges real-world digital practices with classroom evaluation, offering both theoretical insights into multimodal literacy and practical implications for teacher education.

1. Introduction

In the 21st-century, communication skills are essential competencies in both education and the professional world. Communication is a crucial ability, on par with critical thinking, creativity, and collaboration as key skills that learners must

master (Tohani, E., & Aulia, 2022). Communication is no longer seen merely as the ability to speak or write in traditional ways. Instead, it refers to the ability to convey ideas effectively through various mediums, including text, visuals, audio, and digital media. The concept of multimodal literacy suggests that meaning is created through the simultaneous use of text, images, sound, movement, and visual symbols. Thus, modern communication is both multimodal and context-dependent (Huang, 2017). The development of digital technology further emphasizes the need for communication skills that are multimodal, interactive, and context-sensitive (Chang & Chu, 2022).

In this context, digital storytelling emerges as the most widely studied approach for developing narrative communication in the 21st-century. Digital storytelling combines text, images, audio, and video to create interactive and multimodal stories, thereby meeting the demands of contemporary digital literacy (Puspitasari et al., 2025). Research shows that digital storytelling not only increases reading interest and conceptual understanding, but also enhances creativity, collaboration, and self-regulation through collaborative story-making and multimodal projects (Ugap et al., 2025). At the elementary school level, digital storytelling improves learning motivation. In English learning, it helps students become more fluent in speaking. In biology, it enhances academic performance and critical thinking skills (Bilici & Yilmaz, 2024). In Indonesia, digital storytelling helps to address low reading rates and makes the learning process more engaging and relevant to real-life situations (Harahap et al., 2024; Purnama et al., 2022).

In addition to cognitive and literacy aspects, digital storytelling also has significant social, emotional, and identity-related dimensions. It gives a “voice” to marginalized groups and serves as an important tool for studying identity in educational contexts (Rodríguez et al., 2021; Ugap et al., 2025). Digital storytelling creates emotional connections, fosters empathy, provides a safe space for expression, and helps develop emotional self-awareness within the learning process (Sarica, 2023). In the field of healthcare, digital stories shared by patients and healthcare professionals facilitate knowledge sharing and collaborative decision-making (Park et al., 2021). In social media and cultural tourism, digital storytelling promotes platform integration, community participation, and cultural authenticity, thereby engaging young people more effectively (Kasemsarn & Nickpour, 2025).

Nevertheless, most research on digital storytelling still focuses on the impact of digital media on learning outcomes, rather than on the development of evaluation tools that can systematically measure the quality of narrative communication and multimodal integration (Sarica, 2023). Many studies remain qualitative or case studies. Therefore, there is a need for more robust empirical evidence and a clearer theoretical framework (Puspitasari et al., 2025). Another issue in learning is the low level of student participation, passive discussions, and a one-way learning environment (Shi & Tan, 2020).

Departing from these gaps, this study aims to design the dimensions of multimodal digital storytelling rubrics through an exploratory analysis of 100 content creators with a significant number of followers, which are assumed to represent

communication effectiveness, narrative appeal, and audience engagement. The analysis is focused on communication patterns, narrative structure, delivery styles, and multimodal integration, taking into account that the success of digital storytelling is determined by the competence of communicators, the use of technology, story structure, and the ethical aspects of presentation (Puspitasari et al., 2025; Ugap et al., 2025). The results of this mapping are directed to formulate dimensions and rubric indicators that are applicable in the context of education, both for teachers and prospective educators. Therefore, this study formulates three main questions: (RQ1) the dominant communication dimension in multimodal digital storytelling practices in high-audience creators; (RQ2) patterns and variations of narrative structure, narrative hooks, multimodal integration, and closing messages in 100 analyzed content; and (RQ3) the operationalization of the four dimensions as indicators and descriptors of performance levels in the rubric to support 21st-century communication skills.

2. Methodology

This study employs an exploratory qualitative design to identify key dimensions for multimodal digital storytelling, based on real-world digital communication practices. Qualitative research aims to explore and understand the meanings that arise from social or humanistic issues. The exploratory approach was chosen to examine phenomena lacks well-established conceptual framework, and to generate empirically grounded categories. The data for this research came from 100 digital content creators on YouTube, TikTok, and Instagram Reels using purposive sampling. The selection criteria considered audience reach, engagement rate, content consistency, and relevance to narrative-based communication. These criteria ensured that the selected creators represented effective and varied storytelling practices across digital platforms. A summary of the selection criteria is presented in Table 1.

Table 1. Hierarchical Criteria for Selecting Content Creators

| Stage | Selection Criteria | Operational Description |
|---------|---------------------------------------|---|
| Stage 1 | Minimum Number of Viewers/Subscribers | $\geq 100,000$ subscribers or an average of $\geq 50,000$ views per content; ensures a significant audience as a proxy for communication effectiveness. |
| Stage 2 | Engagement Rate | Engagement rate $\geq 3\%$ (likes + comments + shares divided by total views); indicates active and authentic audience engagement. |
| Stage 3 | Content Consistency | At least 12 narrative-based contents published within the last 6 months; ensures stable representation of communication patterns. |
| Stage 4 | Storytelling & Multimodal Quality | Content explicitly integrates multimodal elements; assessed independently by two researchers (Cohen's Kappa ≥ 0.70). |
| Stage 5 | Content Relevance & Credibility | Content is narrative/informative/educational; information is verifiable; excludes purely commercial promotional content. |

Procedurally, the selection process involves the following steps: (1) initial screening based on content categories; (2) verification of engagement rates; (3) checking the consistency of content uploads over the past 6 months; (4) evaluation of the quality of storytelling and multimedia elements by two independent researchers, with a Cohen’s Kappa reliability score of ≥ 0.70 ; and (5) verification of the relevance and credibility of the information contained in the content. Creators who pass all these steps are included in the final sample. The flowchart of the selection process is shown in Figure 1.

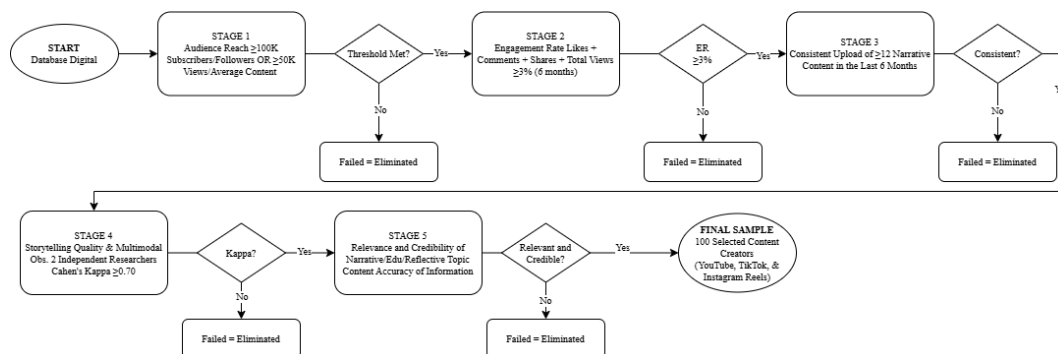


Figure 1. Flowchart of Content Selection for Digital Creators

Data collection was conducted through digital documentation techniques by observing and transcribing selected content. Each piece of content was transcribed and organized into analytical tables, allowing for the identification of the communication characteristics that contribute to the effectiveness of message delivery. The analysis covered seven dimensions: narrative hook, narrative structure, multimodal elements, 21st-century communication practices, storytelling style, VBL approach, and closing message. Data analysis was conducted using the NVivo software. The steps involved in the analysis included: (1) open coding, which involved identifying the initial meaningful units in the transcribed text; (2) axial coding, which involved grouping these codes into more conceptual categories; and (3) selective coding, which involved identifying the central themes that represent indicators of effective communication. The findings were then synthesized into dimensions, indicators, and performance descriptors for rubric development. To ensure the trustworthiness of the data, this study applied source triangulation and maintained an audit trail throughout the analysis process. These strategies were used to enhance the consistency, transparency, and credibility of the findings.

3. Results and Discussion

An analysis of 100 pieces of content created by digital creators using NVivo revealed four main dimensions in the practice of multimodal digital storytelling. These dimensions address Research Questions 1 and 2. The four dimensions are: (1) narrative hook, (2) narrative structure, (3) multimodal integration, and (4) closing message. Each of these dimensions exhibits patterns and variations that were systematically identified through open, axial, and selective coding processes.

Declarative statements dominate (38%), as they enable the direct delivery of the main message. Rhetorical questions come next (28%), as they effectively engage the audience's cognitive processes. Interesting facts (19%) are effective in arousing curiosity. Critical opinions (9%) and informal expressions (6%) serve as more specialized strategies, depending on the nature of the content. The dominance of declarative statements and rhetorical questions in narrative hooks can be explained through the cognitive theory of multimedia learning, which emphasizes the role of attention as the initial stage of meaningful learning (Mayer, 2024). Effective learning begins when individuals selectively attend to relevant information before organizing and integrating it into existing knowledge structures. In this context, concise and attention-grabbing openings help direct cognitive focus and reduce unnecessary cognitive load. Furthermore, from a social semiotic perspective, these opening strategies function as semiotic resources that guide audience interpretation from the outset. Thus, narrative hooks are not merely stylistic elements, but cognitively and socially grounded mechanisms that support effective digital communication.

The Narrative Hook as an Entry Point for Effective Communication

The first findings indicate that the narrative hook is the most important factor determining the effectiveness of digital communication. The dominance of declarative statements (38%) and rhetorical questions (28%), as shown in Table 2 and illustrated in the word cloud visualization (Figure 2), confirms that successful digital content always begins with elements that can arouse the audience's curiosity and emotional engagement from the very beginning of the narrative. Studies from (Rohmah et al., 2025) also proved that the use of video-based social media such as TikTok in project-based learning significantly increased students' creativity ($p = 0.012$) and communication skills ($p = 0.033$). These findings confirm that digital content platforms are not just a means of entertainment, but a space for the development of structured narrative communication competencies. This pattern is in line with the findings of this study that digital creators on TikTok, YouTube, and Instagram Reels consistently use narrative hooks based on statements and rhetorical questions as an effective and measurable communication strategy.

From the perspective of 21st-century communication, the ability to create effective narrative hooks is a manifestation of communication skills that emphasize the creative and context-sensitive delivery of ideas (Tohani, E., & Aulia, 2022). The variety of hook strategies identified reflects what (Chang & Chu, 2022) refer to as a multimodal approach, tailored to meet the needs of diverse audiences in interactive learning environments. These findings are also relevant to the concepts discussed by DS in relation to social media (Harahap et al., 2024) and cultural platforms (Kasemsarn & Nickpour, 2025), where the importance of effective opening elements in engaging young audiences is emphasized. In the context of education, the implications of these findings are that learners need to be explicitly taught how to create strategic narrative openings. The rubrics developed in this research provide descriptions of performance levels that can guide learners in developing more effective narrative techniques. This is in line with the principles of DS as a means of fostering literacy and 21st-century skills (Puspitasari et al., 2025).

Patterns of Narrative Structure in Digital Storytelling

The results of the NVivo analysis, through the axial coding process, show that digital creators tend to use relatively systematic narrative structures. The relationships between various narrative elements in digital storytelling are illustrated through the NVivo node summaries, as shown in Figure 3. This visualization reveals that elements such as the introduction, explanations, the climax of the story, and the concluding message are all interconnected, thereby creating a coherent narrative flow. Based on the axial coding analysis, five dominant narrative structures were identified. These are summarized in Table 3.



Figure 3. NVivo Summary Node – Multimodal Storytelling Digital Dimension Relationship Mapping

Table 3. Distribution of Narrative Structure Patterns (N=100)

| Narrative Structure Pattern | n | % | Dominant Content Type |
|---|------------|--------------|-------------------------------|
| Statement → Explanation → Closing/Conclusion | 35 | 35.0 | Informative Education, Review |
| Problem → Cause → Solution | 22 | 22.0 | Educational, Reflective |
| Teaser → Story → Climax/Conclusion | 18 | 18.0 | Documentary, Investigative |
| Chronological / Case from Beginning → Climax | 14 | 14.0 | Documentary, Critical |
| Other Thematic Patterns (POV, Comedy, Episodic) | 11 | 11.0 | Comedy, Human Experience |
| Total | 100 | 100.0 | - |

The “statement-explanation-conclusion” pattern dominates, accounting for 35%. This reflects a preference for presenting information in an efficient and structured manner. The “problem-causation-solution” pattern is most commonly used in educational and reflective content. The “teaser-story-climax” pattern is effective at keeping the audience’s attention in documentary and investigative content. The chronological pattern is prevalent in content based on real-life cases. Other thematic patterns account for 11% of the total, reflecting the creativity of the format in comedy and content related to human experiences.

Beyond its structural function, the dominance of the problem–cause–solution pattern may also indicate the development of argumentation skills in digital communication. This pattern reflects the ability to identify issues, analyze underlying causes, and propose solutions, which are core components of higher-order thinking. In an educational context, this finding suggests that digital storytelling can serve as a medium to foster students’ critical and argumentative thinking, particularly within project-based learning environments. By engaging students in constructing narratives that follow this pattern, educators can support the development of reasoning, problem-solving, and evidence-based communication skills that are essential for 21st-century learning.

The Narrative Structure as a Cognitive Framework for Communication

The second finding confirms that a systematic narrative structure is a fundamental component of effective digital storytelling. The mapping of relationships between various narrative elements, as shown in Figure 3, illustrates how the introduction, explanation, climax, and conclusion work together to create a cohesive narrative flow. The dominance of patterns like “statement-explanation-conclusion” (35%) and “problem-causation-solution” (22%) indicates that successful digital storytellers instinctively use narrative frameworks that facilitate the audience’s cognitive processing of the story. This finding is consistent with (Gantino et al., 2025) view that effective storytelling requires a clear narrative structure, so that the audience can follow the story’s development and understand the message being conveyed. (Dewanti, 2025) found that the digital generation shows a high interest in communicative and technology-based visual media, and affirms that contextual and humanistic interactive media are very relevant to meet the demands of 21st-century competencies. This is in line with the narrative structure patterns identified in this study specifically the dominance of the statement-explanation-closing (35%) and problem-cause-solution (22%) patterns that reflect how digital creators build narratives that are not only informative but also contextual and easy to follow for today’s audiences. This confirms that the presentation of narrative through a dynamic visual medium as predominantly found in content creators in this study is able to facilitate more effective information processing than conventional approaches.

The dominant pattern of “problem-causation-solution” in educational content confirms the findings of (Fadillah & Dini, 2021), who stated that the strength of digital storytelling lies in its ability to explain real-world problems through stories, thereby guiding the audience toward certain understandings or solutions. From a learning perspective, this pattern is consistent with the problem-based learning approach and critical thinking skills, which are key competencies of the 21st century (Bilici & Yilmaz, 2024). The “teaser-story-climax” pattern (18%), which is effective in investigative content, reflects the principle of suspense in narrative theory. This approach helps to maintain the audience’s attention over a longer period. From a metacognitive perspective, the ability to create well-structured narratives reflects learners’ ability to plan, monitor, and evaluate their own thinking processes. Research by (Purwoto & Kurniawan, 2025) shows that digital

storytelling in learning environments can increase student engagement, as the material is presented in the form of stories that are relevant to the context.

From the perspective of Multimodal Learning Theory, structured narrative patterns such as statement, explanation, conclusion and problem, cause, solution support the organization of information into coherent mental models. These structures help audiences process information more efficiently by aligning with principles such as coherence and signaling, which facilitate deeper understanding. Furthermore, within the framework of social semiotics, narrative structure can be seen as a form of meaning-making design, where the sequencing of elements reflects how communicators construct and prioritize meaning. Therefore, the prevalence of systematic narrative structures in this study indicates that effective digital storytelling is closely aligned with both cognitive processing principles and socially constructed meaning systems.

Patterns of Integration of Multimodal Components

Based on the categorization of nodes, seven main multimodal elements were identified, as used by the creators. The frequency of their use is shown in Table 4. Subtitles dominate as a multimodal element, accounting for 89% of all such elements. Video clips (72%) and gestures/actions (68%) are the most commonly used visual and kinesthetic elements to enhance the narrative aspect of the content. Voiceovers (61%) serve as auditory cues that help keep the audience's attention. Illustrations and animations (44%) are effective in simplifying abstract concepts. Motion graphics (31%) and static photographs (27%) act as supplementary elements that enhance the overall quality of the content.

Table 4. Distribution of Multimodal Elements (N=100, multi-coding)

| Multimodal Element | Frequency (n) | Primary Function in Narrative |
|--------------------------------------|------------------|--|
| Subtitles / On-screen Text | 89 | Accessibility and reinforcement of verbal messages |
| Video Clips / Footage | 72 | Illustration of context and visual evidence |
| Gestures / Acting / Expressions | 68 | Emotional engagement; nonverbal communication |
| Voice-over / Audio Narration | 61 | Auditory guidance and narrative elaboration |
| Illustrations / Animations | 44 | Simplification of complex concepts |
| Motion Graphics / Transition Effects | 31 | Visual rhythm and professional aesthetics |
| Photos / Static Images | 27 | Factual evidence and visual documentation |

Multimodal Integration as an Expression of Digital Literacy

The third finding indicates that the effectiveness of digital storytelling depends not only on the strength of verbal narration, but also on the cohesive integration of various semiotic elements. The dominance of subtitles (89%), as shown in Table 4, suggests that digital creators have embraced the principle of universal accessibility in digital communication. The combination of gestures/acting (68%) and voice-over (61%) demonstrates how digital communication retains its nonverbal aspects,

thereby helping to establish an emotional connection with the audience. This pattern can be explained through the cognitive theory of multimedia learning, which posits that individuals process information through separate visual and auditory channels with limited capacity (Mayer, 2024). The integration of textual and auditory elements, such as subtitles and narration, supports more effective information processing by reinforcing key messages across channels. This aligns with the principle that meaningful learning occurs when learners actively select, organize, and integrate multimodal information. From a social semiotic perspective, subtitles, visuals, and gestures function as complementary semiotic modes, each contributing distinct meaning-making affordances. Therefore, the effectiveness of multimodal integration lies in the coordinated use of multiple modes to enhance both comprehension and engagement in digital communication contexts.

These findings are consistent with the concept of multimodal literacy developed by (Huang, 2017). (Jannah et al., 2025) show that augmented reality-based digital storybooks that combine text, visual images, and immersive technology have received a very decent response from users (97%), indicating that a multimodal approach in presenting digital narratives significantly increases audience interest and engagement. Furthermore, Sabilla & Prayitno (2026) reported that the integration of digital technology in learning environments promotes meaningful learning experiences and significantly increases student engagement, particularly when learning activities are designed to be interactive and contextually relevant.

These findings reinforce the dimension of multimodal integration in this study, where effective digital creators do not rely on a single semiotic mode alone, but rather combine visuals, text, and interactive elements to build engaging and memorable narrative experiences. According to (Huang, 2017), meaning in modern communication is created through the combination of various semiotic modes such as text, images, sound, and movement. Effective multimodal integration can enhance comprehension, as information is presented through multiple cognitive channels simultaneously (Olvah et al., 2024). In the context of digital storytelling in education, (Ugap et al., 2025) and (Chang & Chu, 2022) emphasize that multimodal integration is what distinguishes digital storytelling from traditional storytelling methods. It enables learners to develop digital literacy, creativity, and self-regulation skills simultaneously. The fact that illustrations and animations are used in 44% of the content also confirms the benefits of digital storytelling in science education, as noted by (Bilici & Yilmaz, 2024). Visual representations help learners understand abstract concepts. This supports the arguments of (Purnama et al., 2022) and (Harahap et al., 2024), who argue that when integrated systematically, digital storytelling can help develop comprehensive digital competencies.

The Role of Closing Messages in Enhancing Communication

Through the process of selective coding, it was found that digital creators use various strategies for concluding their messages, going beyond mere summaries of the story. The patterns of conclusion identified are presented in Table 5. The conclusion/ending of the story is the most common closing strategy, accounting for

33% of cases. Calls to reflection (27%) reflect the participatory nature of modern digital communication. Invitations to interaction (21%) demonstrate creators' awareness of the dynamics of platform algorithms. Inspirational quotes (12%) evoke emotional and moral responses. Finally, punchlines or surprising endings (7%) are characteristic of comedic and investigative contents.

Table 5. Distribution of Closing Message Patterns (N=100)

| Closing Message Pattern | n | % | Communicative Function |
|---|-----|-------|--|
| Conclusion / Story Ending | 33 | 33.0 | Reinforcement and emphasis of the main message |
| Reflective Prompt / Open-ended Question | 27 | 27.0 | Fostering participatory dialogue |
| Call to Action (comment/follow/share) | 21 | 21.0 | Increasing message reach |
| Inspirational Quote (quotes/scripture) | 12 | 12.0 | Emotional and moral resonance |
| Punchline / Final Twist | 7 | 7.0 | Cognitive surprise and entertainment |
| Total | 100 | 100.0 | - |

The Closing Message Serves as a Manifestation of Participatory Communication

The fourth finding indicates that the closing portion of digital storytelling isn't merely a formal conclusion. Instead, it serves as a communication strategy that determines whether the interaction between the narrator and the audience is one-way or two-way. The dominance of elements that encourage reflection (27%) and interaction (21%), as shown in Table 5, confirms (Madi & Zalmi, 2025) view that one of the main strengths of storytelling is its ability to encourage the audience to think, feel, and reflect on the meaning of the story being told. This finding also aligns with (Limarandani et al., 2025) perspective on the importance of interaction as an indicator of audience engagement in digital communication.

From the perspective of 21st-century communication, these findings are highly relevant. (Sarica, 2023) explains that communication in the 21st-century requires not only the ability to convey messages clearly, but also the ability to create interactions, share ideas, and foster participation in digital environments. The "closing message" aspect identified in this study precisely addresses these needs it transforms the audience from passive recipients into active participants in digital discussions. This is consistent with the view that social media serves as a medium for giving participants a "voice" (Ugap et al., 2025), as well as a tool for building emotional connections (Gantino et al., 2025). The use of inspiring quotes (12%) and surprising endings (7%) reflects the emotional and aesthetic aspects discussed by (Sarica, 2023) regarding the role of emotions in educational digital storytelling.

From a theoretical standpoint, the use of reflective prompts and calls to action in closing messages aligns with constructivist learning principles, where learners are encouraged to actively engage in meaning, making rather than passively receive information. In the context of social semiotics, closing messages function as interactional resources that extend the communicative process beyond the content itself, inviting audience participation and reinterpretation. This reflects the shift in

21st-century communication from one-way transmission to participatory and dialogic engagement, where meaning is co-constructed between content creators and audiences.

Rubrik Digital Storytelling Multimodal

Based on the four dimensions identified from the NVivo data, this study has developed a rubric for multimodal digital storytelling that reflects authentic patterns of digital communication. This rubric is structured into four main dimensions and eight indicators, each further elaborated into four distinct performance levels to capture varying degrees of student proficiency (Table 6). This structure enables a more systematic and transparent evaluation of students’ digital storytelling skills across narrative and multimodal aspects. By grounding the rubric in empirical data derived from real-world content creators, the instrument ensures greater relevance to contemporary digital communication practices. In addition, the rubric is designed to be adaptable for educational contexts, allowing teachers to assess both the quality of storytelling and the effectiveness of multimodal integration. This rubric directly addresses Research Question 3 by translating analytical findings into a practical and applicable assessment tool. Furthermore, it supports formative and summative assessment processes by providing clear criteria for feedback and improvement. As such, the rubric not only serves as an evaluation instrument but also as a pedagogical guide to enhance students’ digital communication competencies.

Table 6. Rubrik Digital Storytelling Multimodal

| Dimension | Indicator | Level 4 - Excellent | Level 3 - Good | Level 2 - Fair | Level 1 - Poor |
|---------------------|-------------------|--|--|--|--|
| Narrative Hook | Opening Strategy | The opening is highly engaging, using rhetorical questions, surprising facts, critical opinions, or strong statements that immediately trigger curiosity and emotional engagement. | The opening is fairly engaging and relevant to the topic but lacks deeper audience engagement. | The opening is weak; there is an attempt to start the narrative but it does not effectively capture attention. | There is no clear opening or the opening is irrelevant to the content. |
| | Opening Relevance | The opening is highly aligned with the core topic and strategically directs the audience toward the main discussion. | The opening is somewhat relevant to the topic, but the direction toward the main idea is not explicit. | The connection between the opening and the main topic is unclear. | The opening is unrelated to the content. |
| Narrative Structure | Story Flow | The narrative has a complete and coherent structure (introduction, explanation, | The structure is fairly clear, but transitions are weak or some parts are | The structure is inconsistent; some parts are | The narrative lacks an identifiable structure. |

| | | | | | |
|------------------------|-----------------------|---|--|---|--|
| | | climax, conclusion) with logical and cohesive transitions. | disproportionate. | unclear or missing. | |
| | Story Development | The narrative is developed in depth through chronology, problem–solution patterns, or a teaser leading to a climax, with details that enrich understanding. | The narrative is adequately developed, but depth and detail are limited. | The development is very limited; the content feels flat. | The narrative does not develop; it consists of a single statement without elaboration. |
| Multimodal Integration | Use of Media Elements | Uses ≥ 3 multimodal elements effectively (e.g., visuals/illustrations, animations, subtitles, voice-over, gestures, video clips) that complement each other. | Uses 2–3 multimodal elements with fairly good integration. | Uses only 1–2 multimodal elements with minimal integration. | Little to no use of multimodal elements; the content is predominantly monomodal. |
| | Media Coherence | Visual, audio, and textual elements cohesively support message delivery; no elements overlap or contradict each other. | Most elements support the message, but some inconsistencies are present. | Media elements are poorly integrated; delivery feels fragmented. | Media elements are irrelevant or disrupt comprehension. |
| Closing Message | Narrative Closure | The closing clearly summarizes the main message, providing reflection, insight, or inspirational quotes that leave a strong and memorable impression. | The closing adequately summarizes the content but lacks meaningful added value. | The closing is present but unclear or does not sufficiently summarize the main message. | There is no clear closing; the content ends abruptly. |
| | Audience Engagement | The closing explicitly invites reflection, discussion, sharing, or interaction; fostering participatory two-way communication. | There is a call to interact, but it is not specific or does not strongly encourage engagement. | The call to interaction is minimal or implicit. | There is no call to interaction; communication is entirely one-way. |

The Contribution of Rubrics to the Development of Multimodal Assessment Tools

The rubrics developed in this study are summarized in Table 6, with the conceptual framework provided. These rubrics address the shortcomings identified by (Sarica, 2023) regarding the limitations of existing evaluation tools that fail to measure explicitly the quality of narrative communication and multimodal integration. Unlike traditional communication evaluation tools, which tend to focus solely on linguistic aspects, these rubrics take into account narrative, multimodal, and interactive elements in a comprehensive manner. The advantage of this approach lies in its reliance on empirical data from 100 digital content creators who have large audiences. These creators were selected through a careful process. The approach isn't based solely on theoretical frameworks. This approach yields indicators that are more reflective of real-world digital communication practices. As a result, it's more suitable for use in educational contexts that focus on 21st-century skills. As shown by (Aumgri & Apirating, 2023) in the context of digital storytelling, and by (Purnama et al., 2022) regarding the use of DS applications to improve speaking skills, concrete and practical evaluation tools are essential for systematically developing competencies.

Nevertheless, this research has its limitations that must be acknowledged. First, the sample of digital content creators operates within commercial social media ecosystems, which may introduce biases into the algorithms used to determine what content is displayed. Second, the criteria developed in this study are still preliminary and require empirical validation through expert judgment and tests of their readability in formal educational contexts. Further research is needed to establish the validity and reliability of these criteria across different educational levels, using more rigorous quantitative methods (Puspitasari et al., 2025).

From a practical perspective, the rubric developed in this study can be used by teachers as a structured guide to design, assess, and improve students' digital storytelling skills. Each dimension narrative hook, narrative structure, multimodal integration, and closing message can be translated into instructional criteria that help students understand what constitutes effective digital communication. In pre-service teacher education, the rubric can support the development of pedagogical strategies for teaching digital literacy. Meanwhile, in classroom practice, it can be applied as both an assessment and learning tool, enabling students to receive targeted feedback and progressively improve their communication competencies. Thus, the rubric not only functions as an evaluation instrument, but also as a pedagogical framework that bridges theory, practice, and authentic digital communication.

4. Conclusion

This study demonstrates that multimodal digital storytelling in high-engagement content follows identifiable and teachable patterns across four dimensions: narrative hook, narrative structure, multimodal integration, and closing message. These dimensions, empirically derived from 100 real-world content creators

through systematic NVivo analysis, provide a principled foundation for rubric design grounded in authentic digital communication practice rather than theoretical conjecture alone. This study offers a novel contribution by developing a multimodal digital storytelling rubric grounded in empirical analysis of real-world digital content. Unlike existing assessment tools that are largely theoretical, the proposed rubric is informed by authentic communication practices observed in high engagement digital creators. In doing so, this study addresses a critical gap in multimodal assessment by providing a structured and applicable instrument that bridges digital literacy practices with classroom-based evaluation.

The rubric developed from these dimensions carries meaningful implications for both theory and practice. Theoretically, it extends multimodal literacy frameworks by operationalizing digital narrative competence into measurable, level-differentiated descriptors. Practically, it equips teachers and teacher educators with a transparent, empirically grounded tool for assessing students' digital communication skills—an area where validated instruments have been scarce. Its integration into pre-service and in-service teacher education programs may support more systematic and equitable assessment of 21st-century communication competencies.

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