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The Role of Character Design in Enhancing Visual Storytelling: A Comparative Literature Review of Human-Created, AI-Generated, and Hybrid Character Design

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ABSTRACT

Character design is a central yet under-theorised element of visual communication, since a story cannot be told visually without a character to carry it. This paper is a literature review of the role of character design in visual storytelling, comparing how human-created, AI-generated, and hybrid (human-plus-AI) approaches are treated in existing research. The rise of generative AI tools capable of producing character art has raised open questions about whether AI-assisted creation can match the emotional and narrative depth of human-created design. The objective was to synthesise and critically compare findings from animation/design studies and human-AI interaction research, not to collect new primary data. A narrative literature review method was used: sources were located through structured keyword searches across six databases, screened, and analysed thematically across three creator-type categories. Ten core academic and preprint studies were analysed in depth. The literature indicates that character design functions as a communicative device across entertainment, children's media, and branding, with quantitative evidence linking character-based mascots to brand recall and purchase intention. Comparative studies suggest audiences currently prefer human-created visual work and that unguided AI output often struggles with narrative coherence, while hybrid workflows combining AI generation with human-guided structure show clear improvement over AI alone. The review concludes that no existing study has directly compared human, AI, and hybrid character design within one controlled study, and identifies this as the gap for future empirical PhD research.

Keywords : Character Design, Visual Storytelling, Audience Engagement, Animation, Illustration, Artificial Intelligence, Visual Communication

1. INTRODUCTION

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Volume 1 | Issue 1 | 2026 | Pages 38-47
Navkosh Publications

All visual narratives, whether an animation film, comic strips, children's entertainment programs or advertisements, require a character to convey the narrative. Character design, the creation of characters' physical traits, colours, silhouettes, and expression capacity, enables the characters to convey their personalities and emotions without the need for speech. With generative AI technology that creates character style artwork through text prompts, designers can come up with designs in minutes instead of days (Tang & Chen, 2024), and this has sparked a heated discussion on whether AI-assisted design can be as effective in storytelling as human-created design (Bellaiche et al., 2023).

The motivation of this reviewer comes from the experience in a bachelor's degree in Animation and master's degree in Applied Arts, though the practice is not used in this research as data. This paper is based on published research only, which allows defining what has been established before collecting the primary data.

Research Problem

The fields of character design and animation do not make much mention of AI as a tool for creating characters, despite the importance placed on this topic. The human-AI interaction field makes comparisons between the work done by humans and AI, though mostly in relation to art, comics or writing, and not character design (Bellaiche et al., 2023). There is no existing study found that compares all three mentioned types of character design.

Research Questions

1. RQ1: What role does character design (shape, colour, expression, personality) play in enabling visual storytelling, per existing literature?
2. RQ2: How do human-created, AI-generated, and hybrid approaches to character/visual-narrative creation compare on emotional depth, narrative consistency, and audience response?
3. RQ3: What gaps exist in the comparative literature, and what do they suggest for future empirical research?

Objectives of the Article:

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Navkosh Publications

The main objectives of this research are -

1. O1: Synthesise literature on core visual elements of character design and their documented storytelling function.
2. O2: Compare findings on human-created, AI-generated, and hybrid character/story creation.
3. O3: Examine children's media and brand mascots as applied evidence of character design's impact.
4. O4: Identify evidenced literature gaps to justify a future empirical PhD study.

Significance of the Article

This review connects design/animation research with human-AI interaction research around one question: does the method of character creation affect storytelling quality? It gives practitioners an evidence-based view of what AI can and cannot yet be trusted to do, and establishes a citation-backed gap to justify future empirical research.

2. LITERATURE REVIEW

Character Design and Visual Storytelling

Character design is treated across disciplines not as decoration but as a structural requirement for storytelling. Analysing 160 data-driven stories, Dasu et al. (2023) found that an identifiable central "character", even in non-fiction, helped audiences follow a narrative, proposing a formal "character-oriented design" framework. In a scoping review of 69 studies on character-driven storytelling in digital games, Zaini et al. (2025) similarly found believable, emotionally engaging character design consistently linked to stronger immersion and engagement. These two independent reviews, from data visualisation and game studies, support the same claim: without a functioning character, visual storytelling struggles to work.

Human-Created Character Design

Nasution & Rahmi (2023) performed a shape language analysis along with expert interviews for three characters from a 2D animated short film. Applying the method developed by Bishop, they discovered that two out of three characters succeeded in conveying their expected personality

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Volume 1 | Issue 1 | 2026 | Pages 38-47
Navkosh Publications

through basic shapes like circle, square, and triangle, while the third one failed to convey its expected personality due to being in opposition to its antagonist position through its rounded "friendly" shape. This example proves that both shape and color can be used as means of story-telling only if they are specifically designed to correspond to the character's role. In addition, Bellaiche et al. (2023) proved that people value artworks created by humans more even if the authorship is reversed.

AI-Generated Character Design

Comparisons are still restricted, but according to Önal et al. (2025), when art students were compared to AI programs that were supposed to produce the same three-panel comic strip based on identical prompts, while the latter was successful in producing a professional-looking piece, the AI failed to generate an intelligible storyline. Similarly, Tang and Chen (2024), in their study of how AI is used in animation processes, have found that AI significantly increases the speed of exploratory work, yet story-specific emotions-based decisions cannot be made without humans.

Hybrid (Human + AI) Character Design

However, there is an increasing body of work on collaboration between humans and AI, instead of mere competition. Chen and Jhala (2024) used the theory of narrative structure along with a generative AI system, and discovered that structuring the process of AI generation based on human narrative rules led to increased coherence of comics compared to unstructured AI generation. Ali & Parikh (2021) demonstrated that when writers were provided with visual content generated by AI, their stories were evaluated to be more creative and “visualisable” compared to stories of a control group without AI support, which however retained higher faithfulness to the initial prompt.

Applied Contexts: Children's Media and Brand Mascots

Esfahani et al. (2022) studied 369 sporting-goods consumers through SPSS/AMOS modelling and showed a positive and statistically significant relationship between the presence of brand mascots and their awareness, recall, and intention to buy - empirical evidence to show how mascots can influence behavior in addition to their aesthetic properties. Regarding children's

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Volume 1 | Issue 1 | 2026 | Pages 38-47
Navkosh Publications

media, the findings by Nasution and Rahmi (2023) that rounded shapes imply safety and friendliness support the arguments in design practice about the use of bright colors and soft shapes for children; the claim about bright colors, however, requires more primary evidence.

Research Gap

The literature review reveals several significant gaps. First, while individual studies address character design elements and contexts, there is limited integration within a unified framework. Second, the comparative effectiveness of human-created versus AI-assisted character design remains underexplored. Third, audience reception studies comparing human and AI character designs are notably absent. Fourth, ethical considerations regarding originality and copyright in AI-generated character design require further attention.

3. METHODOLOGY

This paper is a literature review, not a primary empirical study: no participants or surveys were used, and the "data" are the published sources themselves. Table 1 summarises the review process.

Parameter	Detail
Review type	Narrative literature review with a structured search process, chosen because AI-assisted character design is too new for a full systematic review.
Databases	Google Scholar, arXiv, IEEE Xplore, ScienceDirect, SAGE Journals, Semantic Scholar.
Search terms	"character design", "visual storytelling", "AI-generated characters", "human vs AI art", "shape language character", "brand mascot recall", "human-AI co-creation storytelling", combined with Boolean operators.

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NAVKOSH JOURNAL
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Volume 1 | Issue 1 | 2026 | Pages 38-47
Navkosh Publications

Date range	2013-2025, prioritising 2021-2025 for AI-specific work, since usable generative image tools only emerged from around 2021.
Inclusion criteria	Peer-reviewed articles, peer-reviewed conference papers, and arXiv preprints reporting a clear method and findings on character design or human-AI creative comparison.
Exclusion criteria	Marketing blogs and opinion pieces with no stated method; used only as non-evidential context where noted.
Analysis method	Thematic analysis (Braun & Clarke): sources coded into Human-created, AI-generated, and Hybrid categories, plus cross-cutting themes of emotional depth, narrative consistency, and applied impact.

A small number of non-peer-reviewed industry sources (e.g., design-studio blog posts on colour psychology) were consulted for context only, are not treated as evidence, and are flagged as such where referenced.

4. RESULT AND DISCUSSIONS

Table 2 summarises the core studies analysed, organised by creator-type category, with their reported findings.

Category	Study	Reported Finding
Human-created	Bellaiche et al. (2023)	Participants rated human-labelled art more favourably than AI-labelled art even when true authorship was reversed - the preference tracks perceived human

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Volume 1 | Issue 1 | 2026 | Pages 38-47
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		intention, not just visual properties.
Human-created	Önal et al. (2025)	Students and commercial AI tools recreated the same 3-panel comic strip; humans produced a more coherent visual narrative, while AI matched the art style but broke down on story sequencing.
Human-created	Nasution & Rahmi (2023)	Shape-language analysis and expert interviews on a 2D animated short: two of three characters conveyed intended personality through basic shapes; the mismatched one showed alignment is a deliberate design choice, not automatic.
AI-generated	Tang & Chen (2024)	AI meaningfully speeds up early, exploratory design, but emotionally nuanced, story-specific character decisions still need human direction.
Hybrid	Chen & Jhala (2024)	Guiding AI generation with human-derived narrative idioms improved the narrative coherence of AI-assisted comics compared to unguided generation.
Hybrid	Ali & Parikh (2021)	Writers given AI-generated visual aids wrote stories rated significantly more creative and "visualisable" than an unaided control group, though the control group stayed closer to the prompt.
Applied	Nasr Esfahani et al. (2022)	Survey of 369 consumers (SPSS/AMOS): brand mascot had a statistically significant positive effect on brand awareness, recall, and purchase intention.

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Cross-cutting	Zaini et al. (2025); Dasu et al. (2023)	A 69-study scoping review linked believable, emotionally engaging characters to stronger immersion; a 160-story analysis found an identifiable central character helps audiences follow narratives even in non-fiction data storytelling.

Three patterns stand out. First, where human and AI visual-narrative output were directly compared (Bellaiche et al., 2023; Önal et al., 2025), human-created work performed more favourably on perceived authenticity and narrative coherence — answering part of RQ2, though neither study isolated character design from broader visual art, limiting generalisability. Second, both hybrid-workflow studies (Chen & Jhala, 2024; Ali & Parikh, 2021) report improvement over unguided AI generation once combined with human-supplied structure, suggesting a strict "human versus AI" framing understates the evidence; AI works best as a creative accelerant within a human-directed process. Third, the applied-context studies (Nasr Esfahani et al., 2022; Zaini et al., 2025) offer the most methodologically robust evidence here, supporting this research's core premise that character design measurably affects engagement and consumer behaviour.

5. CONCLUSION

From the findings in the above studies, there are three findings that can be drawn. To begin with, it can be concluded that character design is a measurable structural communicative tool in entertainment, data storytelling, and branding, with branding being proved through quantitative research findings (Nasr Esfahani et al., 2022). The second conclusion is that, when considering the measured dimensions, at the moment, human-generated visual-narratives are better than AI-generated in terms of authenticity and coherent story telling (Bellaiche et al., 2023; Önal et al., 2025). Lastly, the combined human-and-AI-generated workflows are better than AI-only generated visual stories (Chen & Jhala, 2024; Ali & Parikh, 2021).

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However, there is no assertion on which method yields the best design of characters because none of the reviewed studies has compared the three methods directly. This is one of the shortcomings of the existing literature and forms the core gap in this paper.

There are limitations to this review as well: the review only included articles written in English from six different databases; the selected core studies have very different sample sizes and methods, ranging from the structural model that had 369 respondents to case studies of less than 25 respondents; there was no quality assessment apart from the selection criteria; and finally, generative AI rapidly develops, therefore, findings of studies up to three years old may not be reflective of the actual ability of the tools. Future studies, including the empirical study that this review is meant to substantiate, must include a comparison of human-created, AI-generated, and hybrid characters.

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Journal of Immersive Learning, AI and Digital Media
Volume 1 | Issue 1 | 2026 | Pages 38-47
Navkosh Publications

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