

# Visual Rhetoric In Open Distance Learning: Enhancing Accessibility For Students In The Faculty Of Languages And Communication

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## ABSTRACT

Relying solely on text in education presents challenges such as reduced attention spans and learner disengagement. Integrating relevant visual elements, such as images, icons, and diagrams, can enhance understanding, particularly for abstract concepts. For learners who are not fluent in the language of instruction, visual rhetoric transcends linguistic barriers, making educational content more accessible. This study focuses on the role of visual rhetoric in open distance learning (ODL), aiming to illustrate how visual elements can improve accessibility and engagement for students, especially in the Faculty of Languages and Communication. The proposed study will adopt a qualitative approach using interviews and content analysis to gather insights from instructors, students, and instructional designers. The findings will contribute to a deeper understanding of how visuals support comprehension, enhance memory retention, and foster inclusivity in digital education. By examining the application of visual rhetoric, this research seeks to inform the development of more effective, inclusive, and engaging learning materials in ODL environments.

**Keywords:** *visual rhetoric, ODL, accessibility, communication*

## INTRODUCTION

Open Distance Learning (ODL) has become an essential pillar in the global education system, providing learners with flexible, accessible, and cost-efficient pathways to education. In the Malaysian context, the expansion of ODL has been especially significant, fueled by the growing demand for higher education and the necessity to cater to working professionals and learners in remote areas (Ahmad et al., 2020). Several prominent Malaysian universities, including Universiti Sains Malaysia (USM), Universiti Teknologi Malaysia (UTM), Universiti Putra Malaysia (UPM), Open University Malaysia (OUM), Universiti Kebangsaan Malaysia (UKM), and Universiti Malaya

(UM), have actively developed and implemented ODL postgraduate programs to address the diverse learning needs of adult learners, professionals, and remote students. This trend reflects a broader national commitment to flexible and inclusive higher education, as highlighted in recent systematic reviews of ODL initiatives in Malaysia (Adnan & Ahyar, 2024; Kaur & Zawawi, 2021; Zainal et al., 2020).

Education has rapidly changed in the current digital era, particularly with the expanding use of Open Distance Learning (ODL) programs. Although these platforms provide flexibility and access to a larger audience, they also provide difficulties in sustaining inclusion, student engagement, and comprehension (Anderson, 2008; Means et al., 2014). Digital storytelling, a technique that combines multimedia components like text, audio, graphics, and narration to more successfully communicate educational content, is one of the newer answers to these problems. By using pictures, icons, diagrams, and other visual signals to convey concepts, influence students, and enhance comprehension, visual rhetoric plays a crucial part in this paradigm (Olson et al., 2008; Mauricio & Chu, 2014). An innovative pedagogical strategy that improves instructional communication by fusing multimedia components like text, audio, graphics, and video is digital storytelling (Gangan, 2014). Digital storytelling presents a promising way to engage students who are accustomed to electronic media from an early age as educational systems adjust to technology advancements while upholding traditional pedagogical goals (Sagri et al., 2018).

The intentional use of visual components to influence interpretation and transmit meaning is known as visual rhetoric. Based on the traditional rhetorical devices of ethos, pathos, and logos, it makes it possible to produce images that appeal to both reason and emotion while boosting the legitimacy of instructional materials (Buchanan, 1995). Visual rhetoric is a potent tool that can be used in learning situations to supplement or replace text-heavy resources, especially for students who might have trouble understanding complex concepts or with language skills (Kouyoumdjian, 2012; Sadoski & Paivio, 2013).

Crucially, visual rhetoric has the power to establish frames of perception, directing the audience's focus and influencing how they understand events and occurrences (Popova et al., 2023). In contemporary contexts where visual and digital language collide, this framing power becomes even more important. The study of digital rhetoric looks at how language use, communication strategies, and message persuasiveness are affected by digital technologies. Given how quickly digital media are developing, thorough philosophical investigation is required to fully understand their impact on public discourse, cultural norms, and human awareness. A better comprehension of the characteristics, purposes, and moral implications of digital and visual rhetoric is provided by such an approach, raising significant concerns about the ways in which these media platforms influence our values, beliefs, and reality perceptions (Popova et al., 2023).

In Open Distance Learning (ODL), a flexible educational approach that uses digital platforms for distant learning, the function of visual rhetoric is very important. ODL increases educational access, but it also slows down teacher-student contact. As a result, the caliber and layout of learning resources have a significant impact on how effective ODL is. In this case, visual rhetoric is essential for sustaining student interest, improving understanding, and guaranteeing that the material is accessible to a variety of learner groups (Hodges et al., 2020; Van der Waarde, 2010).

In education, accessibility refers to removing obstacles that can prevent students from fully interacting with and benefiting from course material, especially those who have cognitive difficulties, linguistic limits, or disabilities. Beyond physical accessibility, accessibility in the context of Open Distance Learning (ODL) encompasses cognitive and communicative aspects, such as the interpretability, organization, and clarity of learning materials (Aisami, 2015; Mejía & Zender, 2010). According to Markom et al. (2021), effective ODL implementation necessitates effort and two-way communication from both professors and students. Students build adaptive ways to get around connectivity and facility constraints, such as watching lectures on tape and looking for extra resources. The idea of user engagement, the degree to which students are motivated, focused, and emotionally committed in the learning process, is closely related to accessibility. It has been demonstrated that greater levels of involvement have a favorable impact on course completion rates, active participation, and information retention (Hattie, 2011).

The specific ways in which visual rhetoric, the deliberate use of visual components to direct comprehension and interpretation, contributes to improving accessibility and engagement in online learning environments are still largely unexplored, despite growing scholarly interest in multimedia and online learning. With relatively little focus on the persuasive and communicative potential of visual components, the majority of ODL research to date has focused on pedagogical tactics, learner autonomy, and technical infrastructure. Additionally, there is a dearth of qualitative research on how various student, teacher, and instructional designer groups understand and react to visual rhetoric in digital learning environments, as well as how these interpretations affect learning outcomes.

By suggesting a conceptual analysis of the function of visual rhetoric in ODL, with a focus on postgraduate students in the Faculty of Languages and Communication, this study aims to close this gap. The specific goal of this study is to investigate how visual components, such as diagrams, symbols, icons, and images, improve accessibility, encourage participation, and make comprehension easier for a range of learner populations. This study intends to contribute to the creation of more inclusive, efficient, and captivating digital learning resources in ODL situations by documenting the viewpoints of important stakeholders, such as students, teachers, and instructional designers.

## PROBLEM STATEMENTS

Text-heavy content can quickly become overwhelming for learners, leading to disengagement and a loss of interest. This issue is exacerbated when learners face difficulties in understanding abstract concepts, which are often better explained through visual aids. Even though English is widely used as an international language, it still poses barriers for non-fluent speakers. Visual elements such as images and icons can transcend language barriers and aid comprehension for learners who struggle with the language of instruction. Moreover, accessibility remains a critical concern. Many learners face challenges with traditional text-heavy materials due to conditions such as dyslexia, learning disabilities, visual impairments, or cognitive issues. It is essential to ensure that educational content is accessible to all learners, providing an equal opportunity for understanding and engagement.

## RESEARCH QUESTIONS

1. How do learners with varying abilities and backgrounds perceive the role of visual rhetoric in enhancing accessibility and understanding of learning materials in ODL environments?
2. How does the use of visual rhetoric as a supplement to text-based content influence the interpretation and understanding of concepts among learners?

## OBJECTIVES

1. To explore how learners with varying abilities and backgrounds perceive the role of visual rhetoric in enhancing the accessibility and understanding of learning materials in Open Distance Learning (ODL) environments.
2. To examine how the use of visual rhetoric as a supplement to text-based content influences the interpretation and understanding of concepts among learners.

## LITERATURE REVIEW

To produce effective and interesting instructional materials, rhetoric and visual components can be integrated in education. Images, films, infographics, and diagrams can be used to illustrate complex concepts and make them more understandable. This is crucial in the context of distance learning, where students may not benefit from face-to-face interactions with their peers and teachers.

By delivering a message that is more captivating and memorable, visual components can increase the persuasiveness of educational materials. Aisami (2015) emphasized the importance of visuals in supporting individual learning preferences and improving learning outcomes through visual literacy. For modern education to enhance learning outcomes and facilitate digital learning, visual literacy is crucial (Dyak, 2022).

Visual rhetoric in ODL enhances engagement by promoting arguments, critical thinking, and effective communication. Buchanan (1995) noted that rhetoric unites art and science, while Bonsiepe (2000) emphasized the role of aesthetics in aiding interaction with complex information.

*a. Visual Rhetoric in Education*

Visual rhetoric entails the deliberate use of visual components, such as images, icons, color schemes, diagrams, and layout structures, to communicate meaning, direct attention, and influence interpretation, particularly in educational contexts (Cohn, 2020). Cohn highlights the capacity of visuals to deliver complex information efficiently and to shape perception and decision-making more powerfully than text alone. As students and educators become more aware of the visual strategies embedded in everyday communication, they begin to recognize how these techniques can enhance comprehension and persuasion.

Importantly, the educational use of visual rhetoric extends beyond mere aesthetic appeal. Training learners to interpret visual elements critically can significantly improve their design literacy and communication skills. However, Cohn also cautions that visual materials must be made accessible to all learners, including those with visual impairments. Techniques such as captions and alternative text descriptions are essential to ensure that the intended message of visuals is inclusive and comprehensible to diverse audiences. Overall, visual rhetoric not only supports the rapid transmission of ideas but also enriches the educational experience by engaging learners cognitively and emotionally.

Building on this foundation, Popova, Halstyan, and Halstyan (2023) explore how visual rhetoric frames perception, influencing what learners notice and how they interpret content. They argue that in today's technology-driven media landscape, examining the ethical and philosophical dimensions of visual rhetoric is essential for promoting critical engagement and media literacy.

Further supporting this perspective, Immadisetty et al. (2023) emphasize that effective remote or online learning environments should adopt multimodal approaches integrating visual, auditory, gestural, and spatial elements to foster deeper engagement. Their empirical findings demonstrate that well-designed visuals significantly enhance student satisfaction and learning outcomes in digital classrooms. This reinforces the view that communication in online learning must move beyond text and speech, underlining the central role of visual rhetoric. In this context, visual rhetoric encompasses not only static visuals like diagrams and icons but also dynamic visual cues such as gestures, facial expressions, and posture, all of which communicate learner emotions and comprehension. The integration of machine learning to interpret these cues further illustrates the potential for intelligent learning environments to incorporate data-driven visual rhetoric, enabling systems to better understand and respond to student needs.

In Open Distance Learning (ODL) contexts, the role of visual rhetoric becomes even more critical. Stewart and Lowenthal (2022) show that thoughtfully designed visuals enhance learner engagement, emotional connection, and social presence in distance education. Their study indicates that such visuals help learners feel more connected and motivated, compensating for the absence of in-person interaction.

*b. Visual Learning and Cognitive Theory*

Visual learning is firmly anchored in cognitive science, offering powerful strategies to optimize educational outcomes. At its core lies Dual Coding Theory (DCT), which proposes that the brain processes verbal and visual information via separate yet interconnected channels. Combining both modalities leads to stronger mental representations and enhances retention and comprehension (Paivio, 1991; Clark & Paivio, 2025). Building on this insight, Richard Mayer's Cognitive Theory of Multimedia Learning (CTML), most recently articulated in his 2021 and 2022 editions, emphasizes three evidence-based principles that manage essential cognitive processing and foster effective learning (Mayer & Fiorella, 2021; Mayer, 2022, reviewed in Camp, Surma & Kirschner, 2021).

The segmenting principle suggests that breaking down content into learner-controlled segments enhances learning depth (Mayer & Fiorella, 2021). The pre-training principle posits that introducing key terminology and concepts ahead of more complex materials primes learners' understanding. The Modality Principle indicates that learners comprehend better when materials combine visuals with spoken narration, rather than on-screen text, by distributing cognitive load more effectively across channels (Mayer & Fiorella, 2021; Castro-Alonso & Sweller, 2020). CTML also acknowledges principles like spatial contiguity, which advocates for coherence between accompanying text and visuals to avoid split-attention effects (Mayer, 2022).

These principles are particularly valuable for Open Distance Learning (ODL), where instructional materials must compensate for the absence of in-person guidance. By aligning visual content with proven cognitive design strategies, educators can reduce cognitive overload, enhance engagement, and support deeper comprehension in remote learning environments.

*c. Accessibility in Instructional Design*

Ensuring accessibility in instructional design is vital for creating equitable learning environments that accommodate all students, including those with disabilities, language barriers, or cognitive differences (Morel, 2021). Modern instructional design frameworks, such as Universal Design for Learning (UDL), advocate for providing multiple means of representation, expression, and engagement to reduce barriers and support learner diversity (CAST, 2021). In practice, this involves incorporating assistive technologies (e.g., screen readers, captioned videos), clear navigation structures, high-contrast visuals, and user testing to address diverse needs. According to Yu.A. Safronova & Yuliya Michshenko (2023) and Farid Suleymanov (2022), Universal Design

for Learning (UDL) is acknowledged as a comprehensive instructional framework that addresses learner diversity by offering diverse modes of representation, action and expression, and interaction.

The critical role of instructional designers in accessible course creation has been highlighted in recent qualitative studies. Designers report using inclusive strategies such as captioning, alternative text, and adjustable visual formats. However, many face challenges related to limited institutional support and the absence of consistent accessibility standards (Lomellini et al., 2025; Instructional Designers' Perceptions, 2024). These findings underscore that accessibility should be integrated from the outset of course design, rather than addressed reactively through later accommodations.

Furthermore, varied digital platforms, including MOOCs, OERs, and online courses, require proactive accessibility planning to ensure usability, inclusivity, and ethical compliance. Research indicates that implementing accessible design strategies, such as providing alternative text for images, using screen reader-compatible layouts, and following contrast and readability standards, not only supports learners with disabilities but also enhances usability for all students (Phipps et al., 2024; CAST, 2021). The inclusion and usability of MOOCs for various learners can be enhanced by incorporating accessible design principles (Sánchez-Gordon, 2020).

Finally, emerging technologies such as augmented reality (AR) and virtual reality (VR) show promise for creating immersive and accessible learning experiences, though research in this area remains limited. For instance, Cai et al. (2021) found that AR-based games benefit learners both cognitively and emotionally; however, accessibility features in AR/VR environments are still underdeveloped. This reveals a significant research gap, particularly in integrating visual rhetoric into accessible ODL instructional design and presents an opportunity for further exploration.

#### d. Role of Visual Aids in ODL

The legal and ethical imperatives to provide accessible content are reinforced by Section 508 of the Rehabilitation Act, which mandates that web content should be accessible to users with disabilities (Wu, 2015).

Visual aids are essential for enhancing instruction, comprehension, and engagement in ODL environments. The pivot to online education during the COVID-19 pandemic underscored the importance of visuals, such as infographics, diagrams, narrated animations, and videos, especially when in-person interaction and real-time clarification are limited (Almahasees, Mohsen, & Amin, 2021; Rasheed, Kamsin, & Abdullah, 2020). These aids act as scaffolds, supporting learners as they construct knowledge independently. Digital tools provide students with disabilities the ability to access resources, collaborate with peers, and engage in remote learning, thereby removing location and time constraints (Su et al., 2025). Distance learning offers flexibility, accessibility, and visibility of multimedia, and is crucial for individuals with

physical disabilities who may not have equal opportunities to attend school in person (Dolmaci, 2021).

Research consistently shows that visual aids increase student engagement and retention. Studies combining narrated visuals and structured design elements revealed reductions in cognitive load and boosts in learner attention (Castro-Alonso & Sweller, 2020). In one study, students reported higher satisfaction and better comprehension in remote settings when visuals were embedded in learning materials, particularly for abstract or complex content (Aliyyah et al., 2020). Augmented reality can further improve learning by integrating virtual world images with the real world, enhancing mental perceptions and providing realistic experiences for learners (Al-Dokhny & Drwish, 2021) (Quintero et al., 2019).

Visual aids also foster inclusivity. Diagrams, emojis, and charts support learners with reading difficulties, diverse language proficiencies, or varied cognitive styles, making content more accessible (Morel, 2021). In multilingual contexts like Malaysia, where proficiency in English varies, visuals bridge linguistic gaps and simplify comprehension without relying solely on textual explanations (Hussin, Yusof, & Razak, 2021). Specialists and educators concur on the pivotal role of visuals in augmenting learning, especially for students well-versed in multimedia and internet technologies (Pateşan et al., 2018).

ODL practitioners are encouraged to deliberately embed visuals following cognitive and user-centered design principles. The aim is not mere decoration but to ensure visuals function as cognitive tools, reducing extraneous processing, supporting meaning-making, and reinforcing learning outcomes (Mayer & Fiorella, 2021). Visual-rich environments also foster emotional engagement and enhance social presence, key factors for learner persistence in distance education (Stewart & Lowenthal, 2022). These tools promote meaningful interaction among students, fostering community in remote learning environments and equipping them with crucial communication and teamwork skills (Su et al., 2025).

*e. Conceptual Framework*

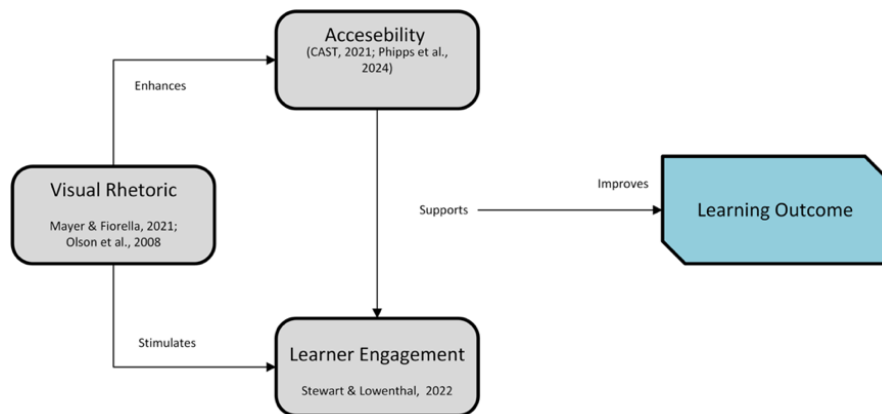


Figure 1: Proposed Conceptual Framework (Adapted from Mayer & Fiorella, 2021; Stewart & Lowenthal, 2022)

The proposed conceptual framework illustrates the relationship between visual rhetoric, accessibility, learner engagement, and learning outcomes in Open Distance Learning (ODL) environments. It is theoretically grounded in the Cognitive Theory of Multimedia Learning (CTML) (Mayer & Fiorella, 2021), Universal Design for Learning (UDL) (CAST, 2021), and previous research on online learner behavior and engagement (Stewart & Lowenthal, 2022). This framework emphasizes the importance of integrating accessible visual design principles to foster a more inclusive and effective learning environment (Olson & Olson, 2002). Visuals serve as cognitive support tools, simplifying complex information and improving memory retention, thus enabling students to process information more effectively (Triacca, 2017). Moreover, high levels of engagement are consistently linked to improved learning outcomes, including better comprehension, retention, and application of knowledge in ODL settings (Aliyyah et al., 2020).

*f. Visual Rhetoric and Accessibility*

Visual rhetoric refers to the deliberate use of visual elements, such as icons, diagrams, infographics, and multimedia features, to communicate meaning, guide interpretation, and improve understanding (Olson, Finnegan, & Hope, 2008). The deliberate use of visual components, such as pictures, icons, and graphics, to create meaning, direct interpretation, and improve communication is known as visual rhetoric (Ruediger, 2013). Design decisions can define and prioritize interpretations in the context of narrative visualizations, impacting how users comprehend and interact with the information that is displayed (Hullman & Diakopoulos, 2011).

In ODL, where course materials are predominantly text-heavy, visual rhetoric enhances accessibility by simplifying complex information and providing alternative pathways for comprehension, particularly for learners with cognitive, linguistic, or sensory barriers (Phipps et al., 2024; Hussin, Yusof, & Razak, 2021). Visual communication should be emphasized in both formal and informal learning environments to enhance learning outcomes (Khadimally, 2016).

*g. Visual Rhetoric and Learner Engagement*

Visual rhetoric is also a key driver of learner engagement. Previous studies have shown that the integration of meaningful visual content captures learner attention, supports focus, and encourages active participation in online environments (Stewart & Lowenthal, 2022). According to Mayer and Fiorella (2021), principles such as modality and segmenting help reduce cognitive load, resulting in higher engagement and more effective knowledge construction. Visual posts in online communities encourage creative thinking and knowledge building, suggesting that multimodal media enables an evolutionary learning process (Caldwell et al., 2020). By offering varied means of engagement, representation, and expression, universal design provides a flexible framework that accommodates diverse learning needs (Durgungöz & Durgungoz, 2025) (Shyyan et al., 2025).

#### *h. Accessibility and Learner Engagement*

Accessibility improvements directly influence engagement. When digital learning materials are easier to navigate and interpret, learners can focus their cognitive resources on processing information rather than overcoming usability barriers (Phipps et al., 2024). This relationship is particularly significant for learners with limited language proficiency or disabilities, where accessibility features such as captions, alternative text, and structured layouts reduce frustration and increase motivation (CAST, 2021). When online discussions and recorded lectures minimize or change student interaction, those who struggle with social interactions might benefit (Lomellini et al., 2025). Furthermore, engaged learners are more likely to participate actively, explore topics in depth, and seek new learning opportunities, resulting in improved language learning outcomes (AlTwijri & Alghizzi, 2024) (Chavez-Maisterra et al., 2024).

#### *i. Learner Engagement and Learning Outcomes*

Finally, high levels of engagement are consistently linked to improved learning outcomes, including better comprehension, retention, and application of knowledge in ODL settings (Aliyyah et al., 2020). Visual rhetoric contributes indirectly to learning outcomes by enhancing accessibility and fostering engagement, creating a positive learning experience that supports academic success. Nevertheless, to fully leverage these tools, students must possess robust digital literacy skills, which subsequently amplify engagement (Yaseen et al., 2025).

This framework posits a mediated pathway, where visual rhetoric improves learning outcomes primarily through its effects on accessibility and learner engagement. Future empirical testing will explore these relationships to inform best practices in designing visually inclusive ODL materials. As remote instruction becomes more common, online learning has become a viable alternative to traditional classroom settings, removing the barriers of time and distance and making the learning process more learner-centered (Gao et al., 2024).

## METHODOLOGY

This study adopted a qualitative research design to explore how visual rhetoric was used and interpreted within Open Distance Learning (ODL) environments. In a variety of study fields, qualitative approaches are especially well-suited for obtaining in-depth, contextual understandings of participants' experiences, interpretations, and views. These techniques are especially made to collect data from participants' viewpoints on human experiences, actions, attitudes, and emotions that are specific to a given situation (Cissé & Rasmussen, 2021). Qualitative methods were suitable for gaining deep, contextual insights into participants' experiences, interpretations, and perceptions. Specifically, the study employed in-depth interviews and content analysis as the primary data collection methods. Interviews enabled the researcher to understand how individuals perceived and made meaning from visual elements,

while content analysis was used to examine learning materials and identify how visual rhetoric had been applied.

The target participants for this study included three main groups involved in the ODL ecosystem: three postgraduate students, three instructors, and two instructional designers. These participants were selected to represent diverse perspectives from both content creators and users. Postgraduate students provided firsthand learning experiences, instructors offered insights into teaching and content delivery, and designers shared their expertise on visual material development. This variety enhanced the richness and relevance of the findings.

To gather data, the researcher used semi-structured interview protocols tailored to each participant group. These instruments included open-ended questions designed to explore their interpretations of visual rhetoric, experiences with digital learning materials, and the perceived impact of visual elements on understanding and accessibility. The flexibility of semi-structured interviews allowed follow-up questions that probed deeper into individual responses.

Purposive sampling was used to recruit participants with prior experience in ODL. This non-probability sampling strategy ensured that the selected individuals possessed the necessary knowledge and engagement with the research topic. Ethical considerations were strictly followed throughout the study, including obtaining informed consent, protecting participant confidentiality, and allowing participants to withdraw at any stage. Before each interview, participants were briefed about the study's aims, and their rights were clearly explained.

Finally, a data collection matrix was prepared and included in the appendix. This matrix helped organize the types of data gathered, sources of information, and how each research objective was addressed through specific instruments. It served as a reference for ensuring alignment between research questions, data sources, and analytical approaches.

Table 1: The matrix outlines

Research Objective	Research Question	Method of Data Collection	Sample	Data Collection Tool
<b>RO1:</b> To explore how learners with varying abilities and backgrounds perceive the role of visual rhetoric in enhancing the accessibility and understanding of learning materials in ODL.	RQ1	In-depth Interviews	Learners	Semi-structured interview questions (Section 1)
		In-depth Interviews	Instructional Designers	Semi-structured interview questions (Section A)
		In-depth Interviews	Lecturers	Semi-structured interview questions (Section B)
<b>RO2:</b> To examine how the use of visual rhetoric as a	RQ2	In-depth Interviews	Learners	Semi-structured interview

supplement to text-based content influences the interpretation and understanding of concepts among learners.

questions (Section 2)

	In-depth Interviews	Instructional Designers	Semi-structured interview questions (Section A)
	In-depth Interviews	Lecturers	Semi-structured interview questions (Section B)

Table 1 This matrix outlines the alignment between the research objectives (ROs), research questions (RQs), data collection methods, stakeholder groups (learners, instructional designers, and lecturers), and the specific semi-structured interview tools used to gather qualitative insights.

### FINDINGS

Open Distance Learning (ODL) environments increasingly rely on multimodal content to meet diverse learner needs, and visual rhetoric has emerged as a central component in enhancing both comprehension and accessibility. Insights gathered from in-depth interviews with instructional designers and lecturers reveal how visual elements are conceptualized, integrated, and evaluated within digital course materials.

The findings highlight overlapping concerns, such as the importance of clarity, cultural relevance, and learner engagement, as well as role-specific strategies and constraints. By synthesizing these perspectives, the analysis offers a deeper understanding of the opportunities and challenges of embedding visual rhetoric within ODL frameworks.

Table 2: Summary of Research Objectives, Questions, and Data Collection Strategy

Research Objective	Research Question	Method of Data Collection	Sample	Data Collection Tool	Outcome
<b>RO1:</b> To explore how learners with varying abilities and backgrounds perceive the role of visual rhetoric in enhancing the accessibility and understanding of learning materials in ODL.	RQ1	In-depth Interviews	Learners	Semi-structured interview questions (Section 1)	-Positive perception of visuals -Types of helpful visuals -Types of helpful visuals -Inclusivity concerns

-Visual preference for engagement.

In-depth Interviews  
Instructional Designers  
Semi-structured interview questions (Section A)

- Ensuring Accessibility  
-Visual Simplicity for Inclusion.

In-depth Interviews  
Lecturers  
Semi-structured interview questions (Section B)

-Frequent Visual Use  
-Types of Effective Visual  
-Engagement & Comprehension Impact  
-Breaking Language Barriers.

**RQ2:** To examine how the use of visual rhetoric as a supplement to text-based content influences the interpretation and understanding of concepts among learners.

RQ2

In-depth Interviews  
Learners

Semi-structured interview questions (Section 2)

- Enhancing comprehension of complex topics.  
-Interaction with visuals.  
-Suggested improvements.  
-Retention and motivation.

In-depth Interviews  
Instructional Designers  
Semi-structured interview questions (Section A)

-Adapting to Diverse Needs  
-Cultural and Linguistic Considerations  
-Visual Effectiveness  
-Visuals as Pedagogical Tools.

In-depth Interviews  
Lecturers  
Semi-structured interview questions (Section B)

-Visual Effectiveness Assessment  
-Collaboration with Designer

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Table 2 provided an overview of the questions, research goals, and data collection methodology. The qualitative techniques, participant types (lecturers, instructional designers, and lecturers), tools utilized, and observed results pertaining to the application of visual rhetoric in improving accessibility and comprehension in Open Distance Learning (ODL) are described in this table.

#### LEARNERS' PERCEPTIONS OF VISUAL RHETORIC IN ODL

Participants in the survey stated that they frequently encountered a range of visual aids during their Open Distance Learning (ODL) experience, such as mind maps, infographics, diagrams, and video tutorials. These pictures were frequently seen as helpful tools for demythologizing complex topics and enhancing comprehension and retention. One student explained how abstract cognitive theory more especially, the ideas of "input," "processing," and "output," which were previously challenging to understand through text alone, was made easier for them to understand by means of an animated flowchart.

Visuals were also identified as effective engagement tools, making learning more interesting and motivating. Participants emphasized that using images, diagrams, and videos helped them focus and remember lessons better. One participant, for example, described visuals as "anchors to understand the concept," highlighting their importance in long-term memory and comprehension.

Despite these positive experiences, learners raised concerns about accessibility. They identified issues such as small font sizes, low contrast between text and background, and visuals that lacked captions or adequate explanation. These challenges were especially significant for learners with visual or cognitive differences, emphasizing the importance of visuals that are accompanied by text, culturally neutral, and designed with inclusivity in mind.

Learners described a variety of ways they interacted with visuals, including pausing and rewatching videos, taking notes, and taking screenshots of relevant diagrams. These behaviors demonstrated their reliance on visuals for a deeper understanding. They indicated that they would like to see more intentional use of images, text, and light narration to accommodate various learning styles, as well as clearer visual-text integration and audio explanations. In order to optimize accessibility and engagement, these recommendations highlight the necessity of careful, multimodal design in ODL materials.

#### STRATEGIES AND REFLECTIONS OF INSTRUCTIONAL DESIGNERS

In their visual design strategies for ODL, the instructional designers in this study showed a clear and deliberate commitment to inclusivity and accessibility. To accommodate students with visual or auditory impairments, a lot of effort was put into incorporating features like contrast-aware

visuals, readable typography, alt text, and captions. A deeper understanding of the various learner needs in digital environments was underscored by one participant, who emphasized the necessity of avoiding flickering visuals and making sure screen reader compatibility is maintained.

In addition to being accessible, instructional designers were very sensitive to linguistic and cultural differences. They purposefully avoided stereotypical imagery, advocated for culturally neutral visual representations, and encouraged the use of universal symbols to appeal to a global student base. Utilizing a variety of visual formats, such as icons, pictures, and color coding, was thought to be crucial for supporting students from different linguistic and cultural backgrounds.

One of the main concerns for designers was striking a balance between pedagogical clarity and aesthetic appeal. Designs that were too ornate or complicated were viewed as possible distractions. Instead, designers followed principles such as using one visual per key idea, maintaining consistent layouts, and ensuring visuals were directly aligned with learning objectives. These strategies made it possible to keep the emphasis of visuals on their educational value rather than just their aesthetic appeal.

To reach students with different preferences, instructional designers also recognized the value of multimodal visual integration, infographics, illustrations, audio, and video. Designers noted the need to distribute materials via email, WhatsApp, or learning management systems (LMS) to accommodate access limitations. These strategies reflect a learner-centered, inclusive approach to visual design for ODL.

#### LECTURERS' USE AND PERCEPTIONS

Lecturers echoed many of the same themes as instructional designers, particularly the value of visuals in improving student engagement and comprehension. All lecturers reported consistent use of visuals in both online and face-to-face instruction. In their lessons, they regularly used charts, videos, diagrams, and even real-world resources like YouTube Shorts and news screenshots. Visual aids weren't merely extras; they were necessary to keep students' interest in visually-oriented fields like design and to prevent overloading them with text-heavy slides.

Videos received special praise for their effectiveness. Videos were described as effective teaching tools because they combined motion, sound, and imagery, catering to multiple learning styles and making abstract concepts more concrete. Infographics and flowcharts were also cited as useful for simplifying complex concepts and sparking learners' curiosity.

Visuals improved student engagement and understanding, according to all lecturers. Many people reported that visual aids sparked classroom discussions and helped students visualize abstract or theoretical concepts. One participant emphasized that visuals frequently served as conversation starters, encouraging two-way interaction and deeper critical thinking in class.

However, several challenges were identified. Notably, none of the lecturers had worked with instructional designers, instead relying on free online resources or self-created visuals. While this approach provided autonomy, it also limited the scope for more sophisticated or research-informed design practices. Nonetheless, lecturers expressed a strong desire for future enhancements, such as the integration of interactive simulations, AI-powered adaptive visuals, and more immersive visual experiences. They acknowledged that financial and time constraints posed barriers to innovation but remained open to exploring new visual strategies that could further enhance student learning outcomes in ODL.

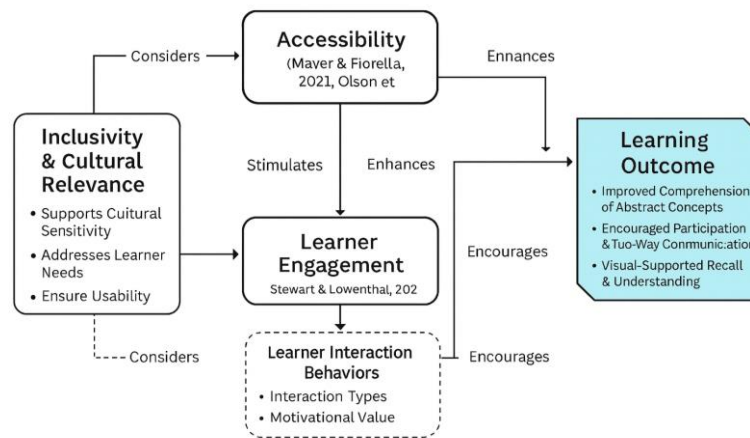


Figure 2 Developed conceptual framework illustrating the relationship between inclusivity, accessibility, learner engagement, and learning outcomes.

The conceptual framework presented above, depicts the relationships between inclusivity, accessibility, learner engagement, and learning outcomes in the context of visually supported Open Distance Learning (ODL). It emphasizes the role of culturally relevant design, accessibility features, and learner behaviors in increasing engagement and educational outcomes.

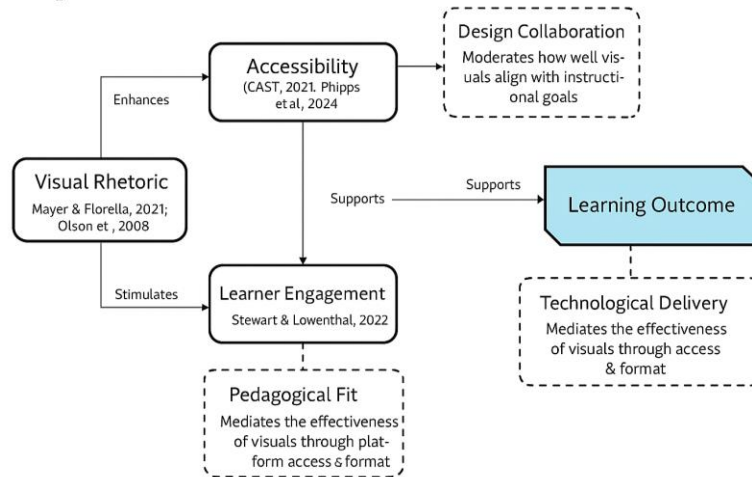


Figure 3: Conceptual framework showing mediators and moderator variables such as pedagogical fit, technological delivery, and design collaboration.

The diagram above depicts the enhanced conceptual framework for investigating the role of visual rhetoric in Open Distance Learning (ODL). It includes additional components such as mediators and moderators to better reflect instructional, technological, and pedagogical dynamics derived from research findings.

### RESEARCH IMPACT AND APPLICATIONS

This study makes significant academic, societal, and practical contributions to the field of Open Distance Learning (ODL), specifically through the lens of visual rhetoric. By focusing on the perspectives of learners, instructional designers, and lecturers, this study advances theoretical understanding of how visual elements in digital learning materials contribute to accessibility, engagement, and meaning-making. It positions visual rhetoric not only as a design choice, but also as a pedagogical tool that can promote learner interaction, motivation, and comprehension, particularly among learners from diverse backgrounds and abilities. This insight adds to existing theories of multimodal learning, such as Mayer's Cognitive Theory of Multimedia Learning, while also incorporating elements of inclusivity and cultural sensitivity that are frequently underrepresented in the literature.

The practical implications are equally important. The findings provide guidance to course designers and instructional developers on how to align visual content with pedagogical goals, learner needs, and platform constraints, resulting in more inclusive, usable, and effective digital content. Educators have evidence-based insights into how visuals can increase learner participation, simplify abstract content, and promote two-way communication in online settings. Digital storytellers and content creators will also benefit from the study, which highlights how

visual narratives can improve emotional connection and comprehension, making educational content more memorable.

The study recommends improvements in ODL course design and evaluation. The findings have important implications for the use of visually enhanced materials in postgraduate or adult learning programs, where their effectiveness can be tested using learner feedback, retention analytics, and performance assessments. Overall, the research helps to shape more accessible, engaging, and inclusive online learning environments, which are consistent with the larger goals of digital equity and lifelong learning.

### CONCLUSION

In conclusion, this study emphasizes the critical role of visual rhetoric in creating accessible and engaging Open Distance Learning (ODL) experiences. The study looks at learners, instructional designers, and lecturers to see how thoughtfully designed visuals improve comprehension, stimulate engagement, and address a variety of learner needs. The incorporation of visual elements not only aids cognitive processing, but also promotes inclusivity, making complex content more approachable and relatable across a variety of educational contexts.

The findings add theoretical and practical value to the discussion of digital pedagogy. The study advances understanding of how visual design intersects with learner engagement and accessibility, providing a framework for course designers, educators, and content creators to create more inclusive and effective learning environments.

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