Journal of Human Development and Communication
Volume 15, Special Issue 2026 [17-27]

A Systematic Literature Review on Cinematic Virtual Reality Design Elements

Mohd Erpi Mohd Ali, Habee Bullah Affandy and Yasmin Ahmad

Faculty of Business & Communication, Universiti Malaysia Perlis

ABSTRACT

This systematic literature review explores how design elements in Cinematic Virtual Reality (CVR) are identified, categorised, and evaluated in relation to user experience (UX) outcomes. A total of 844 peer-reviewed studies published between 2015 and 2025 were analysed. The findings reveal six key experiential categories—Immersion and Presence, Interactivity, Navigation, Comfort of Use, Cognitive Load, and Narrative Engagement—that structure the influence of design strategies on UX. Within these categories, specific elements such as high-fidelity visuals, adaptive playback, gaze-based interaction, and guided navigation were found to enhance dimensions like presence, emotional engagement, usability, and cognitive clarity. Evaluation methods varied across studies, combining subjective instruments (e.g., questionnaires and interviews) with objective techniques (e.g., gaze tracking and behavioural analysis). This review not only clarifies the current landscape of CVR design and assessment but also highlights critical gaps in narrative structure, cognitive regulation, and user agency. The findings provide a conceptual foundation for developing a user-centric model to improve UX in CVR environments.

Keywords*:* Cinematic Virtual Reality, Design Elements, User Experience, Systematic Literature Review

1.0 INTRODUCTION

Cinematic Virtual Reality (CVR) is an emerging immersive storytelling medium that blends 360-degree video with cinematic techniques to create compelling narrative experiences (Säks, 2022). Unlike traditional virtual reality or film, CVR situates viewers within the story world but offers limited interactivity, typically allowing only gaze-based navigation or fixed viewpoints (Dooley, 2021; Mateer, 2017). This unique configuration makes user experience (UX) design in CVR both complex and distinctive. Key UX dimensions in CVR, such as presence, immersion, narrative engagement, interactivity, and comfort (O Fearghail et al., 2024; Reyes, 2018; Yu & Lo, 2023; Zhang et al., 2024), are directly influenced by design elements like visual framing, spatial audio, perspective, and attention-guiding cues (Cannavò et al., 2023; Han et al., 2022; Palma Stade et al., 2023; Xue & Lo, 2022)

Despite growing interest in CVR, research remains fragmented. Many studies isolate individual techniques or focus on specific use cases, making it difficult to develop a comprehensive understanding of effective design strategies (Alves et al., 2023; Tong et al., 2021). Additionally, foundational UX concepts such as "presence," "immersion," and "engagement" are often used inconsistently across studies, leading to conceptual ambiguity and limiting replicability (Zhang et al., 2024). This inconsistency hinders the development of shared design standards and theoretical frameworks, underscoring the need for more unified methodologies in future CVR research. To address these challenges, a Systematic Literature Review (SLR) is warranted to rigorously synthesise existing knowledge, identify recurring design elements, and clarify their contributions to user experience outcomes in CVR, thereby providing a structured foundation for future model development and empirical validation (Zhang et al., 2024).

2.0 METHODOLOGY

The systematic review in this study follows the well-established guidelines proposed by Kitchenham (2004), which are widely used in evidence-based research across computing and design disciplines. This methodology ensures a rigorous, transparent, and replicable process through three major stages: planning, conducting, and reporting the review.

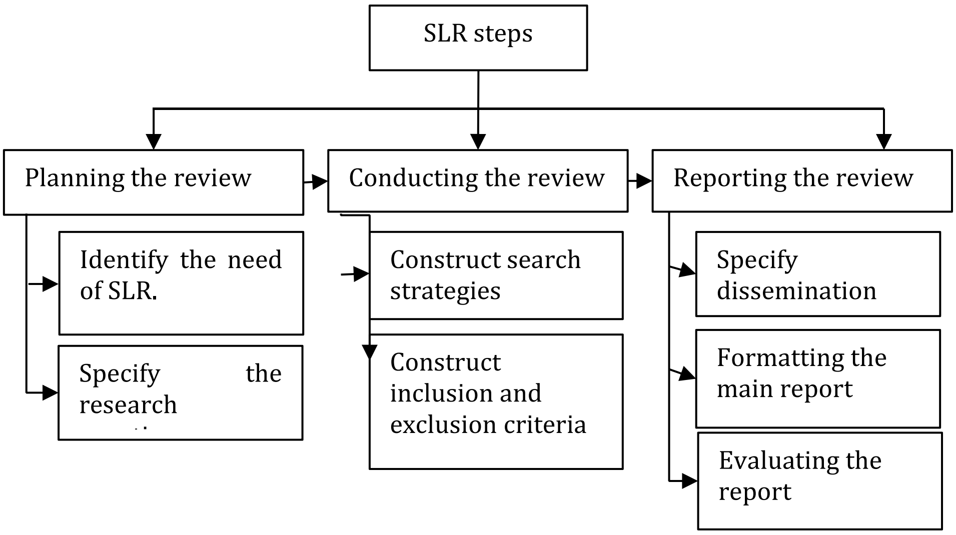

Figure 1. SLR steps by Kitchenham (2004)

2.1 Planning the Review

Planning the review involved identifying the research objectives and questions. To guide the review process, this study is directed by the following research questions (RQs), which are grounded in the problem context and designed to support synthesis across diverse studies:

RQ1: What design elements have been identified in existing studies as influential to user experience in Cinematic Virtual Reality?

RQ2: How are these elements categorised and evaluated concerning UX outcomes?

2.2 Conducting the Review

A structured search strategy was employed across five major academic databases, Scopus, IEEE Xplore, ACM Digital Library, Web of Science, and Google Scholar, to identify peer-reviewed studies published between 2015 and 2025 related to Cinematic Virtual Reality (CVR), design elements, and user experience (UX). The search string combined terms such as "Cinematic Virtual Reality," "360-degree video," and "VR Film" using Boolean operators. Only English-language journal articles and conference papers were included. The search was supplemented with backwards reference checking and citation tracking to ensure comprehensive coverage.

The search yielded the following results: ScienceDirect at 149 papers, ACM Digital Library at 2,436 papers, SpringerLink at 721 papers, and IEEE Xplore at 2,244 papers. This review included peer-reviewed journal articles and conference papers published between 2015 and 2025 that focused on Cinematic Virtual Reality (CVR) or 360-degree video, and their impact on user experience (UX) factors. Only English-language studies with accessible full texts were considered. Studies were excluded if they focused solely on interactive VR or gaming, on technical aspects such as hardware or compression without discussion of UX, or were non-peer-reviewed publications such as editorials, book chapters, or opinion pieces. After the papers were reviewed following the inclusion and exclusion criteria, 844 papers were selected.

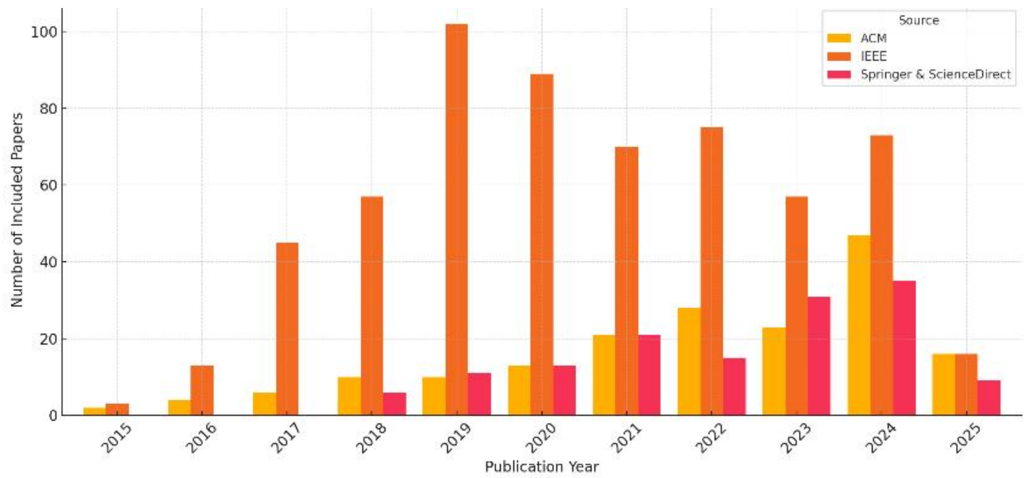

Figure 2. Number of included papers

In Figure 2, it is shown that IEEE leads in CVR-UX papers, especially in recent years, while Springer & ScienceDirect offer steady contributions, and ACM provides fewer but high-quality UX-focused studies.

2.3 Report the Review

This section presents the findings of the systematic literature review based on the two research questions. The review synthesises key design elements influencing user experience (UX) in Cinematic Virtual Reality (CVR) and examines how these elements are categorised and evaluated in existing studies. The discussion is organised according to the two research questions (RQ1 and RQ2), each addressing a specific aspect of UX design and assessment in CVR.

2.3.1 Identified design elements as influential to user experience in Cinematic Virtual Reality

To address the first research question, a comprehensive synthesis was conducted across peer-reviewed studies from 2015 to 2025. The findings were grouped into six experiential categories: Immersion and Presence, Interactivity, Navigation, Comfort of Use, Cognitive Load, and Narrative Engagement, to structure the diverse design elements influencing user experience in CVR. These categories are grounded in established UX literature and reflect key aspects of how users perceive and interact within immersive environments. This approach aids in synthesising cross-study insights and highlights how specific design strategies contribute to different facets of user experience (Cannavò et al., 2023; Chen & Tsao, 2023; Han et al., 2022; Soler-Dominguez & Gonzalez, 2020; Tong et al., 2021; Zhang et al., 2024). A full summary of design elements, their synthesis, and supporting studies is provided in Table 1.

Table 1 Summary findings to CVR design element

Categories	Synthesis Element	Design Elements
Immersive and Presence	1. High visual fidelity (realistic footage, spatial coherence, high frame rates) enhances immersion, presence, and motion realism.	• Realism of 360° Footage, • 360° video fidelity, • View stabilization, • Colour Neutralisation, • High Frame Rate (HFR), • Spatial congruence
	2. Spatialized and binaural audio increases immersion and enhances user orientation in the VR environment.	• Audio Spatialization, • Spatial Audio (Ambisonics), • Binaural audio
	3. Narrative attribution and story living enhance emotional engagement and user empathy	• Narrative Attribution in VR, • Story living
	4. Embodied interaction and motion prediction improve coherence and presence.	• Postural Sway, • Dynamic Walking Prediction
	5. Narrative and spatial coherence boost the sense of presence and plausibility.	• Spatial Presence, • Place & Plausibility Illusion
	6. Use of abstract spatial techniques expands perceived space and realism.	• Impossible Spaces • Symbolic Spatial Transitions • Fragmented and Disjointed Environments • Spatial Metaphor
	7. First-person camera perspective supports embodiment and increases user control.	• First-person perspective camera placement
Interactive	1. Gesture-based interaction (hand, gaze, avatar) and real-time feedback (haptic, visual, auditory) enhance embodiment and responsiveness in CVR.	• 3D Anatomical Interaction, • Viewer gesture input, • Gaze direction feedback, • Avatar-based gesture communication, • Real-time feedback modalities
	2. Gaze prediction and adaptive interfaces streamline user control and reduce cognitive load during exploration.	• Gaze-Based UI Prediction, • Adaptive PIP
	3. Interactive timelines and visual guidance improve usability, orientation, and narrative flow.	• Timeline Navigation (3D), • Visual Guidance Cues
	4. Hybrid formats and live content integration enable dynamic engagement and facilitate mixed learning/ viewing modes.	• 360 Video + 3D Objects, • Live Content Integration
	5. Hotspot interaction directs attention and empowers user control over narrative or exploration points.	• Hotspot Interaction
Navigation	1. Saliency prediction and cultural behaviour models guide user gaze, improving attention direction and spatial orientation.	• Spherical Saliency Prediction, • Cultural Fixation Behaviour • User behaviour and viewing

		context
	2. Predictive streaming techniques enhance responsiveness and visual clarity during navigation.	• Viewport Prediction, • Tile-Based Adaptive Streaming
	3. User-driven exploration increases spatial agency and immersive engagement.	• User-controlled head/camera exploration, • 360° panoramic navigation, • 'Look-around' affordances
Comfort of use	1. Motion sickness reduction through appropriate camera movement and motion modulation is critical for maintaining user comfort.	• VR Sickness Impact, • Camera Movement, • Motion Intensity Modulation
	2. Device variability impacts user interaction and immersion; consistency and subjective testing are necessary.	• Cross-Device UX Consistency, • Subjective Interaction Experience
	3. Affordable and accessible formats such as 360° video broaden participation in immersive experiences.	• Low-Cost 360° Alternatives
	4. Hardware and rendering techniques should prioritize comfort while ensuring performance and realism.	• Patch-Based Depth Estimation, • Lightweight wearable devices
	5. Allowing users to control pacing and duration enhances comfort and reduces fatigue.	• Viewer self-pacing, • Adjustable experience duration
Cognitive Load	1. Emotional and narrative content must be balanced to enhance engagement without overwhelming cognitive capacity.	• Empathy-Driven Storytelling, • Emotional Load from CVR
	2. Adaptive systems enhance attention regulation and minimise overload by responding to user behaviour and perception.	• Attention & Recall-based Adaptivity, • Attention-Comfort Understanding Model, • QoE-Based Encoding Decisions
	3. Post-session reflection and prompts support cognitive processing and memory reinforcement.	• Post-VR Dialogue, • Prompt-Based Noticing
	4. Distractions should be minimized to optimize user focus and reduce unnecessary processing load.	• Compression Artifacts, • Minimized FOV distractions, • Segmented active/passive scenes
Narrative	1. First-person and emotionally grounded narratives enhance empathy, identification, and user engagement.	• First-Person Storytelling, First-Person Emotional Viewpoint, End-of-Life VR Scenario
	2. Narrative design can be used to reinforce cultural identity and increase inclusivity through tailored storytelling.	• Chef-Narrated 360Â° VR, • Embodied Storytelling, • Culturally grounded adaptations
	3. Embedded and naturalistic cues guide narrative flow and maintain user immersion.	• Diegetic Guidance (Virtual Animals), • Action Units (AUs)
	4. Context-sensitive transitions and spatial framing tools direct user attention to	• Environmental Transitions, • Area Darkening

	narrative-relevant elements.	
	5. Narrative pacing and structure tools enhance clarity and engagement across varied experiences.	• Narrative segmentation (guided parades), • Interactive branching narratives, • Embodied storytelling (e.g., guide persona)

Immersion and presence are foundational to the success of CVR experiences. Immersion refers to the objective sensory fidelity of the environment, while presence describes the user's subjective feeling of being "inside" the virtual world (Cummings & Bailenson, 2016; Slater & Wilbur, 1997). The reviewed studies consistently emphasized that high-resolution 360° visuals, naturalistic environmental fidelity, and postural sway contribute to spatial presence and user embodiment. For instance, Yuan et al. (2023) found that increased realism through detailed textures and environmental audio enhances the user's sense of "being there." Similarly, Fujii et al. (2019) demonstrated that high frame rate (HFR) video reduces latency perception and improves motion fluency, which is essential for immersion. Studies by Reeves et al. (2021) also support the use of real-world scale and lighting to deepen presence. These findings affirm that immersion in CVR is not only technical but perceptual, and must align with the viewer's embodied expectations.

Narrative engagement is critical in CVR where traditional filmic storytelling must adapt to spatial and interactive formats. Several studies highlighted techniques such as point-of-view (POV) storytelling, segmented narratives, and adaptive playback systems as central to maintaining users' emotional and cognitive engagement. Steidle et al. (2023) found that users experience stronger emotional resonance when the narrative follows a first-person or embodied viewpoint. Moreover, adaptive playback mechanisms—such as those proposed by Tong et al. (2021)—allow the system to tailor narrative pacing based on user gaze or behavior, thus maintaining attention without causing cognitive overload. The integration of spatialized soundscapes also emerged as a powerful design strategy, directing focus and enhancing emotional tone (Zhang et al., 2024). These findings suggest that effective narrative design in CVR is dynamic, allowing for partial agency while anchoring the user to the central storyline.

Although CVR generally lacks full interactivity, several studies have discussed the value of light-touch interactivity in increasing user agency and engagement. Gaze-based selection, passive object triggers, and interactive scene transitions were common techniques. For example, Cannavò et al. (2023) reported that simple gaze interactions, such as focusing on a hotspot to reveal additional content, provided a sense of agency without disrupting immersion. Xue and Lo (2022) showed that allowing users to make small narrative decisions increased personal relevance and prolonged attention. These approaches align with user-centered design models where minimal interactivity serves to personalize rather than fragment the experience. Interactivity in CVR thus functions less as control and more as meaningful responsiveness.

Navigation in CVR is particularly challenging due to the medium's 360° nature. Poor spatial design can cause disorientation and reduce engagement. Design elements in this category included visual guidance cues, reorientation aids, and viewport anchoring. Han et al. (2022) found that spatial markers, such as lights or directional sound, significantly improved users' comprehension of narrative structure. Palma Stade et al. (2023) recommended using "framing within frames," a cinematographic strategy adapted for CVR, to subtly lead the viewer's gaze toward key narrative actions. Furthermore, dynamic reorientation techniques like snap turns or camera glides were found to reduce user confusion and prevent attention drift (Dooley, 2021). These strategies collectively ensure that users can follow the narrative without missing essential information due to spatial misalignment.

Comfort is crucial for sustained engagement in CVR, especially since longer sessions can lead to fatigue or simulator sickness. This category covered motion smoothing, minimised camera cuts, and ergonomic design. Studies such as those by O Fearghail et al. (2024) and Yu and Lo (2023) emphasised that abrupt transitions or unnatural movements significantly contribute to discomfort. To mitigate this, Reyes (2018) recommended using diegetic transitions, such as fading out via natural cues (e.g., a character closing a door), rather than abrupt jump cuts. Xue and Lo (2022) also highlighted that visual stability through head-locked displays helped reduce dizziness and motion inconsistencies. Ensuring user comfort is not merely an accessibility issue—it is directly tied to the quality of UX and the credibility of the immersive environment.

The final category, cognitive load, relates to the user's mental effort in processing content. In CVR, the user is responsible for directing their own attention, which can lead to overload. Design strategies to address this included focus cues, simplified scene structures, and guided audio narration. Studies such as those by Alves et al. (2023) and Cannavò et al. (2023) found that reducing simultaneous stimuli (e.g., limiting overlapping visuals and sounds) helped maintain user engagement. Tong et al. (2021) also demonstrated that adaptive systems that throttle visual density based on user behavior can improve comprehension and retention. These findings suggest that balancing narrative richness with cognitive simplicity is vital for designing effective CVR experiences.

In conclusion, the synthesis of studies addressing Research Question 1 reveals that a wide range of design elements (organised under six experiential categories) play a crucial role in shaping user experience in Cinematic Virtual Reality. Elements such as realism, adaptive playback, gaze-based interaction, and guided navigation consistently influence key UX dimensions like immersion, presence, narrative engagement, and cognitive comfort. This categorisation not only clarifies how design strategies are applied across the literature but also highlights their direct relevance to enhancing UX in CVR storytelling environments.

2.3.2 Categorisation of Design Elements and Evaluation Concerning UX Outcome in CVR

To answer Research Question 2, this study synthesises findings from the reviewed literature by focusing on three interrelated aspects: the UX dimensions assessed, the evaluation instruments and techniques used, and the link between specific design elements and reported UX outcomes.

Across the reviewed studies, several UX dimensions are consistently prioritised for evaluation. These include presence and immersion, emotional engagement and empathy, attention and cognitive recall, comfort and motion sickness, perceived realism, and user agency or interactivity. For instance, presence and immersion are central to many CVR studies, often described as the user's psychological sensation of "being there" within a mediated environment (Litleskare et al., 2022; Rodríguez et al., 2024). Emotional engagement and empathy are especially emphasized in narrative-driven experiences, such as health communication or cultural storytelling, where the goal is to provoke identification and emotional resonance (Farmer et al., 2024; Pieterse et al., 2023). Other dimensions, such as attention and recall, are common in educational or exploratory scenarios, while usability-related aspects, such as comfort and simulator sickness, are important for validating system tolerability and ensuring broader accessibility (Rodríguez et al., 2024; Im et al., 2023).

To evaluate these UX outcomes, the studies employ a diverse array of instruments and techniques, ranging from subjective self-report scales to objective physiological and behavioural tracking methods. Standardised and semi-standardised questionnaires are among the most frequently used methods. Likert-scale surveys are often employed post-experience to capture user perceptions of immersion, enjoyment, perceived realism, and learning effectiveness (Im et al., 2023; Pieterse et al., 2023). Widely accepted tools such as the Simulator Sickness Questionnaire (SSQ) and ITC-Sense of Presence Inventory (ITC-SOPI) are used to assess motion-related discomfort and presence, respectively (Rodríguez et al., 2024; Litleskare et al., 2022). In learning and narrative contexts, researchers integrate cognitive testing methods such as memory recall tasks or multiple-choice questionnaires to gauge attention and retention of information (Farmer et al., 2024; Besga et al., 2025). Furthermore, qualitative evaluations using open-ended interviews and thematic content analysis provide rich insights into user experience, particularly in studies emphasizing emotional, cultural, or behavioural aspects (Pieterse et al., 2023; Rosendahl & Wagner, 2024).

More recently, researchers have adopted task-blind and behaviour-driven methods to evaluate CVR without relying on predefined user goals. This is particularly evident in adaptive systems that use real-time behavioural analytics, such as head, hand, and eye tracking, to infer attention, cognitive load, and scene exploration strategies (Besga et al., 2025). For example, in a crime scene understanding study, users were guided through an environment using subtle gaze direction and highlighting mechanisms, and their attention and recall were evaluated based on their behaviour rather than their explicit task performance. This approach not only supported users without requiring knowledge of their assignments but also offered a more flexible and naturalistic evaluation of how users interact with CVR environments.

The link between specific design elements and UX outcomes is well supported across studies. First-person camera perspective, for example, has been shown to significantly enhance user identification, emotional empathy, and behavioural intention, particularly in documentary-style narratives like *The Waiting Room VR* (Farmer et al., 2024). Similarly, the use of spatialized audio and high-fidelity visuals has been directly associated with increased immersion and perceived realism (Rodríguez et al., 2024; Im et al., 2023). Design elements such as gaze-based hotspots, visual guidance, and adaptive cueing have been linked to improved navigation efficiency, narrative comprehension, and cognitive recall (Pieterse et al., 2023; Besga et al., 2025). Meanwhile, comfort-related elements—such as camera stabilisation, synchronised optical flow, and user-controlled pacing—have been found to significantly reduce motion sickness and enhance overall satisfaction, particularly in physically active CVR contexts like virtual nature walks or health rehabilitation (Litleskare et al., 2022).

In conclusion, the evaluation of design elements in CVR is deeply intertwined with user-centred methodologies that assess experiential, emotional, and cognitive dimensions of interaction. The combination of subjective reporting tools, behavioural metrics, and adaptive feedback systems allows researchers to systematically connect specific design strategies, such as perspective, interactivity, pacing, and sensory design, with tangible UX outcomes, such as presence, comfort, empathy, and learning. This layered and multidimensional evaluation framework provides robust insights into how CVR design can be optimised to meet diverse user needs across contexts.

3.0 IDENTIFIED RESEARCH GAP

This review reveals several critical research gaps in the study of user experience (UX) within Cinematic Virtual Reality (CVR). First, there is a lack of integrated and validated UX frameworks that systematically organise design elements across immersive, narrative, and interactive dimensions (Alves et al., 2023; Zhang et al., 2024). Core UX concepts such as presence, immersion, and engagement are used inconsistently across studies, leading to conceptual ambiguity and limiting theoretical development (Zhang et al., 2024; Litleskare et al., 2022). While interactivity is acknowledged, its role in passive or semi-passive CVR remains under-theorised, particularly regarding light-touch interactions such as gaze-based triggers that preserve narrative coherence (Cannavò et al., 2023; Xue & Lo, 2022). Moreover, cognitive load regulation is rarely addressed, despite the self-directed nature of CVR experiences and their potential to overwhelm users cognitively (Alves et al., 2023; Tong et al., 2021). Narrative structuring techniques—such as adaptive or segmented storytelling—are often implemented without clear evaluation of their impact on user comprehension or emotional engagement (Steidle et al., 2023; Tong et al., 2021). Methodologically, most studies rely heavily on subjective self-report instruments, such as questionnaires and interviews, and use real-time or behavioural analytics only sparingly, which could capture unconscious or task-blind user responses (Besga et al., 2025; Rodríguez et al., 2024). Finally, many design elements are tested in narrow, domain-specific contexts, lacking broader validation across different types of CVR applications (Farmer et al., 2024; Pieterse et al., 2023). These gaps highlight the need for more unified, adaptive, and empirically grounded approaches to designing and evaluating user-centred CVR experiences.

4.0 SUGGESTION FOR FUTURE STUDIES

Based on the findings and gaps identified in this Systematic Literature Review (SLR), a valuable direction for future research would be the development and testing of adaptive, narrative-aware CVR systems that dynamically adjust content pacing, guidance, and interaction based on real-time user feedback (e.g., gaze behavior, cognitive load indicators, or emotional engagement levels). While this review shows that adaptive playback and light-touch interactivity enhance UX, current studies lack robust, theory-driven systems that cohesively integrate these features. Future studies could prototype intelligent CVR storytelling frameworks that personalise the narrative flow according to user attention patterns or affective states, and empirically evaluate their impact on presence, comprehension, and emotional resonance. Additionally, such research could explore multimodal evaluation approaches that combine physiological data (e.g., heart rate variability or facial expression tracking) with self-report and behavioural measures to create a more holistic UX assessment model in immersive narrative environments. This would address the current gap in real-time, user-responsive CVR design and move the field toward more context-aware, personalised, and emotionally intelligent immersive media experiences.

5.0 CONCLUSION OF THE DISCUSSIONS

This systematic literature review has provided a structured synthesis of how design elements in Cinematic Virtual Reality (CVR) are categorised and evaluated with respect to user experience (UX) outcomes. Through the review of 844 peer-reviewed articles spanning from 2015 to 2025, the findings reveal a consistent taxonomy of six experiential categories: Immersion and Presence, Interactivity, Navigation, Comfort of Use, Cognitive Load, and Narrative Engagement, which encapsulate the diverse strategies employed in CVR design.

For RQ1, the analysis found that elements such as high-fidelity visuals, spatialised audio, adaptive playback, gaze-based interactions, and visual navigation cues are frequently associated with improved UX metrics. Each experiential category captures a distinct yet interdependent dimension of the CVR experience, ranging from perceptual immersion to narrative continuity and cognitive clarity. These findings underscore that UX in CVR is not shaped by isolated techniques but emerges from a confluence of sensory, emotional, and cognitive affordances embedded in the design.

For RQ2, the review reveals that UX outcomes are primarily evaluated through a combination of subjective self-report instruments (e.g., SUS, ITC-SOPI, SSQ), cognitive recall tests, and emerging behavioural analytics such as gaze tracking. These tools allow researchers to assess dimensions such as spatial presence, emotional engagement, comfort, and information retention. Notably, studies are increasingly incorporating adaptive and task-blind evaluation strategies to better reflect the open-ended, immersive nature of CVR environments. This aligns with the medium's narrative and experiential goals, particularly in cultural, educational, and therapeutic applications.

Together, the synthesis of RQ1 and RQ2 illustrates that, while CVR offers unique affordances for immersive storytelling, the field still grapples with challenges such as inconsistent terminology, limited theoretical integration, and underdeveloped design standards, particularly in areas such as cognitive load regulation and interactive agency. Therefore, this review not only clarifies the state of current knowledge but also lays the empirical groundwork for the development of a user-centric design model for CVR that is theoretically informed, empirically validated, and practically applicable across diverse contexts

REFERENCES

Alves, P., Rubio-Tamayo, J. L., & Duran-Fonseca, E. (2023). Investigating a cinematic virtual reality narrative framework for screenwriting. *Journal of Screenwriting*, *14*(3). https://doi.org/10.1386/josc_00136_1

Besga, S., Rodriguez, N., Sallaberry, A., Papastergiou, T., & Poncelet, P. (2025). Task-blind adaptive virtual reality: Is it possible to help users without knowing their assignments? *Virtual Reality*, *29*(1). https://doi.org/10.1007/s10055-025-01100-9

Cannavò, A., Castiello, A., Pratticò, F. G., Mazali, T., & Lamberti, F. (2023). Immersive movies: the effect of point of view on narrative engagement. *AI & SOCIETY*. https://doi.org/10.1007/s00146-022-01622-9

Chen, H.-H., & Tsao, H.-Y. (2023). A Framework For Presence Maintenance: Evoking Synesthesia and Empathy in Cinematic Virtual Reality. *2023 IEEE Gaming, Entertainment, and Media Conference (GEM)*, 1–4. https://doi.org/10.1109/GEM59776.2023.10389829

Cummings, J. J., & Bailenson, J. N. (2016). How Immersive Is Enough? A Meta-Analysis of the Effect of Immersive Technology on User Presence. *Media Psychology*, *19*(2). https://doi.org/10.1080/15213269.2015.1015740

Dooley, K. (2021). Cinematic virtual reality: A critical study of 21st century approaches and practices. In *Cinematic Virtual Reality: A Critical Study of 21st Century Approaches and Practices*. https://doi.org/10.1007/978-3-030-72147-3

Farmer, H., Skoulikari, E., Bevan, C., Gray, S., Cater, K., & Stanton Fraser, D. (2024). Using narrative 360° video as a tool to promote breast self-examination. *Virtual Reality*, *28*(1). https://doi.org/10.1007/s10055-023-00918-5

Han, F., Zhong, Y., & Zhou, M. (2022). Evaluating the Effect of Cinematography on the Viewing Experience in Immersive Environment. *2022 IEEE International Conference on Multimedia and Expo (ICME)*, 1–6. https://doi.org/10.1109/ICME52920.2022.9859864

Kitchenham, B. (2004). Procedures for performing systematic reviews. *Keele University,UK and National ICT Australia*, *33*. https://doi.org/10.1.1.122.3308

Mateer, J. (2017). Directing for Cinematic Virtual Reality: how the traditional film director's craft applies to immersive environments and notions of presence. *Journal of Media Practice*, *18*(1), 14–25. https://doi.org/10.1080/14682753.2017.1305838

O Fearghail, C., Gadipudi, N., & Young, G. W. (2024). Back to the Virtual Future: Presence in Cinematic Virtual Reality. *ACM International Conference Proceeding Series*, 80–87. https://doi.org/10.1145/3672406.3672418

Palma Stade, T., Schofield, G., & Moore, G. (2023). Narrative Perspectives and Embodiment in Cinematic Virtual Reality. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *14218 LNCS*. https://doi.org/10.1007/978-3-031-43401-3_16

Pieterse, A. D., Hierck, B. P., de Jong, P. G. M., Ginn, T. F., Hamoen, E. C., & Reinders, M. E. J. (2023). User experiences of medical students with 360-degree virtual reality applications to prepare them for the clerkships. *Virtual Reality*, *27*(2), 1381–1389. https://doi.org/10.1007/s10055-022-00731-6

Reyes, M. C. (2018). Measuring user experience on interactive fiction in cinematic virtual reality. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *11318 LNCS*. https://doi.org/10.1007/978-3-030-04028-4_33

Rodríguez, D., Borrego, A., Guzmán, M., & Llorens, R. (2024). Acoustic characteristics of voice production in virtual reality-simulated and physical environments: a comparative study in university professors. *Virtual Reality*, *28*(2). https://doi.org/10.1007/s10055-024-00967-4

Säks, E. (2022). Using Cinematic Virtual Reality to Get Acquainted with the Metaverse. *Baltic Screen Media Review*, *10*(2). https://doi.org/10.2478/bsmr-2022-0019

Slater, M., & Wilbur, S. (1997). A framework for immersive virtual environments (FIVE): Speculations on the role of presence in virtual environments. *Presence: Teleoperators and Virtual Environments*, *6*(6). https://doi.org/10.1162/pres.1997.6.6.603

Soler-Dominguez, J. L., & Gonzalez, C. (2020). Fog of story: Design, implementation and evaluation of a post-processing technique to guide users' point of view in cinematic virtual reality (cVR) experiences. *VISIGRAPP 2020 - Proceedings of the 15th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*, *1*. https://doi.org/10.5220/0009087303270333

Tong, L., Lindeman, R., & Regenbrecht, H. (2021). Viewer's Role and Viewer Interaction in Cinematic Virtual Reality. *Comput.* https://doi.org/10.3390/COMPUTERS10050066

Xue, W., & Lo, C. H. (2022). Sound-Guided Framing in Cinematic Virtual Reality – an Eye-Tracking Study. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *13312 LNCS*. https://doi.org/10.1007/978-3-031-06047-2_39

Yu, Z., & Lo, C.-H. (2023). Mapping the Viewer Experience in Cinematic Virtual Reality: A Systematic Review. *PRESENCE: Virtual and Augmented Reality*, *32*, 205–229. https://doi.org/10.1162/pres_a_00409

Zhang, Y., Zhou, H., Jiang, Z., Tang, Z., Luo, T., & Lei, Q. (2024). *Exploring Viewing Modalities in Cinematic Virtual Reality: A Systematic Review and Meta-Analysis of Challenges in Evaluating User Experience*. http://arxiv.org/abs/2411.15583