

**Communication Through Motion Graphics: A Participatory Design
Investigation, Integrating Producer and Consumer Perspectives**

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Submitted in fulfilment of the degree of Doctor of Philosophy

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August 2025

ABSTRACT

As video and animation-making software becomes more accessible and easier to use, and consumption contexts expand, techniques and principles from animation, graphic design, and filmmaking are being integrated into motion graphics (MGs). This integration is contributing to the increasing prevalence of MGs in today's digital landscape as a form of communication design, aimed at "broadcasting specific messages to specific sectors of the public" (Frascara, 2004, p. 2). A growing body of research highlights MGs as an efficient means for enhancing how information is conveyed. However, there is limited research on the MGs communication. Existing studies on the topic of MGs communication are dispersed across various academic disciplines and design practices, often focusing on design techniques and principles (e.g., the application of computer graphics, the principles of animation or graphic design), or performance testing. Those studies are insufficient in explaining how to communicate through MGs and why MGs have advantages in communication efficacy. This research focusing on MGs communication can address the gap, which can contribute to the field of communication and design.

Accordingly, this study provides a participatory explanation of how MGs communicate, integrating the perspectives of both MG producers (designers) and consumers (viewers). The study conducted a Participatory Design Project involving 16 participants—6 producers and 10 consumers. The project began with shadowing sessions with producers and a focus group with consumers, identifying key thematic factors in MGs communication. For example, context-building is a subjective strategy in the message delivery of producers' practices; other designs influence the producers' inspiration. These thematic factors were then applied as design tools in design workshops involving both producers and consumers, where participants used the tools to develop two concept prototypes demonstrating how MGs function as a communication medium.

The research findings explored how to send and receive information through MGs, and how meaning is co-created by producers and viewers. The findings highlight the compositing events and design experience as producers' strategies to visualise their intended information. The findings also identified the viewers using narrative to understand MGs, as well as their understanding process and engagement modes. Furthermore, the findings suggest that, under a consumer culture, the communication between producers and viewers follows a supply and demand relationship. They are the

co-creators of meaning, and their communication is based on value identification, which relies on visual expression to establish a context.

In addition, by synthesising the prototypes generated from design workshops, the study proposed a Communication Model of Motion Graphics comprising three layers: Goals and Needs, Strategies and Approaches, and Drivers and Conditions. This three-layer structure identifies Context-building, Expression, and Value as the common goals and needs of both producers and consumers. The model discussed how these goals and needs are realised and influenced as well. The elements within the model offer valuable insights for practitioners and researchers in various settings, making it the potential for practical applications in the development and evaluation of MGs. e.g., a strategic guidance for practitioners.

These findings contribute to existing research by addressing the gaps in MGs communication, and offering a foundation for future research on MGs and the fields of communication and media studies. Furthermore, the study's participatory approach provides a practical framework for understanding how MGs facilitate meaning-making, offering a direction for further investigation into its evolving role in digital communication.

Keywords: motion graphics, motion design, communication design, participatory design

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Acknowledgements

I would like to express my deepest gratitude to my primary supervisor, Andrea Taylor, for her valuable guidance, encouragement, and support throughout this research. Her insightful advice and constructive feedback have been crucial to the completion of this thesis. Additionally, with diligence, responsibility, and sympathy, she showed me how to become a design researcher.

I am also grateful to my co-supervisor, Dr Jay Bradley, for his valuable discussions and feedback. His experience and genuine advice have always been helpful to me.

Special thanks go to the examiners, Professor Alastair Macdonald, Daisy Abbott and Professor Steve Love, for my Annual Progress Reviews for their support in reviewing my work and providing feedback. Many thanks for the people who participated in this study.

I appreciate my friends and families for their company and encouragement. Even from thousands of miles away, they never give up on me and wait for me.

At last, with all I am and all I have, my deepest thanks and love to my mother. Her love is the light that breaks all my confusion in the toughest times and most obscured moments.

Declaration

I, Shangshu Wang declare that the enclosed submission for the degree of Doctor of Philosophy and consisting of PhD by Thesis meets the regulations stated in the Research Degrees Guidance for the mode of submission selected and approved by the Research Degrees Committee.

I declare this submission is my own work, and has not been submitted for any other academic award.

Signed,

A solid black rectangular box used to redact the signature of the declarant.

Date: 10.03.2025

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CHAPTER 1 INTRODUCTION

1.1 Research background

In recent years, video has emerged as the dominant form of content in the global digital landscape. The consumption of videos on social media and e-commerce platforms has steadily increased. According to DataReportal, the average monthly usage time of Android users on TikTok, YouTube, and Instagram was 34 hours, 28 hours and 5 minutes, and 15 hours and 50 minutes, respectively (DataReportal; We Are Social; Meltwater, 2024, p. 238). Individuals consume video content for information and knowledge acquisition, while the engaging nature of video can spark interest, encourage purchases and app downloads, and foster brand identification and connection (Chuxin, 2023; Z. He, 2022; Mody & Hanks, 2020; Smith et al., 2021). Moreover, video content can attract widespread attention across all age groups and generate high levels of engagement and loyalty (China Internet Network Information Center, 2023).

With a large number of viewers, video has become the preferred marketing tool and draws more producers into video making. Statistics from Wyzowl (2024) indicate that by 2023, 91% of businesses had incorporated video into their marketing strategies, with 88% of video marketers considering it an integral component of their overall strategy. Following live-action videos (48%), animated videos are the second most popular choice among video marketers, with a usage rate of 24%. The statistics demonstrate a significant demand for animated content in addition to live-action videos.

Under this globalised context, a cultural and consumption trend is emerging, with video becoming producers and consumers' preferred mode of communication. As technology and media continue to evolve, the relationship between media carriers and their content has grown increasingly complex, particularly in the case of Motion Graphics (MGs), which are based on video and integrate principles and techniques from animation, graphic design, and film (Kurtes & Mercin, 2022; Martinez, 2015). For instance, determining whether dynamic effects on a website function as content or merely as user feedback is often challenging, further complicating the relationship between content and carrier in MGs.

There is also a lack of awareness regarding the media landscape in the digital environment (Castells, 2007; Gitelman, 2008; Lash & Lury, 2007). In the context of postmodern transnational capitalism, Fredric Jameson calls for an aesthetic of "cognitive mapping" (Jameson, 1988), a concept that seeks to address the individual's ability to situate themselves within a broader, often unrepresentable totality. This process connects individual experiences to larger cultural and social structures,

enabling a deeper understanding of how seemingly disparate global phenomena interrelate (Jameson, 2005). According to Jameson, reproduction technologies such as film, video, and computers serve as the mediums through which this cognitive mapping can be explored, as they provide a window into the complexities of global systems that await further investigation (Jameson, 1988). Building upon Jameson's inquiry into understanding an unrepresentable global system, Shaviro (2010) proposes an alternative framework by considering films and music videos as "affective maps". Unlike cognitive maps, which aim to provide a structural representation of space and power, affective maps do not passively trace or represent but actively construct and perform the social relations, flows, and feelings that they are ostensibly 'about'" (p. 12). In other words, the media forms are not merely tools for documentation; they embody and enact social dynamics, shaping cultural perceptions and interactions.

This research applies Shaviro's concept of "affective maps" to MGs, arguing that the widespread production and consumption of MGs reflect a broader social relationship and cultural trend, which is manifested in the communication process of MGs. Unlike traditional static media, MGs operate as both a medium of expression and a site of interaction, where social values, emotions, and ideological currents are embedded within their visual and temporal structures. However, investigating this phenomenon requires an interdisciplinary approach, incorporating empirical research and insights from communication, design, and media studies.

Existing research on MGs communication has largely focused on evaluating its effectiveness in education and public services through user research methods (Hapsari & Hanif, 2019; H'mida et al., 2020; Kurniawan et al., 2019; Tsai et al., 2020). Other studies have examined MGs from a design practice perspective, exploring its development within the fields of animation and visual storytelling (Carra et al., 2019; Luiz Fronza et al., 2014; Steijn, 2016). Given the broad range of applications and varied definitions of MGs, defining or measuring effective MGs communication remains a difficult task (Stone & Wahlin, 2018). While this complexity may seem overwhelming, it is necessary for fostering responsible, ethical, and sustainable social development (Fry, 2005, p. 279). The key challenge is identifying appropriate methods and questions to rethink how people participate in digital communication through MGs. This involves integrating both producers and viewers into the research process to better understand the underlying needs and challenges in MGs communication, as well as how these are currently addressed.

As Sanders & Stappers (2014) argued, ensuring that what is designed makes sense in the future requires a participatory approach to exploring what to design, how to design. Therefore, examining producers' practices and viewers' consumption is critical to this research. Exploring these perspectives sets more specific scenarios of production and consumption, as well as identifying problems and what elements to address those problems. By involving producers and viewers, the researcher moves towards a more structured approach to knowledge generation and innovation, to move beyond the broad and ambiguous topic of MGs communication.

1.2 Research questions

Based on the background and issues described in the previous section, identified in the Literature Review (Chapter 2), this research poses the following research questions each focusing on a different aspect of MGs communication:

RQ1. As practitioners, what communication strategies and approaches do producers adopt in their practice, and what factors influence them?

Existing research often focuses on the techniques and methods in design practice, with insufficient attention given to the decision-making processes and workflows of producers. Therefore, RQ1 examines producers' design process and communication strategies to explore how they send information through MGs and what influences their practice and decisions.

RQ2. As consumers, how do viewers understand and experience MGs, and what factors influence their understanding and experience?

RQ2 explores how viewers receive information, focusing on their understanding and experience of MGs, identifying their understanding process and engagement patterns, and the factors that influence these aspects.

RQ3. How do producers and viewers communicate through MGs to make meaning?

Littlejohn (2010) suggests that communication can be defined as the intentional exchange of meaning rather than one-way send (RQ1) and receive (RQ2) of information. Therefore, this question focuses on the meaning-making process and what roles producers and viewers play in communication.

By addressing these three research questions, the study aims to provide a comprehensive understanding of the communication mechanisms of MGs, contributing valuable insights into the role of MGs in the contemporary digital environment.

1.3 The exploratory design research and participatory design approach

This study employed participatory approach to address the research questions through a Participatory Design Project described in Chapter 3. The project comprised three parts:

1. **Producers Observation (Chapter 4):** This activity directly observed designers' (referred to as producers in this study) practices and decision-making processes to uncover their strategies and influencing factors. The Producers Observation aimed to investigate the mechanics behind content creation in MGs, capturing the real-time decisions and workflows that inform the practice.

2. **Viewers Focus Group (Chapter 5):** This activity focused on understanding how consumers (referred to as viewers in this study) understand and experience MGs in specific scenarios. The objective was to identify what contributes to and impacts viewers' understanding and emotional responses. By engaging directly with viewers, this part of the research sought insights into the thinking patterns and reception from the consumer perspective.

3. **Design Workshops (Chapter 6):** This brought producers and viewers together to explore their goals and needs. The findings from the previous two parts were integrated into design tools for participants' use and evaluation. The participants created two concept prototypes that described the communication of MGs by following a design process. Those prototypes were synthesised into a visual summary and proposed as a Communication Model of MGs.

The following sections describe how this study contributes knowledge by detailing an exploratory design research approach and explaining why the participatory design was adopted.

1.3.1 *Research type, exploratory research*

Robson and McCartan classify research into four distinct types based on the objectives or purposes that the research project aims to achieve. These are exploratory, descriptive, explanatory, and emancipatory research (Robson & McCartan, 2016). Each type serves a different function and is suited for different kinds of inquiries:

- Exploratory Research: To investigate an area or issue where little is known, to identify problems, and to suggest hypotheses.
- Descriptive Research: To describe a situation, problem, phenomenon, or service condition accurately and systematically.
- Explanatory Research: To explain patterns and associations, attempting to understand cause and effect relationships.

- **Emancipatory Research:** To help empower participants through increasing their self-determination and improving their ability to address and possibly change their own situation.

In general, the study is exploratory, because MGs communication is still a broad topic with limited research. Although some aspects of this study involve describing and explaining MGs communication (descriptive and explanatory research).

1.3.2 Design research

There are many descriptions regarding design research, with notable contributions from Archer (1964), Rittel and Webber (1973), Cross (1982), Frayling (1994), Friedman (2003) and Simon (2019). This study draws on the descriptions provided by Frayling (1994) and Cross (1982). According to Frayling (1994), there are three types of design research:

- *Research into Art and Design*, which includes historical research, aesthetic or perceptual research, and studies on various art and design theories.
- *Research through Art and Design*, which involves materials research, development work, and action research.
- *Research for Art and Design*, which refers to research that results in the production of artefacts that embody ideas (Frayling, 1994, p. 5).

Nigel Cross (1982), from an epistemological perspective, proposes two types of design research and the knowledge they lead to:

- The first emphasises the design process, as designers rely on synthesis rather than analysis, unlike scientists, to solve problems.
- The second focuses on the practical knowledge of design products, which refers to the knowledge of forms and functions of objects, accessible to everyone, because “*invention comes before theory; the world of ‘doing and making’ is usually ahead of the world of understanding--technology leads to science, not vice versa as is often believed*” (Cross, 1982, p. 225).

Another key feature of design research is that it blurs the boundaries between design and research. In the traditional theory-testing research paradigm, design and research are sequential and separate processes, where theory is implemented through design, such as a product, service, or system, followed by an evaluation-oriented refinement and iteration process. Design research still involves the similar outcome-based evaluation characteristic of traditional theory-testing; however, it recognises the design as an important research approach (Edelson, 2002).

This research encompasses many of the categories described above, aligning it with the definition of design research. According to Frayling's classification, this research is considered as Research into Art and Design. The study involves the history, techniques and theories of MGs. More specifically, this study explores How producers make MGs, how viewers engage with it, and how it communicates. The research process also involves creative practice and its creative outcomes, regarded as research methods and materials, which is regarded as *Research through Art and Design*. However, the research does not fully align with the last category, *Research for Art and Design*, though it evaluates theories and generates knowledge through design and production. During the research process, artefacts such as from the Viewers Focus Group and Design workshops were produced through the process of design thinking and practice, but these artefacts are not the final outputs of the research. Instead, those artefacts facilitate a deeper understanding of the research findings rather than being the outcome itself. In particular, the design process and structure of the Design Workshops empowered participants, and the prototypes they created provided a tangible form for their voices and decisions, going beyond the capture of experience and insight, which enabled the study to explore and reflect on future possibilities in a non-threatening and low-risk way (Coughlan et al., 2007; Sanders & Stappers, 2014). Moreover, as Siodmok (2014, p. 26) states, "*prototype generates imperfect truths, but with the right approach it also generates data about the future.*" Although these prototypes did not directly answer the research questions, they were regarded as "imperfect truths", combine with the iterative design process, the prototypes offered evidence that helped interpret the findings, i.e., "*what works and, more importantly, what does not, can be very powerful*" (Siodmok, 2014, p.26), providing a valuable basis for further synthesis and analysis.

The research findings partially align with Cross's concept of designers solving problems by synthesis. Although the discussion of the findings remains analytical, the analysis considers the artefacts produced during the research process, and one significant finding (the proposed Communication Model of Motion Graphics) is synthesised from the participants' prototypes. Additionally, most of the methods and tools used in the research are design-led and focus on what participants say, do and make (Sanders, 2002).

Another aspect of this study relates to Cross's concept of design research, which generates practical knowledge from design activities and aims to produce a "satisfactory solution". In Cross's words:

“A central feature of design activity, then, is its reliance on generating fairly quickly a satisfactory solution, rather than on any prolonged analysis of the problem... it is a process of ‘satisficing’ rather than optimizing; producing any one of what might well be a large range of satisfactory solutions rather than attempting to generate the one hypothetically-optimum solution” (Cross, 1982, p. 224).

In this study, the “satisfactory solution” refers to addressing the research questions. The participatory design as the design method ensures the problem-solving process. According to Edelson (2002), design methodology is a general design procedure similar to prescriptive design frameworks. However, these methods provide guidelines for the research process rather than the end product (Edelson, 2002, p. 115). This argument meets Cross’s description of the design process, which can lead to “satisfactory solutions” rather than a hypothetically best solution (Cross, 1982, p. 224). Participatory design has been effective across various fields and practices in producing such solutions, as it involves diverse stakeholders’ collaboration, creation, and critique. This collaborative effort ensures the design conforms to their ideas through a progressive and iterative process (Bannon & Ehn, 2012; A. Collins et al., 2016; Drain & Sanders, 2019). The mechanisms of collaboration and creation in participatory design arise from the shifting roles of researchers, professional designers, and end-users. In participatory design, roles are mixed; the viewers of MGs are no longer merely subjects to be observed and analysed but participate in the research and design process. The researcher acts as a facilitator, supporting participants with design tools to express their experiences (Sanders & Stappers, 2008). In this study, professional designers also participate as producers and co-designers.

The contribution of this research lies in the analysis of collected data and the synthesis of artefacts generated through observation, experimentation, and design activities. These materials serve as empirical evidence, reflecting the research findings, which are thoroughly discussed in Chapter 7. However, as design research, the analysis and interpretation of data are inevitably influenced by the researcher’s subjectivity. Design, by nature, integrates creativity and subjectivity with critical reflection and discussion on decision-making processes.

As Manzini (2015, p. 39) notes, *“Research through design necessarily brings into play a level of subjectivity that would be inadmissible in the scientific tradition.”* Unlike traditional scientific inquiry, design research produces knowledge that must be systematically articulated rather than remaining implicit within the design process itself. As Manzini further argues, *“The knowledge produced cannot be implicit and integrated*

in the design but must be explicit, discussable, transferable, and compoundable” (Manzini, 2015, p. 39).

Accordingly, the discussion of findings and the acknowledgement of limitations contributes to this research. By systematically presenting and discussing the findings, this study ensures that the knowledge generated is accessible, critically examinable, and applicable to future research or practice. This articulation is essential to test, consider, or reflect on the developed theories (Friedman, 2003).

1.4 Research context

This study investigates the practices and understandings of MGs producers and viewers to explore the communicative mechanisms of this medium. Although the following chapters provide details on the participants’ environments and backgrounds, this section contextualises the research by outlining concepts and examples related to the production and circulation of MGs. As the fieldwork took place in Scotland, the study also draws on local contexts to reflect broader production and consumption in the industry.

1.4.1 Local production of MGs: Glasgow and London

Rooted in early experiments with computer graphics and digital art, the production of MGs has long incorporated animation (Schlittler, 2015). However, MGs is often expected to have communicative functions and purposes for addressing brief communication tasks, which has fostered abstract expression rather than narrative-driven approaches used in traditional animation, encouraging experimentation and creativity among producers (Betancourt, 2019; Drate et al., 2006a; Hillner, 2009). This spirit of experimentation continues today, particularly in how designers respond to different production demands through visual styles and technologies.

From 35mm film-based production to digital workflows, the integration of motion and animation technologies has expanded the visual language of graphic design in the UK TV industry, enabling designers to apply increasingly sophisticated and innovative approaches to create compelling MGs (Macdonald & Williams, 2025).

Since Lambie-Nairn’s rebranding work for the BBC, motion has been used across platforms to convey marketing messages and information. With the development of software technologies, a wider range of designers and small studios have entered the field to serve increasingly diverse audiences (Lambie-Nairn, 1997; Meech, 1999; Merritt, 1987; Schlittler, 2015). Motion has also changed how graphics are produced and viewed. For instance, BBC ids have reflected technological progress, programme content, audience identity, and seasonal transitions (Macdonald, 2014).

Today, with the widespread application of production tools, distribution platforms, and display technologies (Krasner, 2013), MGs has established itself as a field of work and discipline, its boundaries between MGs, animation, visual effects, and UI design have blurred, allowing these fields to interact and overlap (Schlittler, 2015). For example, at Nottingham Trent University, the course of MGs encompasses practice across multiple fields¹, including animation, film, UX/UI, virtual reality (VR), and augmented reality (AR).

MGs now serve functions beyond identity branding—they communicate marketing messages, reflect consumer interests, and are produced by various actors, from large studios to small teams and individuals. Viewers no longer simply watch content; they actively consume topics and interests. These developments reflect the ongoing transformation of the industry, shaped by shifts in technology, management, and commercial modes (Macdonald, 2014). MGs continue to evolve in response to communication demands, driven by both producers' creative practices and viewers' consumption. The following sections offer a closer look at this through local industry examples, combining references and the researcher's interpretation.

1.4.1.1 BBC Scotland and STV Creative

BBC Scotland is already a strong arts centre, with Glasgow as its important production base (Bennett, 2008; McCluskey, 2024). As the design team for a public broadcaster, BBC Scotland's graphics department serves a wide audience and supports diverse forms of video production. Its focus is on communication—ensuring information is presented clearly while enhancing narrative and visual appeal. This production focus can be regarded as following the regulatory environment shaped by the 2003 Communications Act, which, under the Office of Communications' (Ofcom) market-oriented remit, advanced the 'citizen-consumer' discourse and reframed the BBC's relationship with its audience through the adoption of the public value framework, fostering a more dialogic and responsive engagement (Collins, 2007; Lunt & Livingstone, 2011; McCluskey, 2024). Thereby, the team works across a wide range of content, including live action, 3D graphics, mapping, character design, and animation sequences. Their projects range from infographics for news, branding, and live sport to animation for children (Figure 1.1). Skilled in 2D/3D animation, software development, and interface design, the team uses tools such as Adobe Creative Cloud, Maxon Cinema

¹<https://www.ntu.ac.uk/course/art-and-design/ug/motion-graphics>

4D, VizRT, Metra WeatherScape, and MeteoGroup WeatherPresenter to create engaging content².

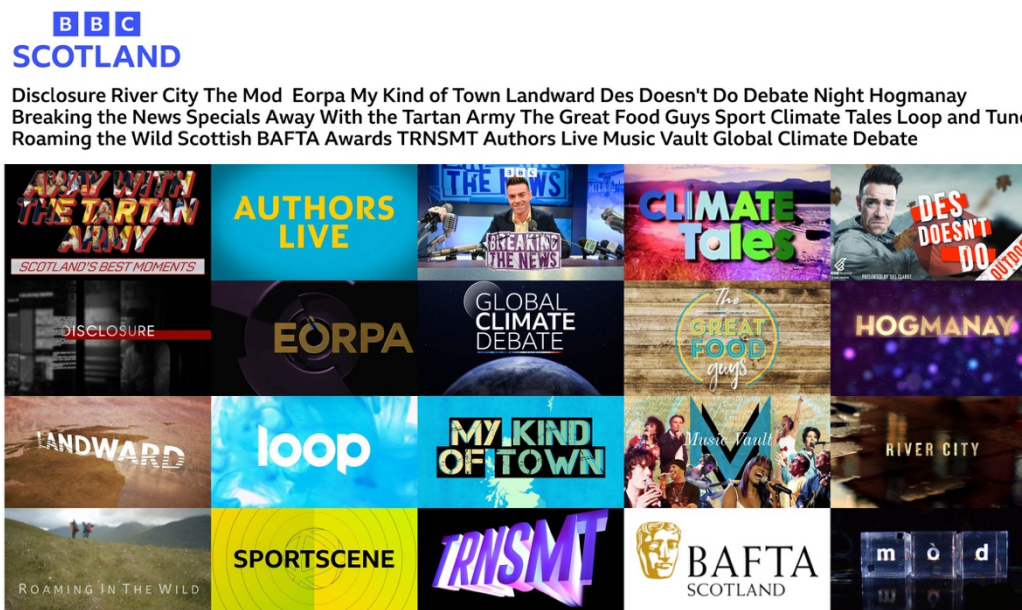


Figure 1.1 Examples of TV programmes the graphic design team is involved in producing MGs

Another local-focused example is STV Creative, a creative agency of Scottish Television (STV). The agency specialises in producing promotional videos and advertisements for local authorities, brands, and public organisations. Just as Ofcom requires STV Scotland’s programming to consist of programs that interest residents of the area or community (Ofcom, 2020, p. 20), STV Creative’s focus is also on the preferences of local audiences. With a strong understanding of local audience preferences, STV Creative often combine live action and MGs to create videos that feature small stories or humour to enhance viewer resonance. These works are typically released via television and social media platforms, using vivid characters and storytelling to attract general consumers.

For example, STV Creative produced a 2D animation for Glasgow City Council’s “Spaces for People” project (Figure 1.2). Using a colourful, cartoon-style illustration, the animation communicated new pedestrian regulations in a simple and accessible way. Its visual tone promoted an inclusive and welcoming urban image, with a strong and approachable aesthetic.

²<https://www.bbcstreet.co.uk/design.html#:~:text=Simon%20has%20been%20producing%20quality,for%20the%20BBC%E2%80%99s%20experimental%20projects>

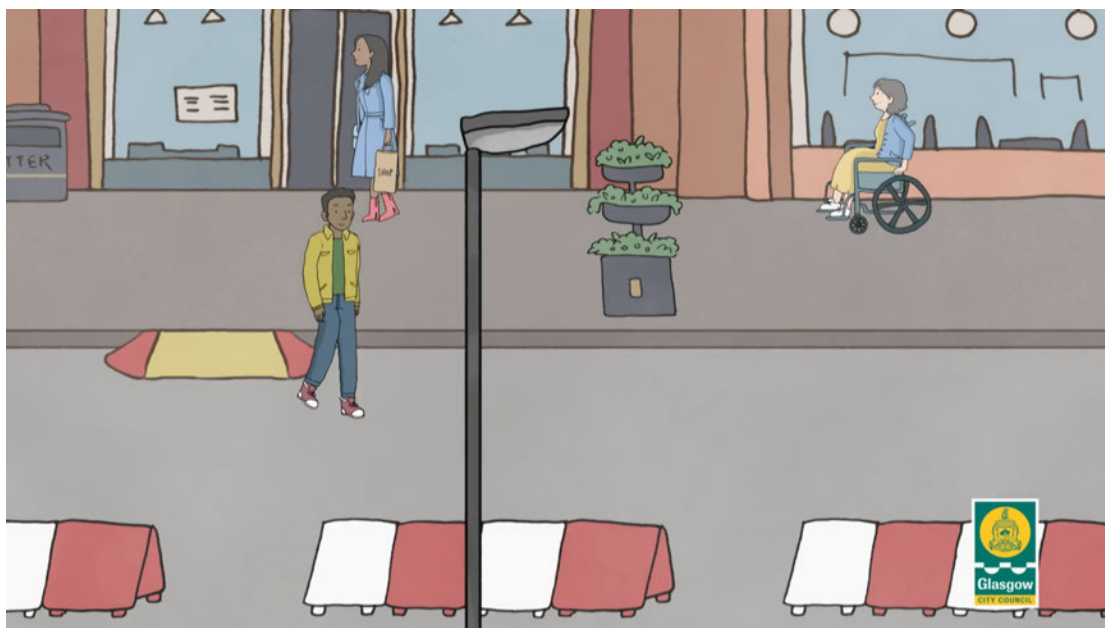


Figure 1.2 Keep safe - Spaces for people³

STV Creative also deliver commercial advertisements, such as a campaign for the frozen food brand Blueberry Hill Meals, which featured charming cartoon animal characters (Figure 1.3). These were used to communicate the product's key features in a funny and engaging way.

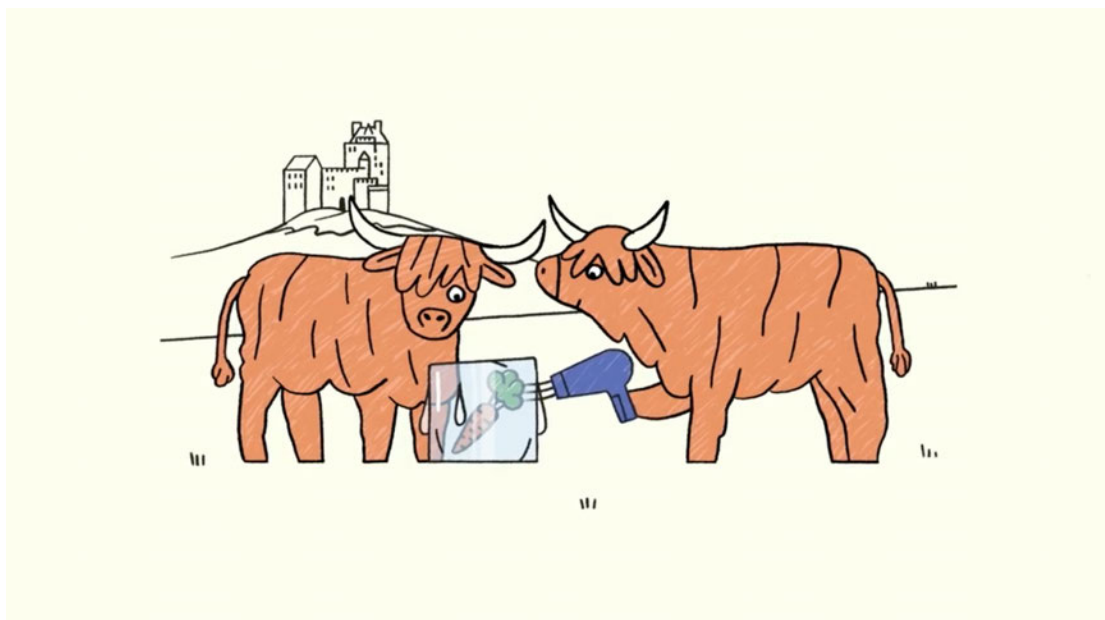


Figure 1.3 Ice and tasty⁴

³ <https://stvcreative.com/keep-safe/>

⁴ <https://stvcreative.com/spot-30-2/>

1.4.1.2 ISO Design and Revenant

The integration of MGs with various technologies has enabled its application across different fields, producing a wide range of content. A notable example is ISO Design, a Glasgow-based studio. Initially focused on producing personal MG projects for clients such as OneDotZero, ISO Design entered the television sector in the late 1990s, collaborating with major UK broadcasters including the BBC, MTV, and Channel 4 (Art of the Title, 2010). As the studio expanded, it moved beyond broadcast graphics to develop large-scale interactive installations for multiplatform projects. Today, it is a multidisciplinary design studio working across museum exhibitions, film and television, and digital interactive media.

ISO Design often combines different types of content and materials in its output. For example, the opening title sequence for the BBC programme *A History of Scotland* (2008) combined live-action footage with MGs (Figure 1.4). The design team developed a storyboard to structure the content, then scripted animations in After Effects to integrate helicopter footage⁵. The result was a distinctive aesthetic in which text elements were drifting across the landscape, evoking the natural beauty of Scotland and the passage of time.

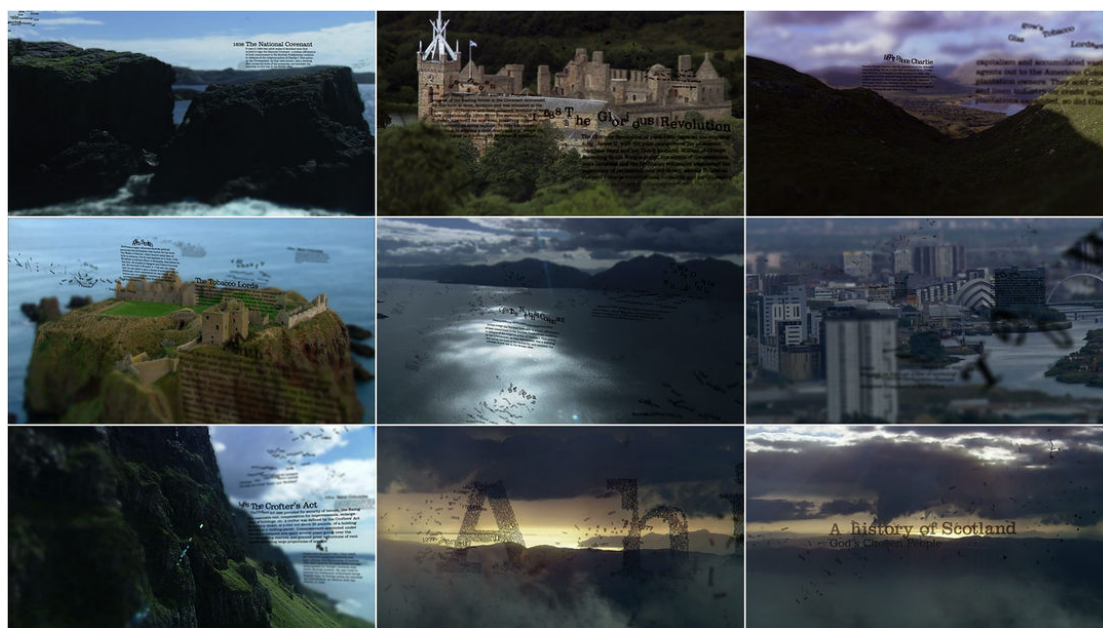


Figure 1.4 Opening sequence of *A History of Scotland*, 2008

ISO is also good at combining MGs into immersive exhibition environments to enhance visitors' interaction and engagement. One example is their work for the EPIC, The Irish Emigration Museum in Dublin, where they designed 11 of 20 multimedia

⁵ <https://www.artofthetitle.com/title/a-history-of-scotland/#section-nav>

galleries. These featured interactive screens and projections that narrated the stories of millions of Irish emigrants. Visitors could touch screens, flip through virtual books, and engage with digital interfaces that allowed engaging, contextual interaction with the historical content (Figure 1.5). As a TripAdvisor user, GAR commented⁶, “*They made history come alive through telling many individual stories, which I felt really connected us to the past*”.

These works by ISO serve general audiences and groups interested in history and culture, enhancing narrative communication and visual aesthetics through high-quality MGs and other media. ISO’s interactive installations significantly expanded the dimension of audience engagement, enabling viewers to engage in a dialogue with the content and generate personal meaning through interaction.



Figure 1.5 EPIC, The Irish Emigration Museum

⁶ https://www.tripadvisor.co.uk/Attraction_Review-g186605-d10184456-Reviews-EPIC_The_Irish_Emigration_Museum-Dublin_County_Dublin.html

Also based in Glasgow, Revenant is a studio specialising in animation, MGs and visual effects. Known for its visual style and innovative use of new technologies, the studio has received numerous awards⁷. Revenant works across a wide range of fields—including broadcast, film, digital, experiential, gaming, and themed entertainment—often integrating real-time rendering, VR/AR, and other emerging technologies into its work.

Driven by craft, curiosity, and storytelling, the Revenant team aims to lead with emotion, design with empathy, and use technology with intention. Their approach combines artistic creativity with technical precision, emphasising striking visual expression while maintaining narrative coherence and communicative function. An example of Revenant's ethos is Yeo's Journey: The Power of Water, an immersive experience designed for Cox's Cave at Cheddar Gorge in the UK (Figure 1.6). Using advanced dynamic lighting, projection mapping, and spatial audio, the cave itself becomes a medium for a non-verbal, emotionally resonant story. Each area of the cave was designed as a narrative chapter, forming a modular, looped experience that allows visitors to enter or leave at any point. A shapeshifting, silent character named Yeo, composed of flowing light and movement, guides the visitors and serves as a symbolic emotional presence.

During development, Revenant used storyboards to define the narrative structure and pacing across different areas of the cave. The team overcame significant technical challenges in projecting onto cave walls and stalagmites by employing 3D scanning and extensive testing to ensure seamless integration between animated projections and the natural environment. Spatial lighting and directional sound were used to create intuitive navigation, allowing visitors to explore freely while engaging with the emotional and historical aspects of the story. A TripAdvisor user, Anneke S commented, *"You were discharged through this with Moving Images through colours and sound. It was presented in a special way, which made it very different from the other cave. It's a whole different Impression"*⁸. The experience resulted in a 3.3% increase in visitor numbers and received 83% positive feedback⁹.

Revenant also integrates MGs into film and television production. For example, they created 40 VFX shots and 17 MGFX animations for the Netflix documentary Apollo 13: Survival (2024) (Sarto, 2024). To support the film's archival tone and

⁷ <https://www.a-p-a.net/members/revenant/>

⁸ https://www.tripadvisor.co.uk/Attraction_Review-g186371-d24112820-Reviews-Cox_s_Cave-Cheddar_Somerset_England.html

⁹ <https://revenant.tv/work/yeos-journey/>

authentic historical materials, Revenant developed a set of visuals that mixed simple visual language and historical background. A wealth of archives helped build the visual effects package and ensure it is aligned with the history authentically and respectfully (Miller, 2024). Thereby, Revenant's work brought visually compelling and atmospheric elements into graphics that reference those used at that time, such as image transitions in a carousel slide projector style, grainy infographics, geometric style, etc (Figure 1.7).

Revenant's work spans platforms and reaches a wide audience. Its innovative practice demonstrates the potential of MGs and its capacity to foster deep viewer engagement.

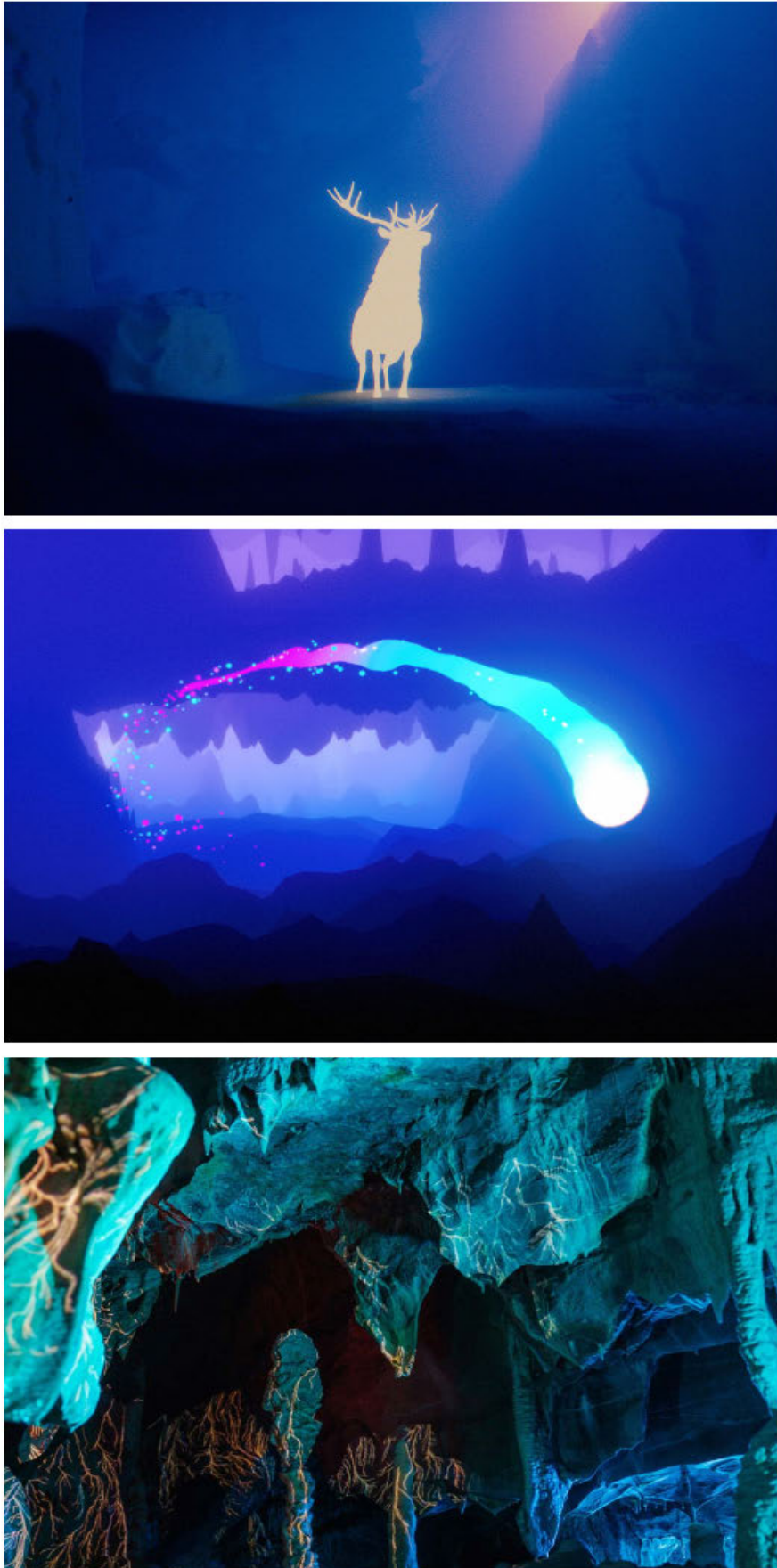


Figure 1.6 Yeo's Journey: The Power of Water

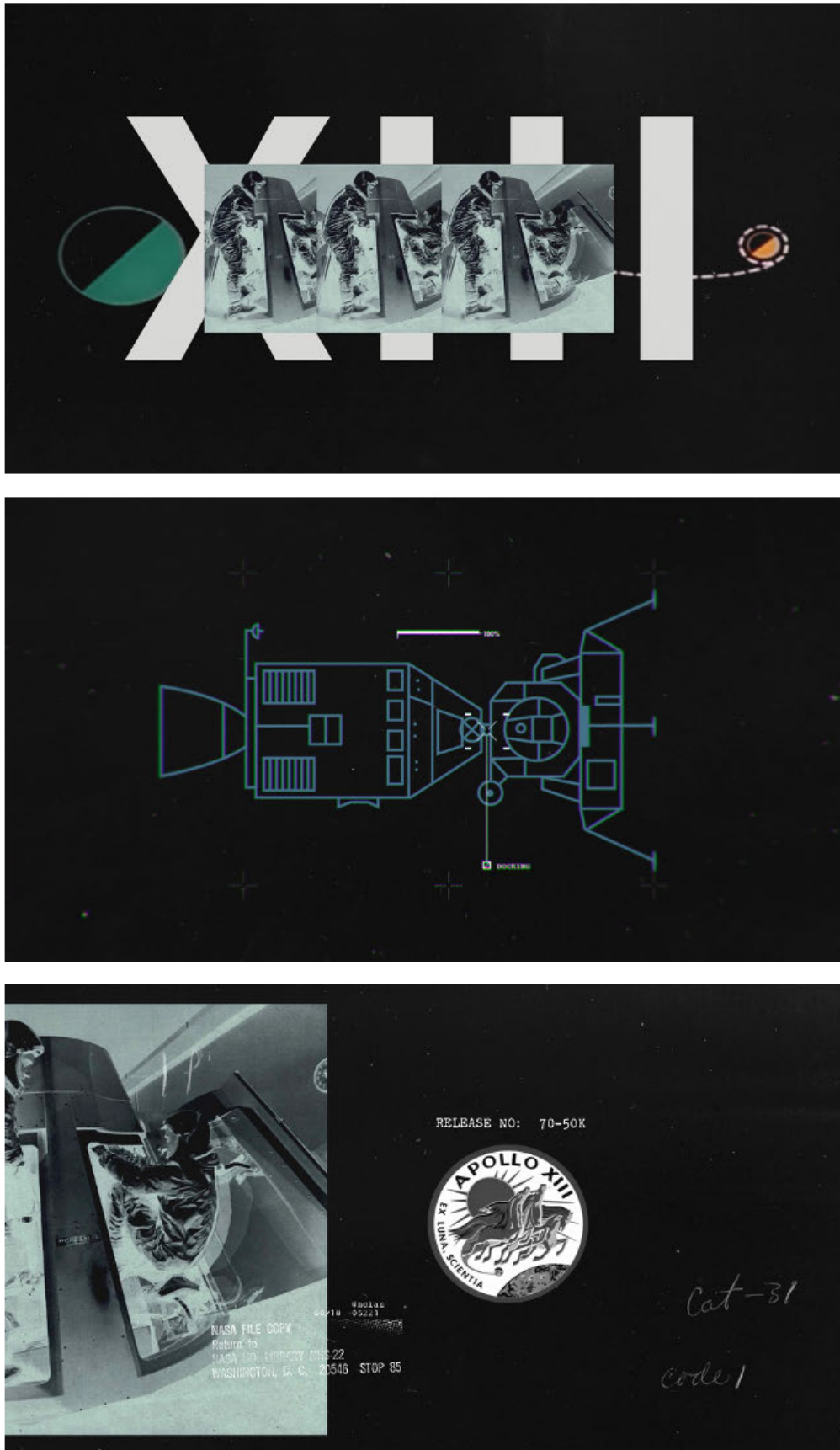


Figure 1.7 Apollo 13: Survival, 2024

1.4.1.3 *ManvsMachine and The Mill*

In the broader region of the UK, London-based studios demonstrate production and design strategies for a global market. As noted, MGs have become a professional field of work. ManvsMachine is a representative example. They have studios in London and Los Angeles, and they specialise in stylised and sophisticated 3D MGs. Their main production tools include Cinema 4D, combined with rendering engines such as Arnold and V-Ray, while compositing is carried out using After Effects and Nuke (Motionarray, 2019).

ManvsMachine produces MGs for globally recognised brands and media platforms, including brand advertisements and channel IDs. Their visual style typically features abstract, artistic 3D MGs, employing precise motion design to reflect brand identity. For instance, they have developed several short promotional videos for Nike's Air Max series. In the 2017 piece¹⁰ (Figure 1.8), they used visual metaphors to explore everyday running experiences, combining minimalist aesthetics with lively music to create an inspiring audio-visual experience and brand image. Moreover, the visual language from the video was extended into application, which further demonstrates all the related designs, including print, advertising, and in-store applications (Figure 1.9).



Figure 1.8 Nike Air Max 2017 Campaign

¹⁰ <https://mvsm.com/project/air-max>

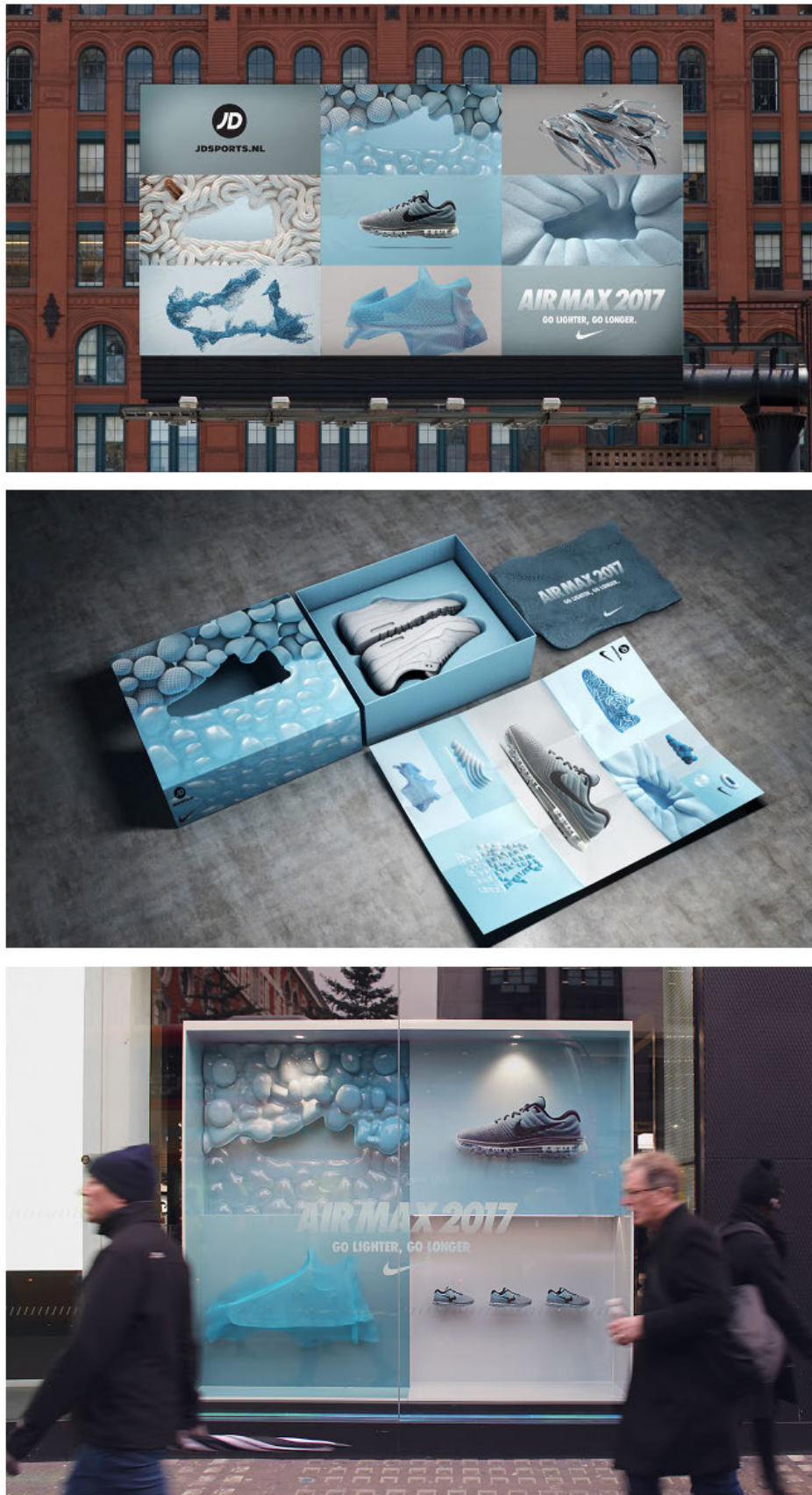


Figure 1.9 Application of the design

Regarding broadcasting, ManvsMachine developed a new series of filmic BBC One idents in collaboration with BBC Creative (Figure 1.10). These idents celebrated British culture by showcasing various people, places, and moments, all connected through the recurring animation of the graphic of “lens”, embedded naturally into live-action scenes to create a cinematic experience.

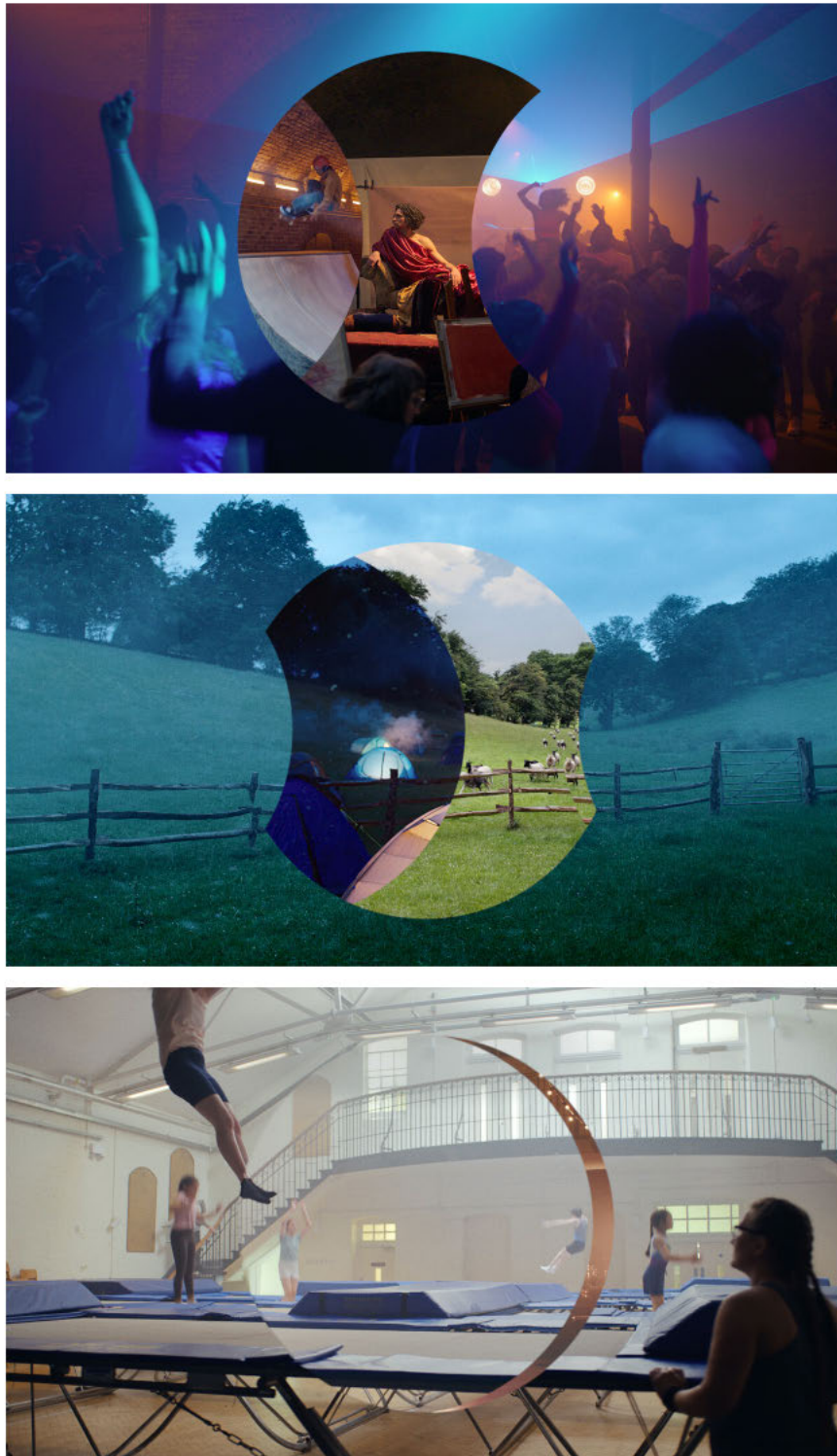


Figure 1.10 BBC ONE filmic idents

From fashion branding to national television identity, ManvsMachine combines distinctive 3D visual aesthetics with conceptual creativity to build recognisable and compelling visual systems. Their MGs projects often extend across platforms—including mobile, print, and physical environments—to enhance cross-media integration, reinforce brand recognition, and enrich viewer engagement. Furthermore, ManvsMachine often shares their creative process on their website¹¹, including storyboards, render tests, and behind-the-scenes production footage, providing valuable resources and inspiration for designers and artists.

Another globally established studio working across multiple fields is The Mill. It was founded in London in 1990 by Robin Shenfield and Pat Joseph, and quickly became one of the world's leading visual effects studios (Fice, 2015; LBB Editorial, 2025). The Mill operates internationally, with studios and offices in New York, Los Angeles, Chicago, Seoul, Paris, Amsterdam, Shanghai, Bengaluru and Singapore. Their work spans television, film title sequences, advertising, and live events. Their visual content is available across mobile and immersive physical spaces, covering various styles—from cel animation and 2D/3D graphics to VFX, VR/AR, live action, creative direction, and emerging technologies.

The Mill has extensive experience in broadcast, including the design of two BBC Two idents (Figure 1.11). They represent the number “2” in various materials and forms to reflect the channel's diverse programming. These updated idents paid homage to the channel's history while establishing a distinctive modern identity across TV and digital platforms.

¹¹ <https://mvsm.com/>



Figure 1.11 BBC TWO idents

In advertising and short films, The Mill is known for cinematic quality and creative visual storytelling, while continually experimenting with new technologies to push the boundaries of MGs and visual effects. For instance, their 4D Ride Film, developed in partnership with Hyundai and Bauer Lab (Figure 1.12), tells the story of using advanced Hyundai technologies to extinguish wildfires and rescue animals.



Figure 1.12 4D Ride Film for Hyundai

The Mill has also designed title sequences for numerous films and TV series, including *We Are the Giant* (2014), *Pride and Prejudice and Zombies* (2016), *Sickos* (2017), *Skyscraper* (2018), and Guillermo del Toro's *Cabinet of Curiosities* (2022). Notably, their title sequence for *Manhunt: The Search for Bin Laden* (2013) won the Emmy Award for Outstanding Documentary, while their work for *Marco Polo* (2014) won a Cannes Design Lion in 2015. The opening sequence for *Vikings* (2013) was nominated for a Creative Arts Emmy in the Main Title Design category. The Mill also produced graphics packages for the Academy Awards broadcast show from 2012 to 2014 (Art of the Title, n.d.).

The Mill's production approach and output styles vary depending on project needs. From abstract atmosphere-building, as in *Marco Polo* (2014) (Figure 1.13), to informative storytelling, as in *Manhunt: The Search for Bin Laden* (2013) (Figure 1.14). Through cutting-edge techniques and high production quality, The Mill consistently conveys thematic depth and immerses viewers in narrative experiences. Their works are designed to resonate across television, film, social, and online platforms, effectively reinforcing themes and atmospheres for diverse viewers.

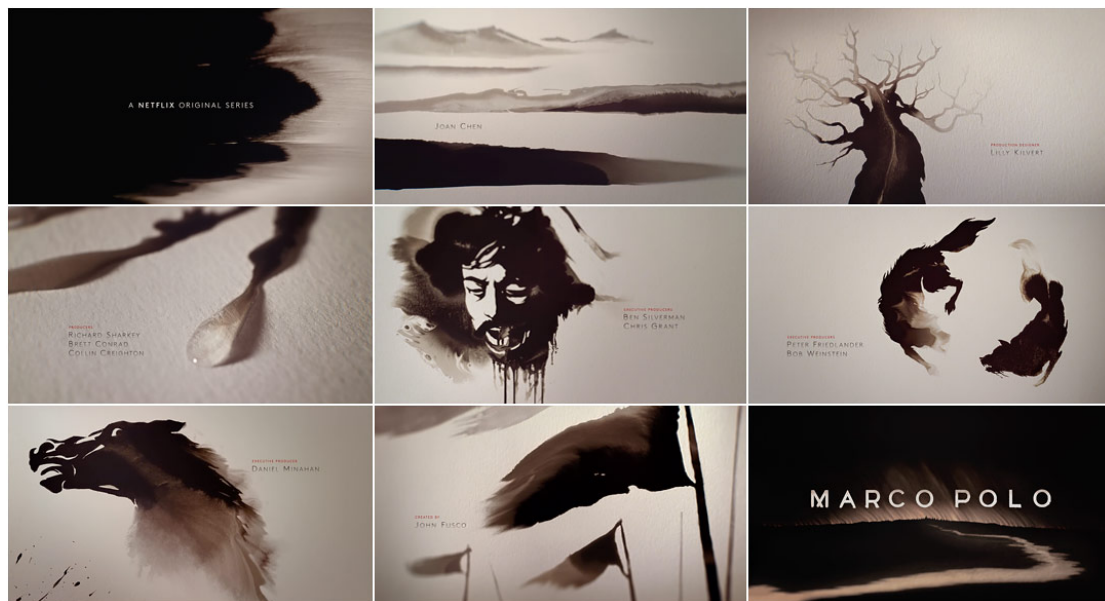


Figure 1.13 Title sequence for *Marco Polo*, 2014



Figure 1.14 Title sequence for *Manhunt: The Search for Bin Laden*, 2013

1.4.2 Summary

Based on the above survey of representative MGs studios in Glasgow and London, this section summarises two insights that help contextualise the study. On the one hand, MGs, as a widely applied medium, represent a practical and technically driven design field. In response to global demand, production processes have become industrialised with standardised visual languages and workflows. On the other hand, these studios continue to push creative and experiential approaches to communication, particularly when engaging with diverse viewer groups—reflecting their preferences for story, experience, emotion, and inspiration.

As Wells (2013) notes, art and innovation in the context of standardisation are closely linked to industrial practices. As a communication medium, MGs is part of a professionalised work field. From BBC Scotland to The Mill, the visual languages, production workflows, project management practices, and cross-platform coordination all point to MGs as a hybrid creative field with innovation and experimentation. Their applications span television, films, advertising, exhibitions, and interactive installations. Standardised software tools such as After Effects and Cinema 4D with clearly defined roles (e.g., modelling, compositing, rendering, interaction design) ensure production quality and efficiency—bridging design practice with industrial structures. Through collaborations with institutions like the BBC and EPIC Museum, studios such as ISO Design produce high-quality visuals and contribute to strategic communication and experience-oriented design. Similarly, ManvsMachine and The Mill have shown the

international reach and systemic production of MGs through global brand partnerships. The industrialisation of MGs is also reflected in education, as seen in interdisciplinary, industry-oriented programmes like those at Nottingham Trent University.

Despite the standardised production, creativity and experience remain central goals for studios and producers. The effectiveness of MGs in communication relies not only on the accuracy of information transmission but also on the ability to establish emotional resonance and engagement with viewers. The practices of these studios show how MGs can capture attention, evoke emotion, and encourage engagement across diverse settings and situations. STV Creative, for example, uses character-driven humour and storytelling to increase engagement of the locals; Revenant crafts immersive stories through light and motion; and ISO Design integrates live-action, graphics, and interactivity to enrich exhibition experiences. These strategies enhance the communication from the informatic and experiential dimensions, contributing to meaning-making.

In summary, MGs integrate technologies, workflows, and creativities within an industrial framework. Yet, the effectiveness of communication depends on how producers respond to varying demands and engage the viewer's understanding and experience. Viewers, in turn, contribute to meaning-making through their engagement and understanding. These aspects underpin the main concerns of this study, which are further explored in the following chapters.

1.5 Personal reflection and motivation

1.5.1 Rational

In the exploration of MGs communication through participatory design, the researcher's academic background in communication design and practice experience in graphic design played an important role in shaping the research topic. This background/experience offered a strong foundation in design practice, visual storytelling, user engagement, and media aesthetics, which influenced the direction of the research. As the investigation explored the producers' practice and viewers' consumption in specific scenarios, the research focused on participatory design activities for more depth and insightful findings. This process challenged the researcher's pre-existing theoretical and practical notions and sparked critical reflection on how to transcend preconceived professional and practical knowledge. The researcher emphasised the importance of design tools and materials during the research by maintaining a neutral perspective to avoid the risks of overlooking details due to

familiarity with related fields, and the participants were encouraged to provide genuine feedback. This approach introduced further considerations in designing and developing tools and materials in the research activities. The tools and materials aimed to empower participants by focusing on their autonomy in the design process, which fostered deeper engagement and insights for the research.

1.5.2 *The role of the researcher*

As noted, the researcher had multiple roles during the research, acting as a researcher, designer, translator, and facilitator. This involved aspects such as managing relationships with participants, navigating power dynamics, and understanding the impact on the research. As Sanders and Stappers (2008) describe, Figure 1.1 illustrates the roles within research. Implementing the Participatory Design Project described in Section 3.5 involved transforming the roles of both researcher and participants, driven by the research needs and questions.

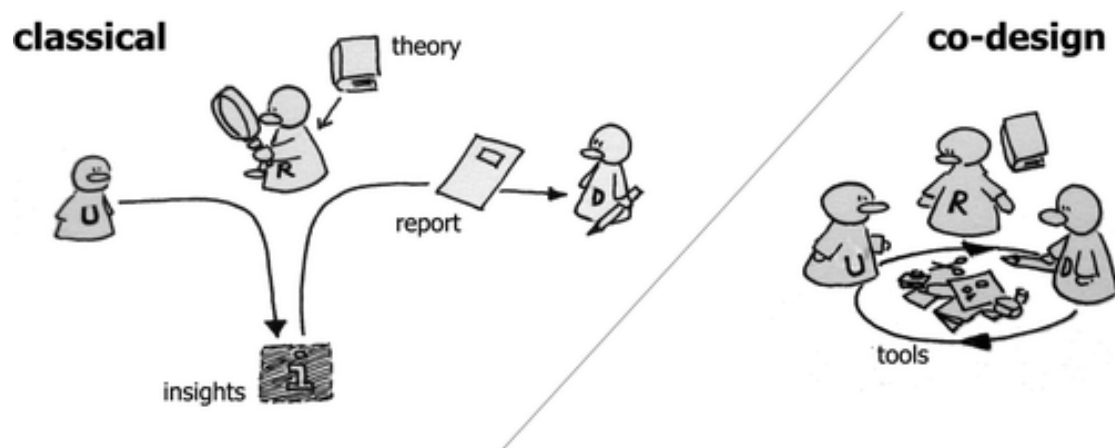


Figure 1.15 Roles of users, researchers, and designers in design process (Sanders & Stappers, 2008, p. 11)

In the Producers Observation (Chapter 4) and Viewers Focus Group (Chapter 5), participants mainly acted in a passive role as research subjects, engaging with self-reporting tools to provide deeper insights. The tools designed by the researcher primarily served to organise and understand participants' behaviours and motivations. This led to the fieldwork in these two parts being researcher-led, thereby limiting participants' autonomy and participation level. The researcher integrated the collected data with theories from the literature review to develop further knowledge.

In the Design Workshops (Chapter 6), as mentioned in Section 1.3.2, both producers and viewers participated in the research process and engaged in design activities, and the researcher acted as a facilitator. In addition to introducing and explaining previous research findings to the participants, the researcher also provided

the participants with tools to support the “expert of his/her experience” (Sanders & Stappers, 2008, p. 11).

Based on existing design (V&A Dundee, n.d.; Wilson, 2018) (V&A Dundee, n.d.; Wilson, 2018), the researcher developed a design process and workbook to facilitate the expression and creation of the participants as co-designers in the design exercise. The structured design process ensured that the participants’ outputs met the needs of the research and helped the researcher more easily explore and find patterns during the data analysis (Visser et al., 2005). Finally, by synthesising the concept prototypes created by the participants, the researcher summarised the findings as a Communication Model of Motion Graphics and conducted further discussions.

1.5.3 Research process

The establishment of the research questions (Section 1.2) was rooted in reflections on the widespread production and consumption of MGs, which guided the researcher in defining the direction of the broad and complex topic of MGs communication. Each research stage is built upon previous findings, progressively enriching the results with additional content and meaning. Moreover, the iterative process in the Design Workshops ensured that the participants’ outputs were aligned with the research questions.

The implementation of the research activities demonstrates the researcher’s adaptability and flexibility in addressing challenges and constraints, reflecting the ongoing development of knowledge and insights. Retrospective reflection at each stage allowed the researcher to refine methods and tools, deepen the understanding of the research questions and problems, and enhance the quality of the research findings.

1.6 Structure and outline of the thesis

This thesis comprises eight chapters. Table 1.1 provides a brief overview of the thesis structure and descriptions of each chapter.

Chapter	Title	Description
Chapter 1	Introduction	The first chapter sets the context of the research, outlining the research problems and questions.
Chapter 2	Literature review	The literature review summarises the literature on the research topic and connects findings from other related

		fields, identifying gaps to frame the research problems and proposed model.
Chapter 3	Methodology and methods	This chapter describes the research worldview and research design as a Participatory Design Project (PDP). It also introduces the data collection and analysis methods for the research activities.
Chapter 4	Producers observation	As the first part of the PDP, this chapter describes the investigation of producers' practice and results.
Chapter 5	Viewers focus group	This chapter is the second part of the PDP, which involves viewers' participation and discuss the results.
Chapter 6	Design workshops	The final part of the PDP, this chapter involves two groups of participants developing their concept prototypes of MGs communication in design workshops
Chapter 7	Discussion	Reflecting on and discussing findings of the PDP, this chapter presents how the research findings address research questions. It also includes limitations and reflections on the research.
Chapter 8	Conclusions	The final chapter summarises the main findings, contributions to knowledge, and recommendations for future research.

Table 1.1 Structure of the thesis

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction to the literature review

2.1.1 *Scope of the literature review*

The literature review locates and summarises critical literature on MGs. It begins with a historical view and introduction to the field of MGs, locating the topic within its contemporary context by discussing the intrinsic driving forces and evolution of MG design from a historical perspective. More specifically, it discusses how MGs are thriving in the digital context due to consumerism and have been strongly affected by computer technology.

Following the historical view, this chapter discusses the three topics below and summarises key literature and arguments to identify gaps and limitations in the existing research, offering potential explanations and directions, thereby setting the stage for further investigation.

The first topic (Section 2.2) is *Hybrid Media* which explores the ambiguous definitions of MGs across various terminologies and fields and the differences underlying various definitions. Rather than aiming to integrate existing terms and definitions, this topic focuses on connecting MGs with communication design. The first topic suggests that the functions of MGs as communication design should be considered as it is becoming increasingly difficult to define and trace.

The second topic (Section 2.3) is *Communication Efficacy*. This topic reviews the research from education and media, examining how communication efficacy is considered a priority and objective within the application scenarios of MGs such as education and public advertisements. This topic recognises that there is a lack of general agreement about which factors make MGs more efficient in communication than other mediums.

The third topic (Section 2.4) is *Communication of MGs: Narrative, Experience and Symbol*. This topic extends the discussions from the previous two topics. It discussed related studies and theories of MGs communication by extensively referencing studies from various disciplines, including linguistics, semiotics, media studies, cognitive psychology, and neuroscience.

2.1.2 *Search and writing strategy*

The following steps were taken to locate literature on the topic of MGs.

Identify keywords and search in databases. The following keywords were identified: *motion graphics, motion design, dynamic typography, communication*

design, graphic design, movie title sequence and *semiotics*. These keywords were then used to search databases most relevant to the subject area, e.g., ACM Digital Library; general databases, e.g., Web of Science, China National Knowledge Infrastructure; and the academic libraries at Glasgow School of Art (GSA) and University of Glasgow. The time limit for searching literature was between 1990 to the present, because computer graphics technology and software have flourished in the production of MGs since the 1990s (Krasner, 2013). Other smart software tools/websites were used for the literature review as search approaches, including Google Scholar, Connected Papers, Research Rabbit and ResearchGate.

Mendeley reference management software was used to organise the collected literature. It helped build a library and create different groups of literature for the draft chapters.

Locate and group. Based on the initial search, literature related to the topic was gathered. Useful literature was grouped into relevant topics, the search was continued, and further key papers or books were identified. Summaries for each topic related to the research were then drafted.

Develop a literature map. A literature map is a visual picture (or figure) of the groupings of literature on the topic. It illustrates how the study will contribute to the existing literature and positions the study within the larger body of research (Creswell, 2017). See Figure 2.1 for the literature map of the literature review.

Refine and summarise. Relevant literature was carefully examined and summarised, focusing on key concepts and themes. The literature was thematically organised to create a comprehensive map of important concepts and their interconnections. This process facilitated the identification of major themes from the literature. The research identified gaps and areas for further investigation by analysing and summarising these themes. This helped to develop the research questions and guide the subsequent stages of the study.

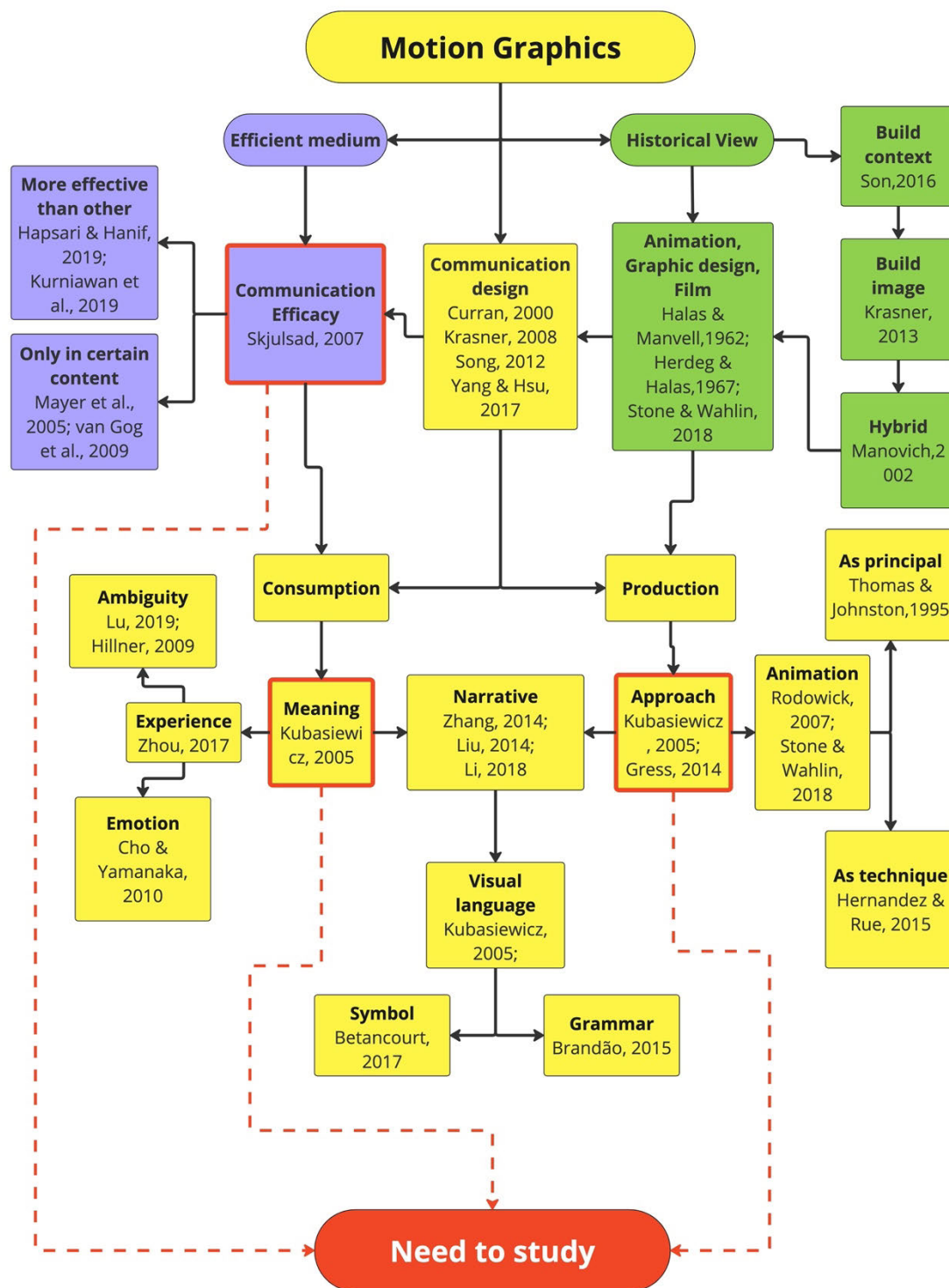


Figure 2.1 Literature map

2.2 Hybrid Media

2.2.1 *Historical view*

Based on the literature map (Figure 2.1), the historical development of MGs was visualised by the researcher as a timeline (Figure 2.2) by considering advancements in display technologies and production techniques, and the application of MGs to present the progression of MGs over time. Additionally, representative cases were included to exemplify the different stages in MGs history.

Before Cinematic Use



Zoetrope
By F Ernecke

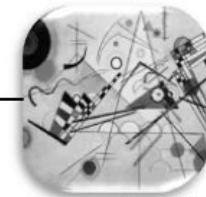
1887



Motion study
By E Muybridge

1890

1923



Composition VIII
By W Kandinsky

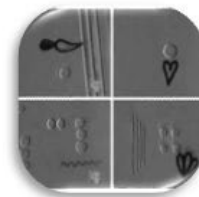
Build Context

1936



Allegretto
By O Fischinger

1940



Boogie-Doodle
By N McLaren

1955



The Man with the
Golden Arm
By S Bass

1958



Vertigo
By J Whitney & S Bass

1963



Doctor Who
By Bernard Lodge



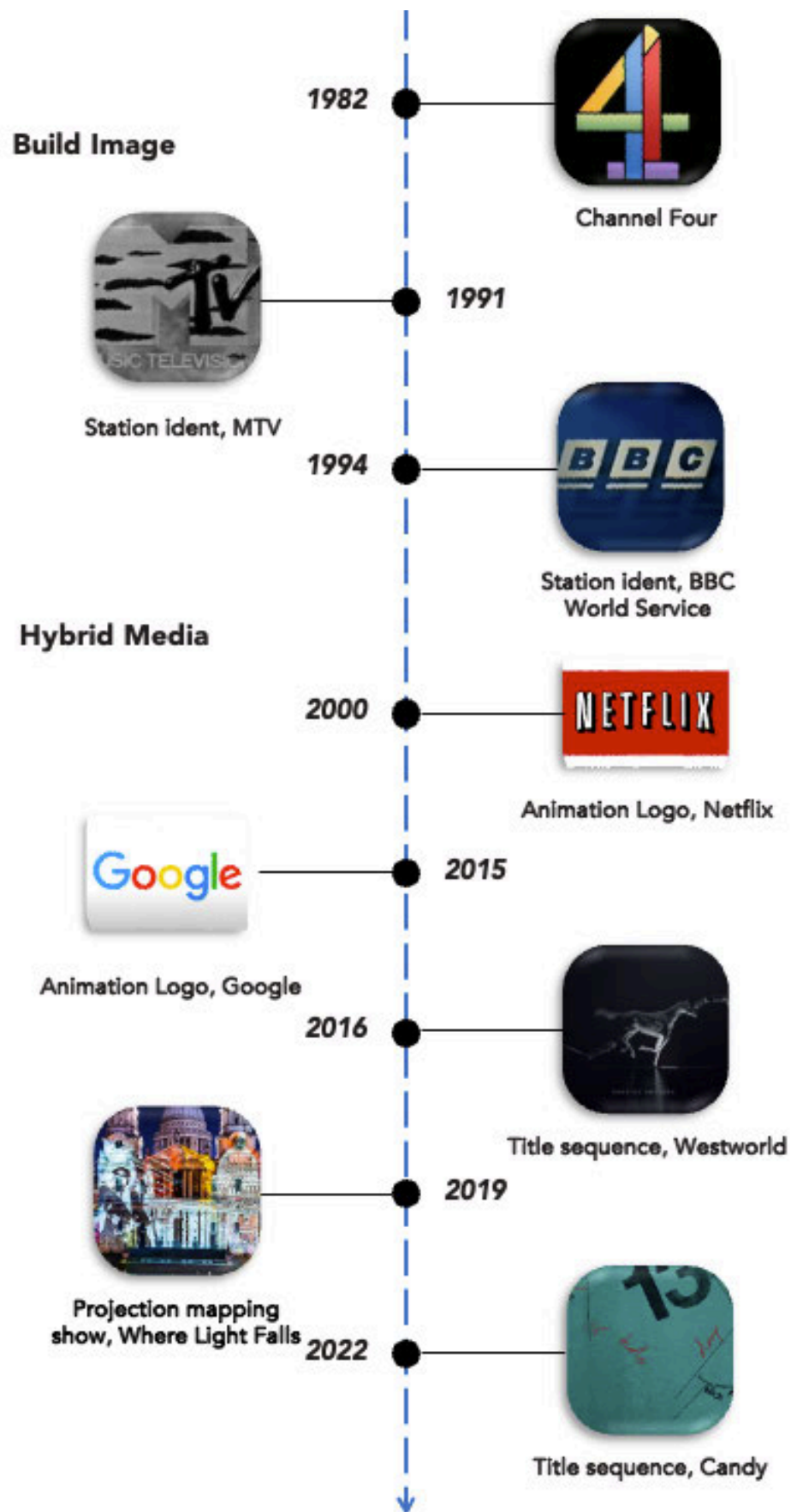


Figure 2.2 Brief timeline of MGs, by the researcher

2.2.1.1 Before cinematic use (to early 1990s)

Before the invention of photography, painting was one of the primary means by which humans preserved and conveyed information. In ancient Greece, artists used a series of elements on a two-dimensional surface to depict storylines, as seen in the black-figure neck amphora in Figure 2.3. The vase's neck depicts Dionysos and two satyrs, and on the other side, a four-horse chariot.



Figure 2.3 Black-figured neck-amphora, by Psiax (painter), Andokides (potter), Attica Greece, about 530BC-500BC. Image from British Museum

Alongside exploring and applying visual forms, China's revolving scenic lantern is a traditional folk art form. It consists of a series of scroll or disk plates with translucent holes and patterns or text, which create dynamic patterns or words when manually or mechanically rotated under the light. Figure 2.4 shows one of the styles of folk revolving scenic lanterns, which illustrate a scene of a story from a novel.

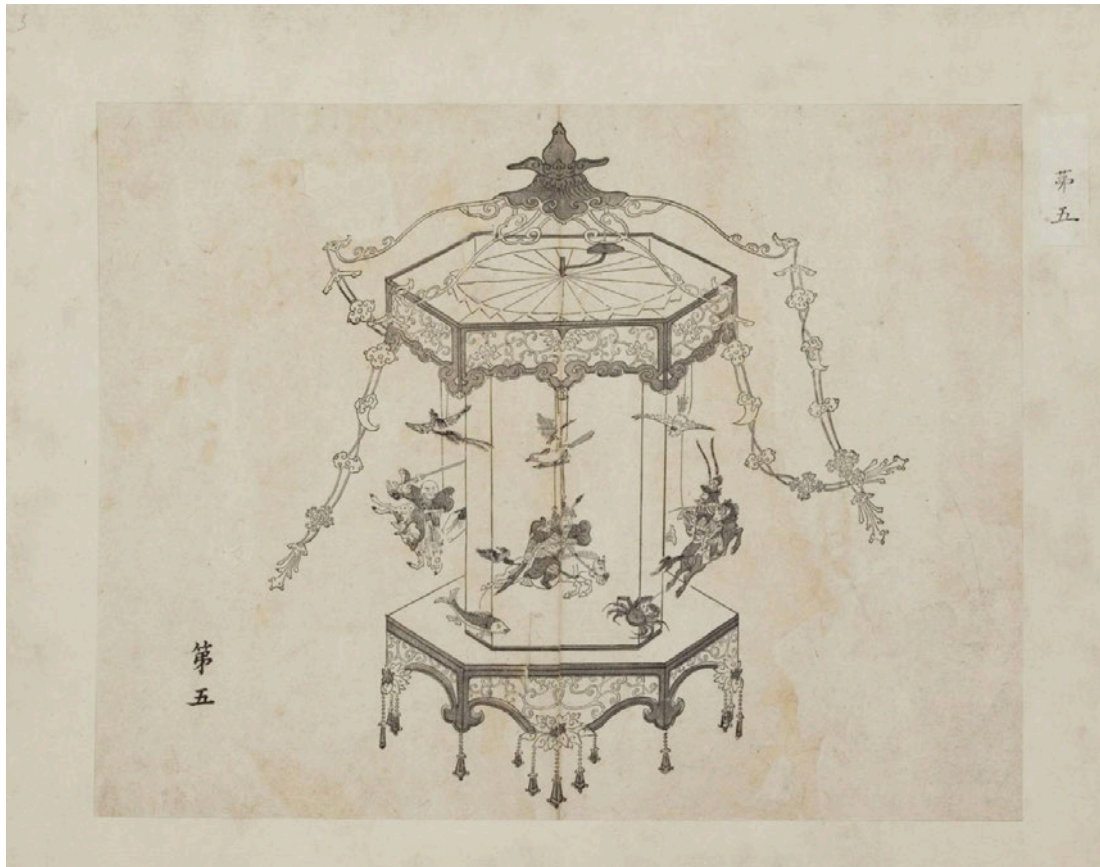


Figure 2.4 The Romance of the Western Chamber, 5th sheet, six-colour woodblock print, by Min Qiji, 1640 (Dong, 2009)

In the design of the amphora, it can be seen how sequential images were used to convey a story that a single image cannot describe. This structure is made even more vivid through motion in revolving scenic lanterns. With the development of technology, people discovered visual illusions caused by movement worldwide, which enabled a series of static images to become moving images through dynamic rotation. The zoetrope is a good example. The zoetrope typically consists of a cylinder with slits cut vertically in the sides. Around the inside of the cylinder is a sequence of images that are viewed through the slits as the cylinder spins. The images are slightly different, creating the illusion of motion when viewed through the slits as the cylinder rotates.



Figure 2.5 Zoetrope, by Ferdinand Ernecke, 1890. Image from National Museums Scotland

Exploration of visual illusion and movement expanded to the rules of human and animal motion (Krasner, 2013). A representative work is Eadweard Muybridge's Motion Study (Figure 2.6). In the late 19th century, Muybridge conducted a series of experiments using photography to study the movement of humans and animals. He used multiple cameras and a specially-made shutter system to capture every moment of the motion. Then, he played back these photos in a specific sequence, creating an animated effect that allowed viewers to understand the motion's details and changes better. These motion studies had a profound impact on explaining the way animals and humans move and on the application of motion in art and science.



Figure 2.6 Motion study, by Eadweard Muybridge, 1887.

In the early 20th century, experimental movements emerged in the fields of film, art, and design, which used time, music, abstraction, and other concepts as the basis of MGs. These experiments were influenced by Expressionism, Abstractionism, Cubism, Dadaism, Futurism, Constructivism, and Bauhaus (Hillner, 2009), and became the original concepts of abstract animation and MGs. These art movements rejected realistic representation and sought to express ideas through the imitation of reality, incorporating concepts of motion and space. They also experimented with abstract forms of motion by adding the dimension of time and musical expression. For example, Wassily Kandinsky was a figure who abandoned realistic forms and gave birth to pure abstract painting, applying musical elements such as rhythm, repetition, tone, and melody to painting and pursuing the form of integrated art (Figure 2.7).

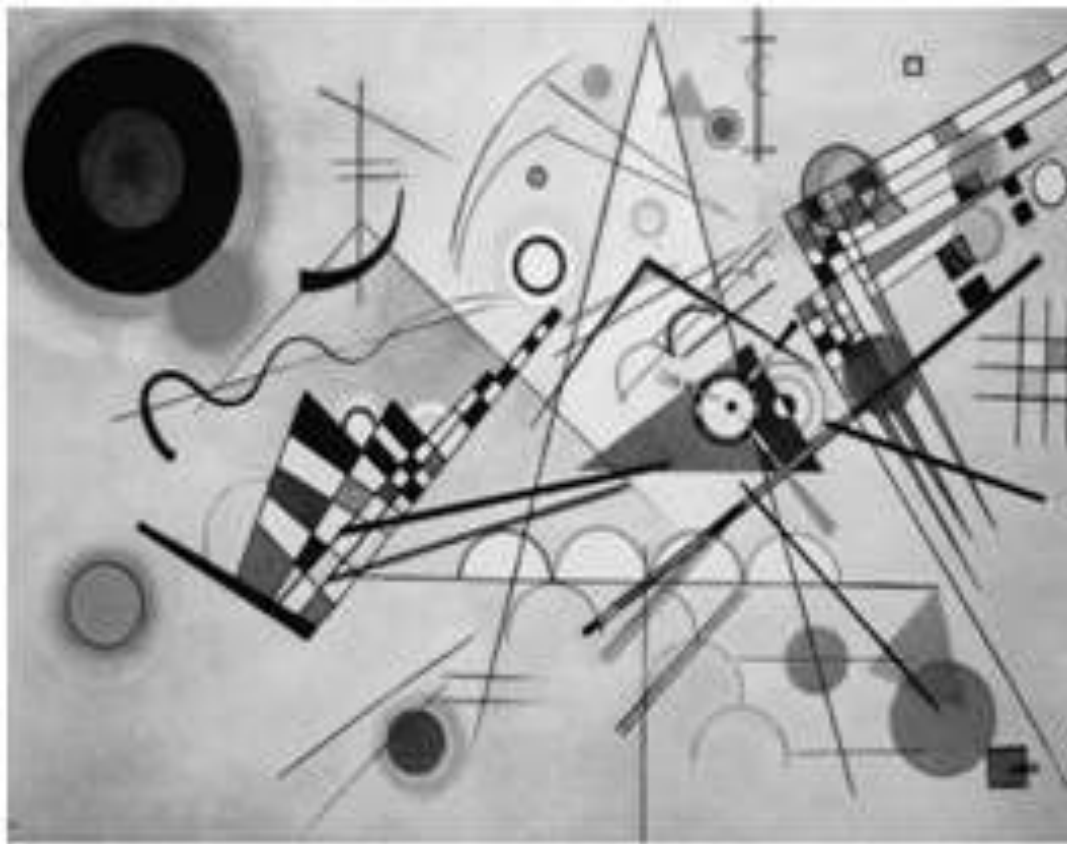


Figure 2.7 Hybrid Art includes motion, sound, space, time. Wassily Kandinsky, Composition VIII, 1923

2.2.1.2 Stage one: build context (early 1990s)

Along with artists working on their experimental projects, industry practitioners in graphic design and filmmaking also started to experiment with animation and graphic design, following a similar style as Kandinsky's work. As Radatz points out, "...*(this) not only redefined the medium [The means of representation] but also helped to shape a new era of graphic design in which modernism and abstraction became the vocabulary for a post-war consumer culture*" (2011, p. 136).

The attempts and experimental works from artists and designers during this period were striving to construct a consistent context or concept for their work, whether a narrative, a metaphor, or an intrinsic aesthetic pattern. Pioneers like Norman McLaren, Oscar Fischinger, Len Ly and James Whitney conducted extensive work on animating abstract forms, becoming more and more minimalist and geometric (Son, 2016).



Figure 2.8 Allegretto, by Oskar Fischinger, 1936

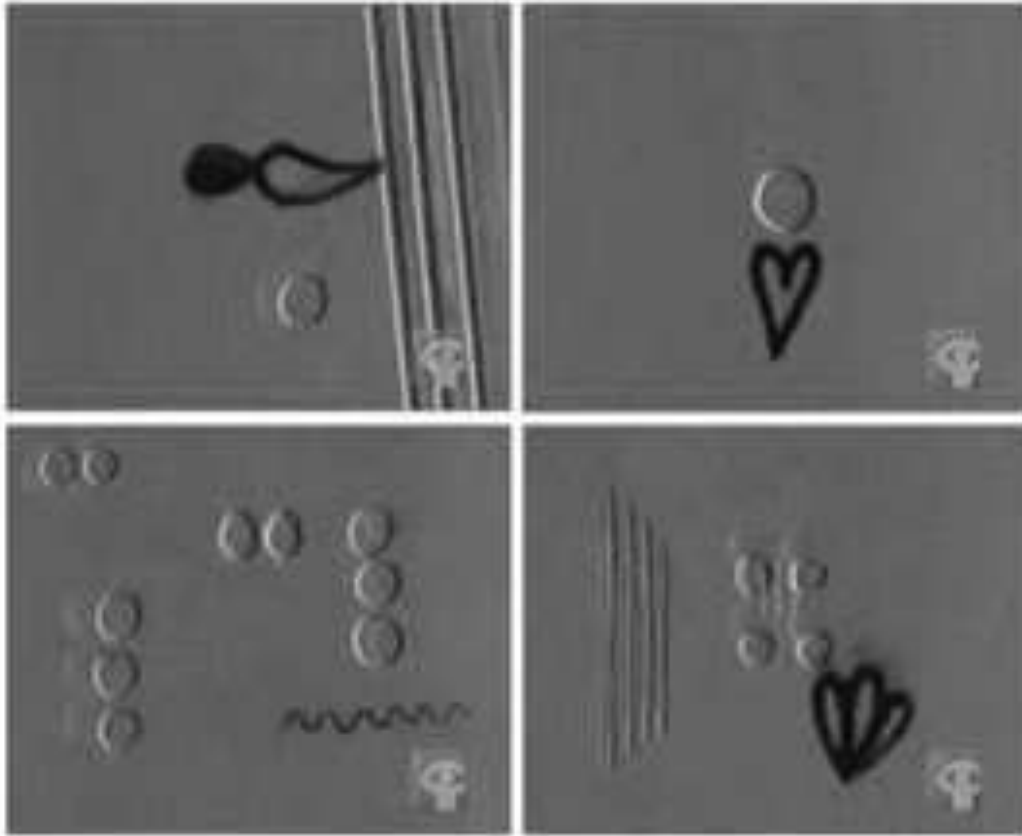


Figure 2.9, Boogie-Doodle, by Norman McLaren, 1940

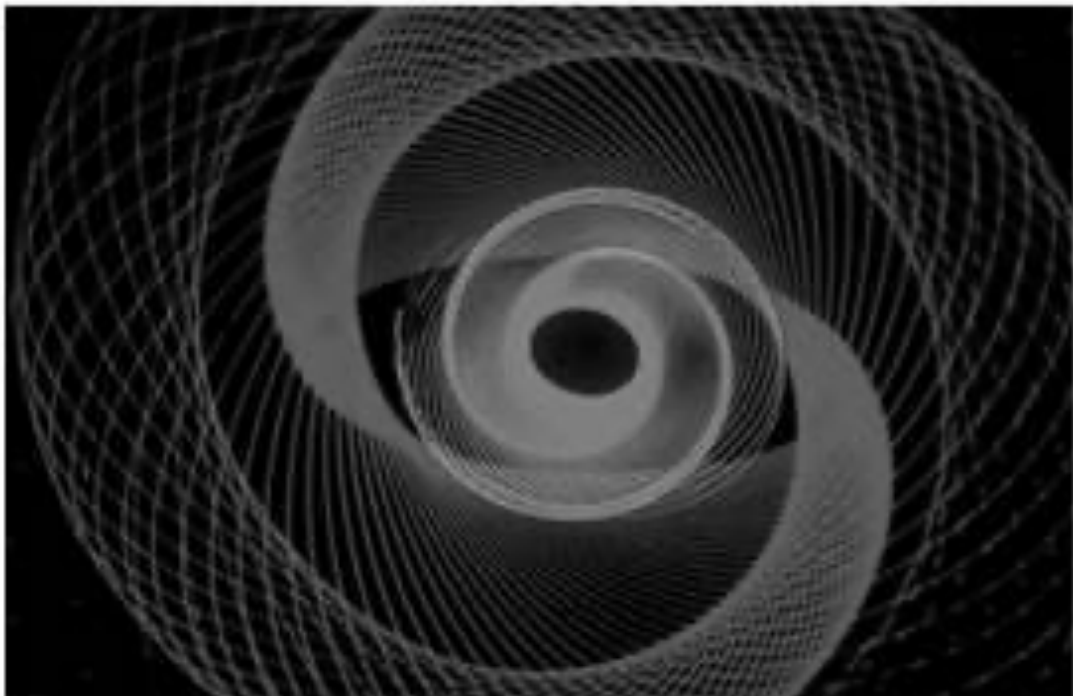


Figure 2.10 Vertigo, by John Whitney & Saul Bass, 1958

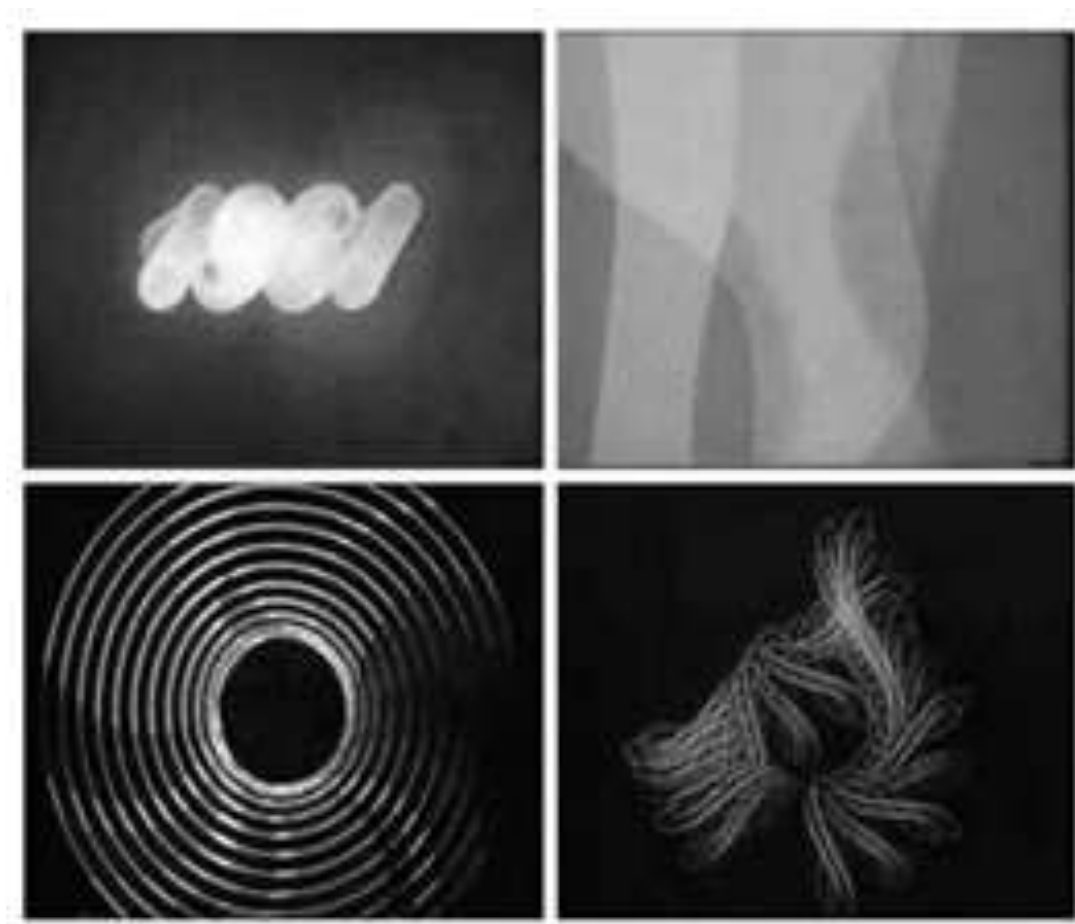


Figure 2.11 Catalogue, by John Whitney, 1961

The term “motion graphics” was first used by the American animator John Whitney (Crook, 2017& Beare, 2017, p. 10)²(Crook, 2017& Beare, 2017, p. 10), who named his company Motion Graphics Incorporated. Whitney proposed that the screen display devices of the time could eventually be scaled down to an appropriate size for personal use. At this point, MGs began to flourish in the film and television industry, as designers seized the opportunity to conduct various approaches to live-action images or graphic design.



Figure 2.12 John Whitney working with his mechanical analogue computer. Photo by Charles Eames, 1959

A representative designer is Saul Bass, who designed a series of famous film sequence opening animations, for example, *The Man with the Golden Arm* (Figure 2.13), *Anatomy of a Murder* (Figure 2.14) and *Advise and Consent* 1962.



Figure 2.13 Film titles of “The Man with the Golden Arm”, design by Saul Bass, 1955



Figure 2.14 Film titles of “Anatomy of a Murder”, design by Saul Bass, 1965

Through collaborations with directors such as Preminger, Hitchcock, and Wilder, Saul Bass helped popularise a new design form. His high-quality title sequences introduced design to broader audiences in an accessible and entertaining way, shaping public taste (Laughton, 1966). The influence of film title sequences extended into television, encouraging newly involved graphic designers in the industry to adopt cinematic techniques and experiment with innovation. For example, Bernard Lodge uses the unique howlround technique in the title sequence of the long-running BBC series Doctor Who (Figure 2.15). Combined with composer Ron Grainer’s theme music,

this resulted in a sequence that became as iconic as the series itself. Film technology is also adopted in the title sequence. In the Doctor Who Season 11(1973), Lodge used slit scan technique developed for Stanley Kubrick's 2001: A Space Odyssey (1968) by special effects supervisor Douglas Trumbull (Macdonald & Williams, 2025). This approach was further refined in Season 12 (1974) to create a broader range of vivid colour and motion (Figure 2.16).

At this stage, an attempt to define MGs had begun. Halas and Manvell utilise the term graphic animation when they refer to MG design and describe it as a “*drawing that expands and develops over time*”, and “*A form of film-making that lies somewhere between animation and the actuality of live-action photography*” (1962, p. 10), making use of both, but treating photography as a starting point only (Halas & Manvell, 1962, p. 185). Herdeg and Halas view MGs as the union of two broader disciplines: film and graphic design (1967, p. 8). Drate (2006) defines MGs as an experimental animation or a kind of design with vague boundaries.

Along with the practice of MGs, the definition and discussion of this new visual form have been under discussion. In these debates, MGs have a solid connection with film, animation, and graphic design, and can be seen as a combination of the three.



Figure 2.15 Title sequence of Doctor Who, 1963



Figure 2.16 Title sequence of Doctor Who, 1974

2.2.1.3 Stage two: build image (mid 1990s)

The application of MGs continues to expand with advancements in information technology and a booming market. With the worldwide expansion of colour television (TV), the popularisation of opening sequences for advertisements and broadcasting programs, and broadcasting station videos, has begun (Son, 2016). A technique of continuous projection of images through frame-by-frame animation, introduced at the beginning of the 20th century (Herdeg, 1976), changed the way practitioners produced a design and the way their work was presented. Furthermore, the frame-by-frame animation technique allowed designers to use time as an element in their compositions. Their work shifted from static to dynamic, with motion constituting one of the most significant changes in graphic design practice over the past decades (Dooley & Heller, 2008).

One notable figure in the development of brand image and identity within the television industry is Martin Lambie-Nairn, a designer who achieved both public and professional recognition. In the UK, television programming and content innovation created a demand for new brand identity forms. Lambie-Nairn and his studio brought the strategic design thinking and marketing focus of advertising agencies into the domain of television broadcasting (Lambie-Nairn, 1997; Meech, 1999; Macdonald, 2015), and they launched Channel Four's ident for the BBC in 1982 (Figure 2.17). This marked the beginning of a new era of UK television branding closely associated with Lambie-Nairn's work. Following the success of Channel Four, he went on to design idents for BBC1, BBC2, and others, while competitors such as Scottish Television also commissioned Lambie-Nairn for rebranding (Meech, 1996).



Figure 2.17 Channel Four ident, 1982

During this stage, MGs found extensive application in TV programs. They were used in station identifications, show openers, show packages (including interstitials, bumpers, lower thirds, mortises, line-ups and upfronts, tags, promotional campaigns), and TV commercials (Krasner, 2013). By combining motion and sound, these TV-based designs added a strong impression to stations and programs, shaping their brand and enhancing the viewing experience for the audience. In addition to brand image, these cable television channels adopted strategies such as hiring artists and creative professionals to gain a competitive edge. For instance, MTV (Figure 2.18) opened a new platform for designers and artists interested in visual experimentation on television, allowing them to explore new media through animated visual effects (Schlittler, 2015).



Figure 2.18 MTV ident, 1991



Figure 2.19 Show openers: London Tonight, 1993

Graphic design in television often needs to establish the appropriate atmosphere for brand and content within a very short time frame, with visual messages and concepts that must be put across to the audience (Laughton, 1966). *“Twice the impact, in half the time, at half the cost”* (Mediratta et al., 2016) is a common requirement when designers communicate with brand managers under pressure in a design project. This statement

can be seen in the advertising and various video forms of media; they began to pursue shorter, more eye-catching, more efficient ways to express concepts. As Curran (2000) puts it, MGs is a term that describes a broad range of solutions employed by graphic design professionals to create a dynamic and effective communication design for film, television, and the internet (p.3). With the development of human and computer interaction, forms and approaches in MG design continue to evolve from advertisements, becoming more effective in communication and aesthetics. As Manovich commented, MGs is a hybrid medium, a combination of different design and graphics fields and different approaches, which becomes a “*meta-medium*” (2002).

Technology as a carrier (screen display) and new ways of digital production (using computer software) promoted the development of MGs. The idea that MGs should be considered as a separate field for discussion has been present for a while (Kim, 2007; Schlittler, 2015). However, as MG design is visible in numerous fields, delineating its boundaries, objectives, and scope has been described as an impossible task (Stone & Wahlin, 2018).

2.2.1.4 Stage three: hybrid medium (2000s to now)

At this stage, MGs thrive in the commercial industry, appearing widely on screen-based display devices such as personal computers and outdoor advertisements. This shift has transformed professional requirements, demanding MG producers possess skills in spatial and temporal communication, motion mechanics, synchronising sound with motion, timing, graphic organisation, and effective lighting use (Halas, 1984). Yilmaz (2019) describes MG design as a creative response to technology.

Compared to traditional static media like engraving and printing, MGs production requires a broader range of techniques and tools. Designing within time and space presents unique challenges, merging graphic design with cinema’s dynamic visual language into a hybrid communication system (Krasner, 2008, p. xiii). MG designers need to master computer graphics, animation, visual effects, programming, and interactive design to understand both object motion and camera movement (Cutting, 2014). Additionally, expertise in viewer experience, brand identity, and marketing is essential for producing high-quality, client-oriented work. Visual effects software integrates all elements into a composite graphic output (Gress, 2014). Tools like Adobe Flash and After Effects “*have altered the tasks of graphic designers, enlarged their powers as well as burdened them with more kinds of work to do*” (Blauvelt et al., 2011, p. 13).

In addition to the rapid spread of screen-based devices, this stage also marked significant advances in production technology. The drive to realise ideas more efficiently, quickly, and economically has always been central in the creative and cultural industries. Milestone systems such as Paintbox and similar design software revolutionised the media industry during the 1980s and 1990s (Almeida, 2025). Quantel Paintbox was powerful and complex, but also expensive. However, the rise of more affordable and accessible personal computers and networks—such as the Macintosh and Silicon Graphics Indigo—enabled small design studios and independent designers to compete with major production companies, further expanding the possibilities for MGs (Schlittler, 2015).

Beyond traditional film and television, MGs have also appeared in interactive media, such as websites, smartphone applications, and multimedia formats. For example, in Apple's website design, as users scroll through the page, the slogan gradually fades and a laptop opens (Figure 2.20).

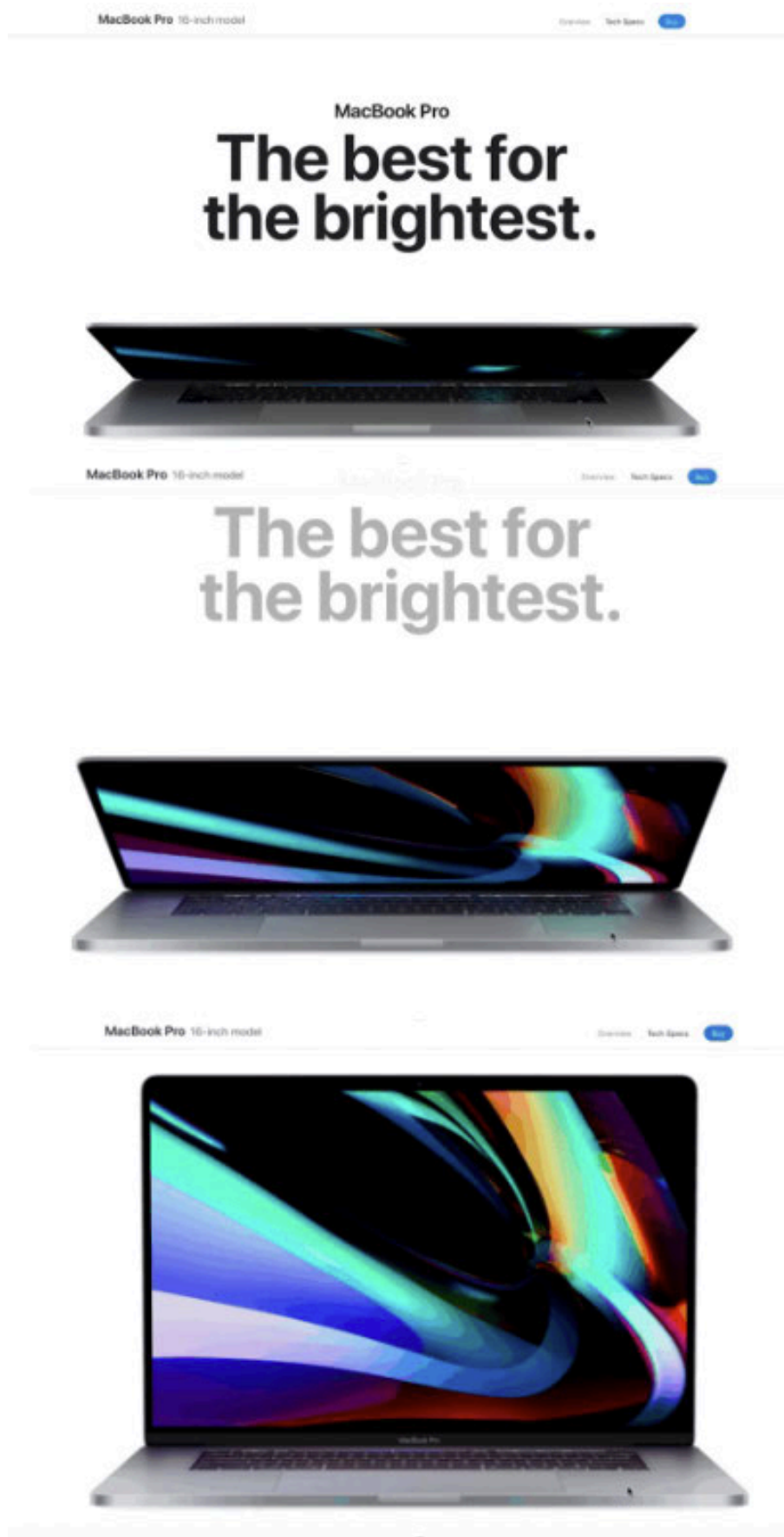


Figure 2.20 MacBook Pro web page, Apple

From the last two decades, the potential of MGs in physical environments has begun to materialise, helping to shape both the visual and functional aspects of spaces. New digital technologies play a significant role in this shift, using light to transform space, offering information and service support, and providing interaction and visual stimulation (Krasner, 2015, p.131). The artistic and expressive qualities of MGs have greatly enhanced the audience experience. As live performances in site-specific buildings and landscapes increasingly incorporate technology, large-scale screens, 3D projection mappings, and lighting setups, new forms of composition and creative planning in MGs are emerging. For instance, American conceptual artist Jenny Holzer projected Henri Cole's poem onto the Cathedral Church of St. John the Divine in New York (Figure 2.21). Double Take Projections' projection mapping show in 2019 turned London's St Paul's Cathedral into a storytelling canvas through projection and lighting technologies, conveying narratives of courage and resilience during the Second World War (Figure 2.22). Night Tour to Yellow Crane Tower (Figure 2.23), created an immersive experience based on the Yellow Crane Tower Park and the sites inside. The show integrates projection, architectural animation effects, lighting, music, and live performance to present the tower's history and cultural significance. The content and performance of the light show are also updated regularly to reflect festivals and events.



Figure 2.21 Installation art, New York, by Jenny Holzer, 2004

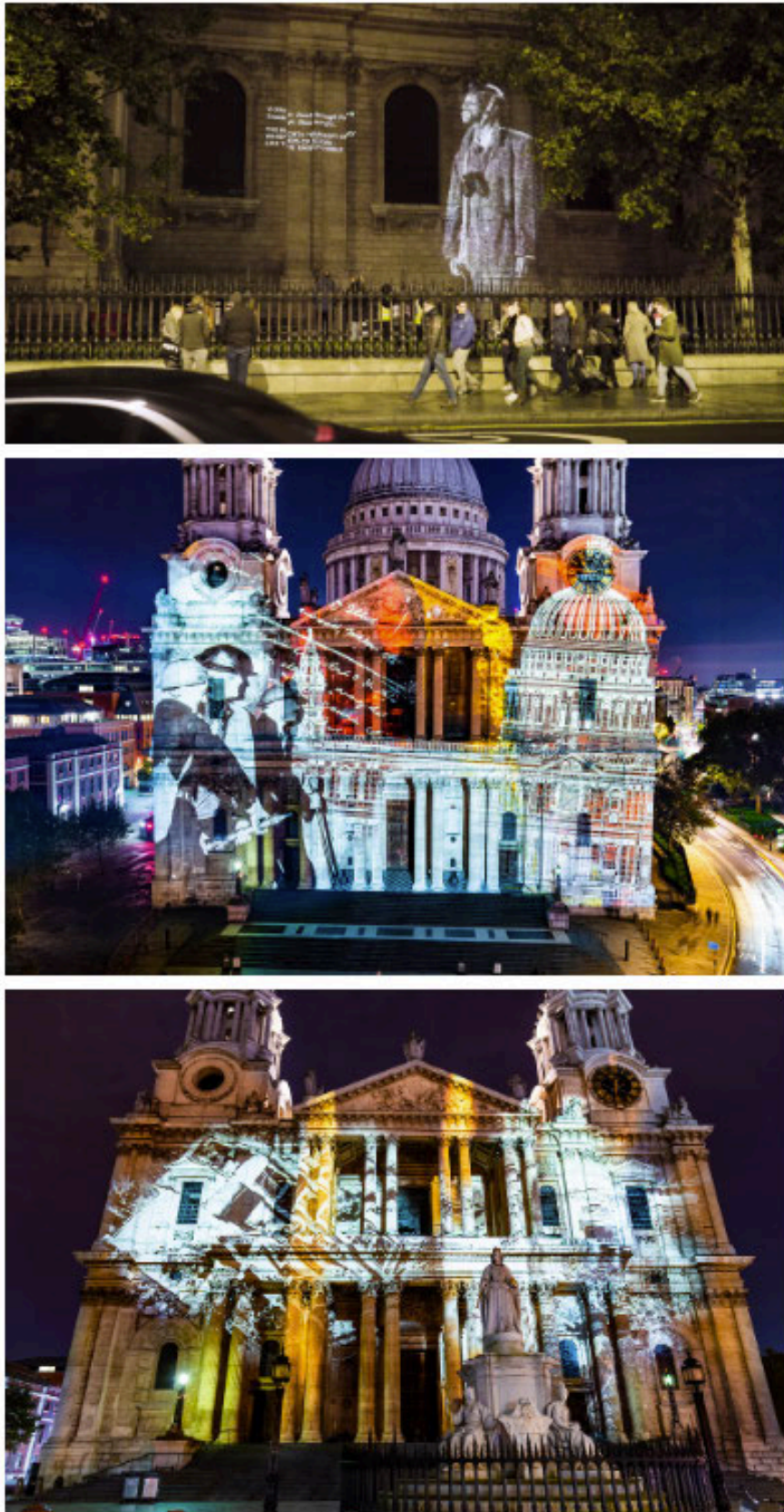


Figure 2.22 'Where Light Falls' projection mapping show, London, by Double Take Projections, 2019



Figure 2.23 Night Tour to Yellow Crane Tower, Wuhan, Chin

As a hybrid medium that “*Compositions of 2D imagery, (textured) 3D models and renderings, typography, drawings, photos etc. changing over time, potentially driven by a narrative*” (Steijn, 2016, p. 2), MGs continue to evolve, sparking discussions on its definition and creation. Therefore, discussing the definition and significance of this medium can help better understand its position and role in contemporary culture. Various terms attempt to define MGs, including Design in Motion, Design in Movement, and Graphics in Motion (Halas, 1984), or Time-based Typography, Kinetic Typography, Dimensional Typography, and Motion Graphics (Bellantoni & Woolman, 1999, p. 9). MGs have emerged through the convergence of graphic design, film, and animation, introducing a new form of storytelling (Drate et al., 2006, p. 9) that creates illusory movement through artificially arranged graphic positions (Martinez, 2015, p. 42).

The terms Motion Design and Motion Graphics are often used interchangeably. Cone (2008), Shaw (2019) and Kubasiewicz (2005), advocate for Motion Design, arguing that while Motion Graphics remains widely accepted among designers and filmmakers, it is gradually being replaced by the broader and more relevant term Motion Design (Shaw, 2019, p. xv).

To discuss the terms of Motion Design and Motion Graphics, one should consider how animation is applied as a technique. From a technical perspective, “*all digital film is animation*” (Rodowick, 2007, p.54), making animation a critical element of MG design. Animation has long been regarded as a production technique and style in film and television production. Technological advances provided tools to improve production and quality. Through the practices of designers and artists, new tools and techniques shaped aesthetic styles (Duncan, 2019). From early frame-by-frame hand-drawing to stop-frame cel animation, and now to CGI (computer generated imagery), many innovations in animation have been driven by the design of titles and content sequences in which technology serves as a means to realise the designer’s vision (Friedman, 2025).

Cone (2015) suggests considering how animation is used to distinguish between Motion Design and Motion Graphics in design practice: 1. Animation as a material in compositing. 2. Animation as a principle guiding design decisions. These two approaches play distinct roles in the MG design process, shaping both creative expression and production workflow.

The first approach treats animation as a material within composition, akin to colour, shape, and sound, aiming to enhance visual appeal and audience experience.

For example, dynamic backgrounds and animated logos in films help establish atmosphere and emotion, while animations in web design, such as scrolling effects, button hovers, and icon animations, contribute to user engagement.

Parsons (2013) describes animation as a specific genre that privileges the unique characteristics of animated storytelling, such as metamorphosis, the transgression of physical laws, and anthropomorphosis. These features enable sequential visual explanations, allowing a phenomenon to be depicted from multiple perspectives over time (Hernandez & Rue, 2015). Effective time-based animation relies on a deep understanding of kinetic form grammar and its integration with other visual languages to create meaning (Kubasiewicz, 2005).

The second approach uses animation as a principle in MG design, focusing on the process and expression of motion-based communication. As Kubasiewicz (2005) defines MG design as “*communication through motion involves issues of both ‘what’ is moving through the screen, such as typographical, pictorial or abstract elements, and ‘how’ that something is moving. The ‘how’ question refers to the kinetic form and grammar.*” This perspective requires designers to carefully balance elements to achieve optimal visual impact and user experience. Animation has evolved into a structured set of principles and techniques, shaping new visual styles and storytelling methods used by animators and filmmakers today (Manovich, 2006). Understanding widely accepted guiding principles is essential for expressing characters, scenes, actions, and emotions effectively. Foundational animation principles, such as Disney’s 12 Principles of Animation (Thomas & Johnston, 1995, p. 28), include posture, timing, movement fluency, scaling, tracking, and extension. Applying these principles makes animation in MGs more dynamic, expressive, and engaging.

However, since designers can use animation as both material and principle in their work (Crook, 2017; Shaw, 2019), the distinction between these two approaches remains as ambiguous as the definition of MGs itself. Therefore, this study adopts the term Motion Graphics, as it best retains the core concepts of “motion” and “graphics,” reflecting the broad scope of design practice and emphasising its inherently hybrid nature.

In commercial advertising, film, and television, 3D modelling and related software have been widely used in various MGs production, such as TV/movie opening sequences¹² and advertising. This approach employs cinematic techniques, regarding

¹² Title sequence (or opening sequence or opening credits) is a cinematic form often used in movie or television programs. It involves the interplay of writing, images and typography to present the setting or atmosphere of the program (Stanitzek, 2009).

characters and objects as performers within a visual environment, shaped by lighting and camera language to convey meaning or set the atmosphere. Nevertheless, animation remains an essential component, providing motion dynamics, transformations, and scaling effects. The production of 3D MGs also incorporates additional visual techniques such as particle effects, lighting and rendering.

In design, 3D modelling offers designers and artists a different approach to visual construction, distinct from traditional two-dimensional composition. According to Manovich (2006), designers of 3D MGs do not create an entirely new universe but rather simulate reality, reconstructing it step by step. Using 3D modelling software, designers can craft scenes and objects, making precise adjustments in a process that resembles filmmaking more than traditional 2D MG design, which integrates graphic design and animation. In this context, designers and artists are more like directors, using 3D techniques to express ideas, and the visual presentation is not necessarily 'realistic'. For example, 3D animation can look like a hand-drawn 2D appearance by using cel shading, which is a computer rendering technique, and it can bring a highly stylised visual art form that replicates the appearance of a hand-drawn image and comic style. In *Arcane* (2021), the production team combined 3D modelling and 2D artistry, using computer techniques such as visual effects, key frames, and hand drawing to create a distinctive aesthetic¹³.

From above discussion, it is evident that MGs function as a hybrid medium, integrating graphic design, animation, and film techniques. The digital production and output transform static graphics into motion, forming the foundation of graphics in motion, while animation technology makes content more vivid and engaging. The integration of 3D technology further enhances visual expression, aligning MG production with film techniques, introducing new creative approaches and expressive possibilities.

¹³ Fortiche Production introduced more production process and stories behind the scenes.
<https://forticheprod.com/portfolio/arcane-season-1/>

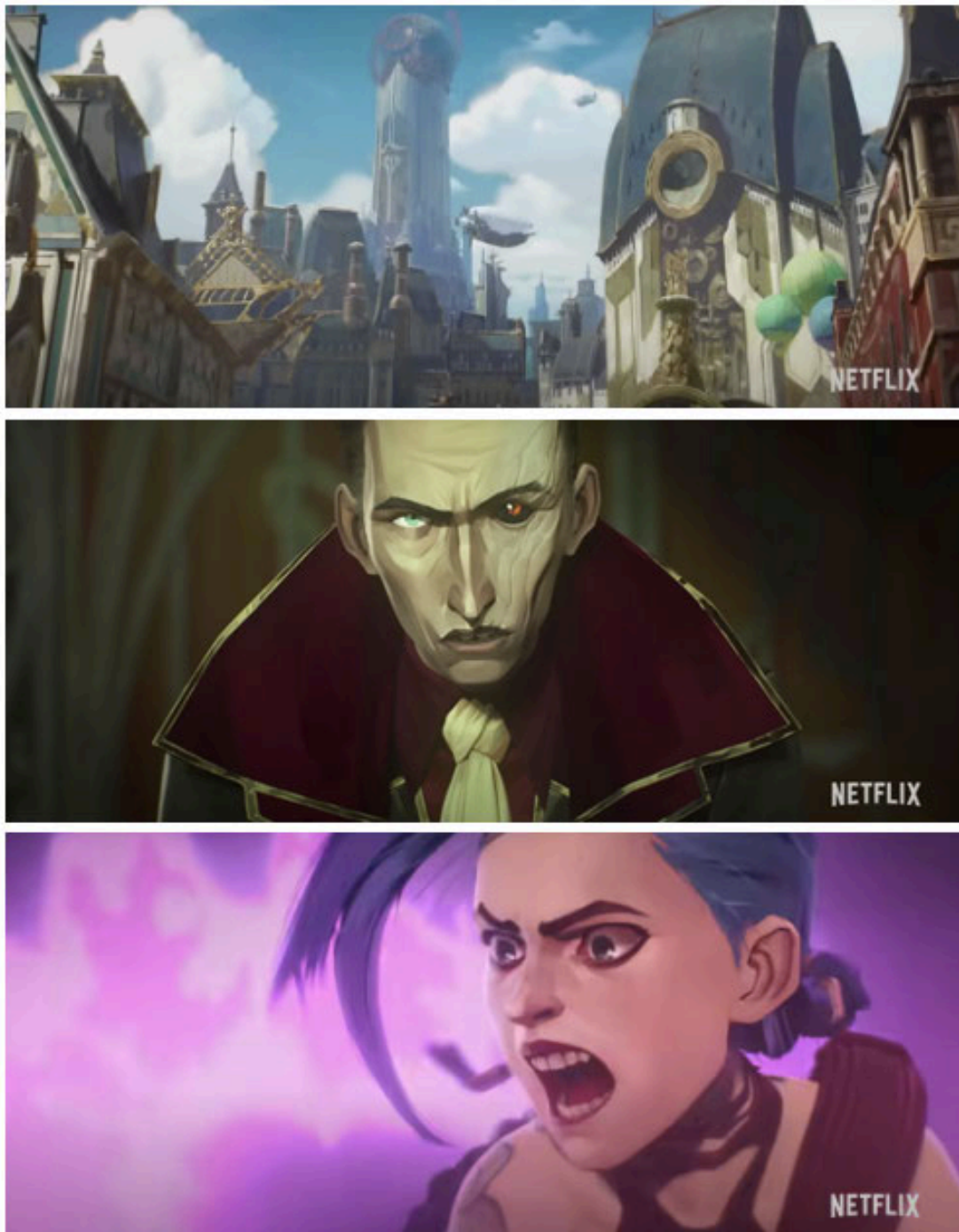


Figure 2.24 Arcane, 2021, by Fortiche Production

2.2.2 MGs communication

2.2.2.1 MGs as communication design

According to Stone (2018), MGs have an explicit function taken from the graphic design discipline: to convey a message to an intended audience with a technique and medium that clearly resembles those from animation and film. This message-convey function responds to Frascara's definition of communication design, "...the action of conceiving, programming, projecting, and realising visual communications that are

usually produced through industrial means, and are aimed at broadcasting specific messages to specific sectors of the public" (2004, p. 2). Therefore, this study regards MGs as communication design.

As Song (2021) pointed out, transmission and communication are the core elements of MGs. Communication through MGs presents a distinct set of creative challenges by combining the traditional language of graphic design with the dynamic visual language of cinema in a hybrid system of communication design that operates in time and space (Krasner, 2008). Motion is not the goal in itself, but a way to serve the purpose of communication (Kubasiewicz, 2005).

Every type of communication presupposes the use of a language (Deleuze, 2005; Metz, 1964). There are multiple formats of visual elements (or languages) involved in MGs communication. The visual language of MGs involves the combination of various design elements. The purpose of graphics is to provide visual explanations to audiences (Crook, 2017). Text and the visual language of MGs in digital media are important conditions for interpreting information (Skjulstad, 2007). The use of colour can evoke emotional resonance. The speed, direction and form of motion can also convey information (Torre, 2014), and movement and motion effect can trigger emotional responses (Cho Y & Yamanaka T, 2010). For instance, fast and sudden movements can express urgency and tension. Additionally, changes in perspective and the use of camera angles can also affect the audience's emotions and visual experiences.

Time is another essential element in MGs communication, paralleling its role in animation. According to Yilmaz (Yilmaz, 2019), time functions as a flexible language, constructed through a process of creation, moulding, squeezing, and expanding. This generative process ensures that all elements within a linear timeline are interconnected, with each event influencing the next. As Alexandre Alexeiff put it, "*nothing can be left to chance*" (1994, p. xxii). The passage of time is visually expressed through graphic and motion variations, while the perception of time is shaped by the balance between dynamic and static elements (Jang, 2006).

In summary, as a form of communication, MGs can convey complex information and emotions through the combination of various design elements. Designers need to strike a balance between visual art and communication objectives, rather than pursuing visual effects blindly due to the convenience of technology and neglecting the communication of information (Yang & Hsu, 2017).

2.2.2.2 Medium in mass communication

All forms of media are driven by themes and messages (Pannu & Chopra, 2018). As noted in the previous section, MGs have taken a significant role in mass communication with the rise of screen-based devices and improved production technologies in communication design. However, how MGs convey messages and construct meaning as a communicative medium is worth further discussion.

Claude Shannon and Warren Weaver published *A Mathematical Theory of Communication* (1948), and their associated communication model (Figure 2.25) became significant in information studies. In their theory, communication is regarded as an engineering problem, aimed at maximising the efficiency of information transmission within a system. However, this engineering theory of communication does not account for the production or interpretation of meaning (Shannon & Weaver, 1949). This limitation was further explored in the field of semiotics. For instance, Eco's (1965) research on television information argued that television is not merely a vehicle for transmitting data, but rather a space where complex combinations of visual and linguistic codes produce multi-layered representations capable of generating a variety of responses (Murdock, 2016, p.1). Further developments in understanding the ambiguity of communication and language have also emerged from linguistic studies. Jakobson's communication model (1960) can be seen as a bridge between the process and semiotic models of communication (Fiske, 2010a). It proposed an addresser–message–addressee structure (Figure 2.26), which highlighted the functions of language within this process.

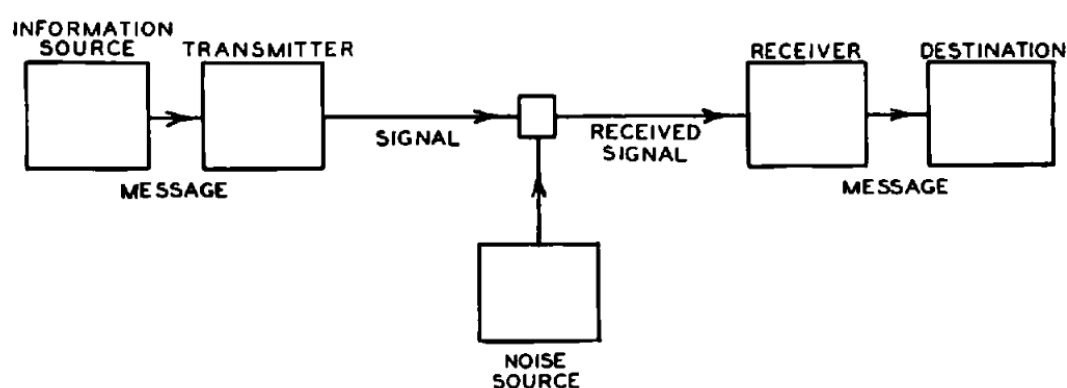


Figure 2.25 Shannon-Weaver communication model (Shannon, 1948, p. 381)

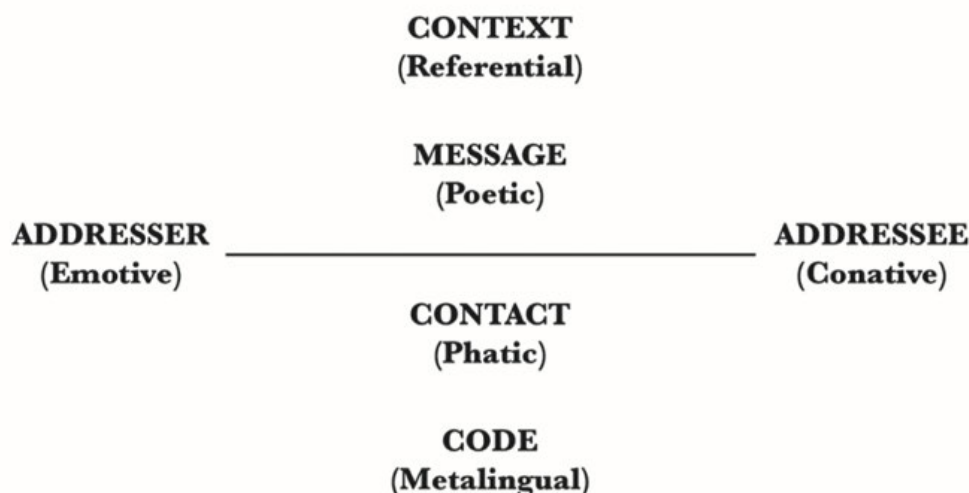


Figure 2.26 Jakobson's communication model

Stuart Hall's reception theory (1973) reconceptualised communication by introducing the encoding/decoding model, offering a more nuanced account of how information and meaning are created and interpreted within the communication process, and the social relations involved in communication. According to Hall, the encoder and decoder operate within different structures of meaning and possess distinct forms of competence, including their "frameworks of knowledge", "structures of production", and "technical infrastructures" (Figure 2.27). As a result, the themes and meanings within the medium are shaped not only by the production side (encoding) but also by how they are interpreted by audiences (decoding). As Hall (1980) noted, media serve as a site for encoding and decoding, mapping various areas of social life into the discourse.

Hall's model conceptualises communication as a linear process—sender → message → receiver—rather than a complex relational network (Benshoff, 2015; Xie et al., 2022). This structure makes it especially applicable to mass media and links it to the broader field of audiovisual communication (Prysthon, 2016), including the topic of this study, MGs. The model's one-way structure is also similar to the earlier communication models proposed by Shannon and Weaver (1948) and Jakobson (1960).

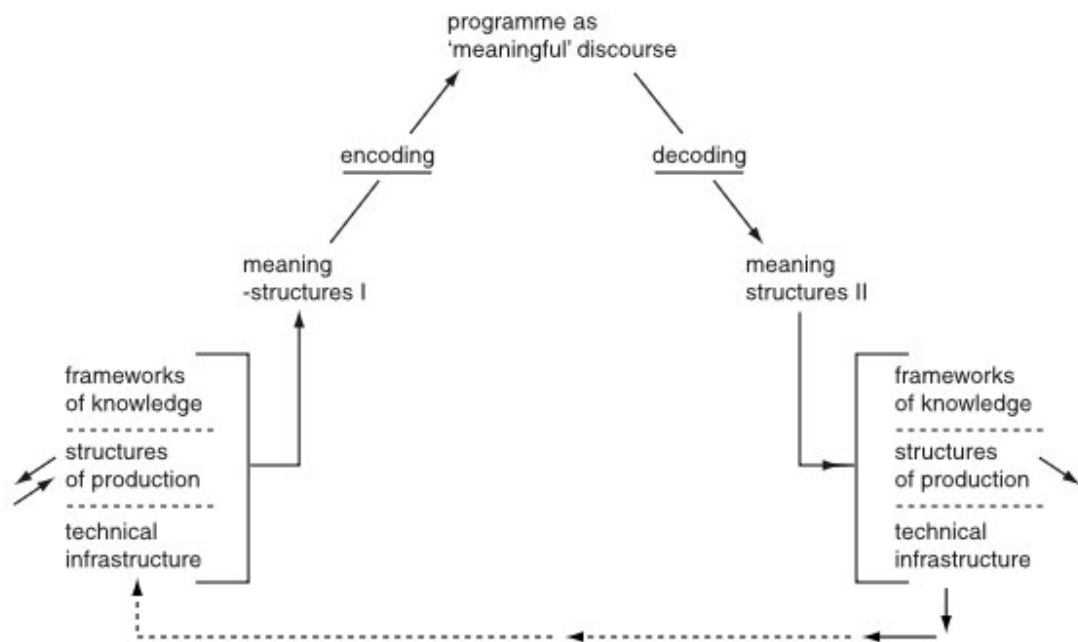


Figure 2.27 Encoding and decoding model (Hall, 1973)

On the encoding and production end, Hall (1973) argues that a range of institutional frameworks—such as professional ideologies, technical competencies, and assumptions—shape how meaning is encoded. Within this framework, designers draw from broader social, cultural, and political contexts to define themes and settings within their work. Viewers thus become not only receivers but also sources of meaning; the act of reception or consumption is part of the production process, regarding the realisation of the message. However, meaning must be encoded and decoded through language or discourse, since only under structured rules can meaning be effectively generated, used, or responded to (Hall, 1973).

On the decoding and reception end, Hall (1973) proposed three types of decoding positions: dominant (or preferred), negotiated, and oppositional readings. Audience interpretation is influenced by many factors, such as age, beliefs, culture, gender, life experience, and even mood at the time of viewing. These categories explain how viewers interpret meanings embedded in media texts (Alasuutari, 1999; Benshoff, 2015; Dickinson et al., 1998). In John Berger's (1972) views, seeing and interpreting are not natural but shaped by cultural, ideological, and experiential factors such as historical context, class, gender, and ideology. As a result, the images and discourses in MGs are polysemic; their meanings shift depending on context. Interpretation becomes an active process where viewers construct meaning through selection, judgment, and reflection when they are seeing (Berger, 1972).

However, Hall (1973) argues that there is no direct or total equivalence between encoder and decoder, which leads to different meanings or information in communication. As noted, communication relies on language, and MGs involve audio-visual languages. Cohn's (2022) multimodal architecture offers a comprehensive framework for understanding this complexity from a linguistic perspective (Figure 2.28).

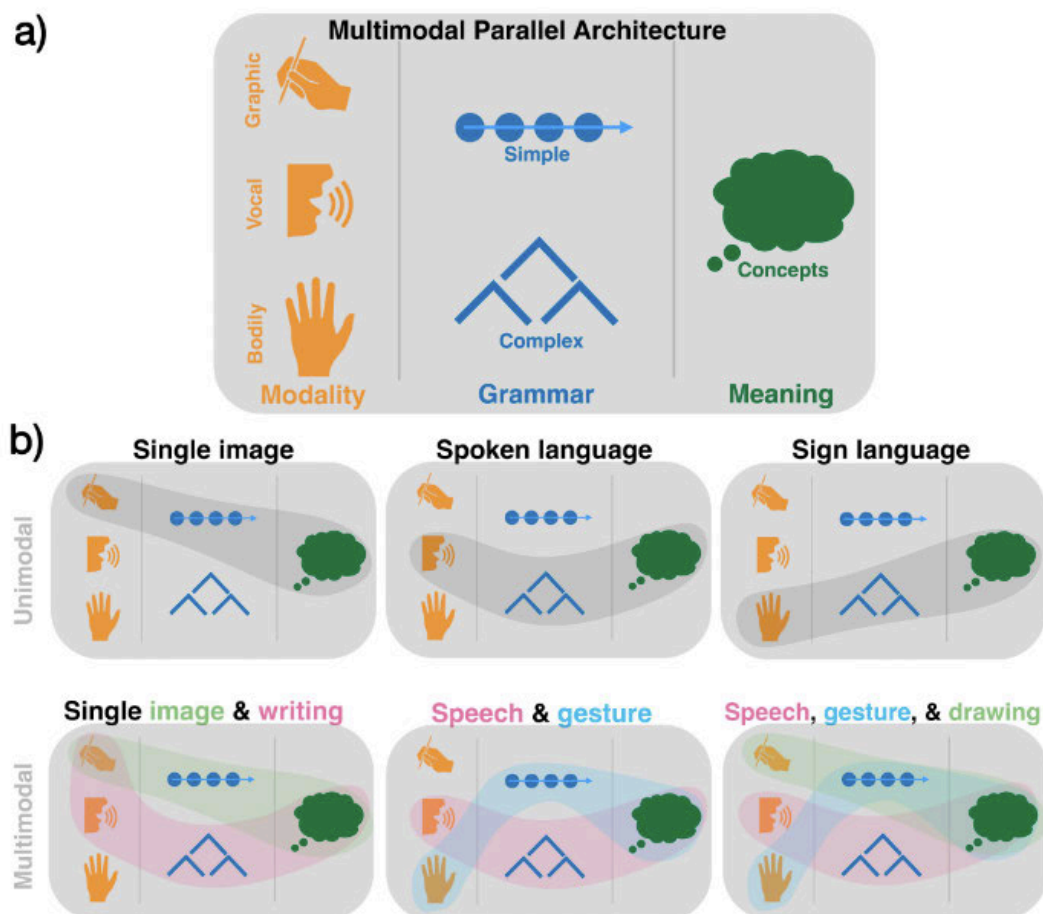


Figure 2.28 The Parallel Architecture, unimodal and multimodal expressions. (Cohn, 2022, p.4)

The architecture describes how multimodalities operate within syntactic grammar to build meaning: the more modalities involved, the more complex the process of meaning construction. The production and interpretation of MGs involve multimodal languages such as graphics, colour, movement, and even sound, and they can follow different grammars or styles (Brandão, 2015).

Moreover, Hall (1980) pointed out that images in mass communication have no fixed meanings; they are assigned. The mediums (such as TV programmes) are not merely phenomenal forms but discourses—sites of communication and meaning-

making. Within this context, the concept of ‘simulacra’ arises, where symbols and images lose their original meaning and become reproductions of themselves (Baudrillard, 1994). The construction of meaning relies increasingly on imagination—what Baudrillard calls hyperreality. This hyperreality presents audiences with a sense of gap and promise, where “Glamour” in the future tense allows the majority to define their interests as narrowly as possible, which “*achieved by imposing a false standard of what is and what is not desirable*” (Berger, 1972, p.154), central to the culture of capitalism and consumerism.

To engage with communicative medium as MGs in mass communication and the cultural and societal power behind it in a broader sense, one needs to explore the premises that construct the medium and its effects or uses. In Morley’s words, “*reframes and recontextualises them in a new way*” (Morley, 1999, p. 195), which can go beyond regarding the medium as encoded texts requiring interpretation by specific interpretive communities. This inquiry involves moving away from investigating individual reception of the medium in isolation but focusing on the discourses we constitute about the medium, the sense of self-awareness as audiences, and our interactions with the medium (Morley, 1999, p. 196).

To respond to Morley, the researcher needs to pay attention to how information in MGs is structured and encoded during production, how audiences decode and interpret what they see, because significant research needs to concentrate on the practical production of meaning in everyday life instead of the linguistic systems or symbolic representation (Murdock, 2016).

2.3 Communication efficacy

2.3.1 Communication performance

According to Curran (2000, p. 3), MGs serve as an effective tool for enhancing communication. A growing body of literature supports this view, recognising MGs as a highly efficient communication medium. Studies reviewed in this research—spanning education, public services, and advertising—suggest that MGs is more effective compared to static media in communication, resulting in better information delivery and engagement. For instance, introducing MGs in teaching can enhance student grades or learning performance (Afify, 2018; Chan Yuen et al., 2009; Hapsari & Hanif, 2019; H’mida et al., 2020; Kurniawan et al., 2019; Marshalsey & Sclater, 2018; Tsai et al., 2020; Wiana et al., 2018), increase awareness of certain topics (Azahari et al., 2020; Freitas et al., 2023; He, 2017; Khamise, 2023; Puspita & Wardiyah, 2019), and

strengthen brand images to foster consumer engagement (Hanna & Coman, 2021; Q. Li, 2016; Si-ya & Yi, 2023). These findings indicate that MGs performed both effective and efficient in communication due to its positive impact on the results across various domains.

Several factors may contribute to the performance of MGs, including their ease of understanding, ability to capture attention, and multi-sensory experiences.

According to Hegarty (2003), MGs are easy to understand. An explanation of learning from multimedia information suggests that information from various sources is selected, organised, and then integrated into mental representations that connect new information with prior knowledge (R. Mayer & Mayer, 2005; Schnotz & Rasch, 2005). This understanding process occurs within working memory and requires cognitive resources. The provision of MGs can reduce cognitive load (overall amount of mental effort) because dynamic changes are perceived directly, depicting the spatial organisation of elements without the need for further inference (Berney & Bétrancourt, 2016, p. 151). This efficiency allows viewers to grasp information with less mental effort.

Another aspect is the capacity of MGs to capture attention. This attraction is not merely a visual stimulus but also involves controlling attention, which pertains to the organisation and optimisation of information. According to Berney, well-designed content can draw viewers' attention to the right place at the right time (2016, p. 160). However, the level of control over attention and its interaction with other factors has not been thoroughly discussed. These factors may include the viewer's cognitive style, prior knowledge, learning objectives, and/or the modality of the accompanying information (Berney & Bétrancourt, 2016, p. 160).

MGs create multi-sensory experiences, integrating audio, visual, and emotional elements. Research suggests that MGs provide a seamless and engaging visual experience (Geng, 2016; Lu, 2019; Pei et al., 2022), and the combination of audio and visuals enhances emotional resonance (De Beer, 2009; Krasner, 2008). While these experiences may contribute to communication efficacy, existing studies lack clear evidence linking enhanced user experience directly to improved communication performance.

2.3.2 From meta-analysis studies perspective

As mentioned in the previous section, applying MGs can provide positive results in various communicative settings. However, these conclusions are limited, as the communication advantages of MGs only manifest in some circumstances and are

influenced by various factors. To provide a deeper understanding of communication efficacy, this part of the review primarily draws upon the research of Höffler and Leutner (2007) and Berney and Bétrancourt (2016). Through meta-analysis, their studies compare communication performance between MGs and static mediums in educational settings.

Höffler and Leutner's animation criteria encompass video-based, computer-based, representational and decorative animations. Höffler and Leutner (2007) conducted a meta-analysis reviewing numerous studies comparing the educational effects of animations and static graphics from 1973 to 2003, encompassing 26 primary studies and yielding 76 pair-wise comparisons. They found that animations have a medium-sized overall advantage over static graphics. However, this advantage depends upon several factors and manifests in particular aspects, which include the superior efficacy of representational animations in clearly depicting the subject matter over decorative animations, and when acquiring procedural-motor knowledge, animation is superior to static graphics. Höffler and Leutner also acknowledge that many potential variables and moderating factors, such as prior knowledge, spatial ability, motivation, the number of displayed key pictures, learners' time on task, or the option for the learner to interact with the animation, were not considered. It is challenging to further describe and analyse those factors (Höffler & Leutner, 2007, p. 735).

Berney and Bétrancourt adopt a definition of animation stating that “*any application, which generates a series of frames, so that each frame appears as an alteration of the previous one, and where the sequence of frames is determined, either by the designer or the user*” (Bétrancourt & Tversky, 2000, p. 313). Their studies do not involve live-action video recordings, i.e., content based on real objects and motion; thereby, their research can be considered related to MGs. Berney and Bétrancourt (2016) assessed research up to December 2013, encompassing 50 papers and extracting 61 between-group experiments from these articles, involving over 7000 participants. Their findings support the result from Höffler and Leutner (2007) that animations have learning benefits over static graphics that lead to better learning outcomes. However, although the meta-analysis showed the overall beneficial effect of animation, only 30.7% of comparisons showed a significant difference, 59.3% found no significant difference, and 15.6% demonstrated varying patterns depending on the learner's individual capabilities. Berney and Bétrancourt highlighted the importance of the semiotic characteristics of material representation, which is an overlooked aspect in multimedia literature so far. They suggested that various moderating factors play influential roles,

including pacing control of the display, signalling cues, abstraction of the visual representation, and modality of accompanying commentary. They claim that their results indicated that the presence and interaction of these factors might explain why most studies do not discover a significant advantage of animations over static graphics (Berney & Bétrancourt, 2016, p. 161).

Höffler and Leutner (2007) and Berney and Bétrancourt (2016) have already discussed why MGs perform more effectively and the potential variables and moderating factors that make MGs more effective than other static mediums. However, their focus primarily remains on reducing cognitive load¹⁴ (lowering the cost of understanding) and regulating attention to enhance comprehension and learning outcomes. While they also discuss some moderating factors, further evidence to support these findings is lacking.

Building on these earlier discoveries, Noetel (2022) conducted a meta-meta-analysis to identify which design principles in multimedia learning could reinforce and validate the advantages of MGs. This study compared 29 reviews, encompassing 1,189 studies and 78,177 participants. Noetel (2022, pp. 434–438) summarised several practical principles, that may explain how MGs achieve communication efficacy, including four groups:

Easy to Understand: Captions that provide clear text aid comprehension. Segmenting the material into meaningful parts enhances learning, even if each segment requires a longer learning time, as the overall outcome is improved.

Attention: Contiguity (both spatial and temporal) helps focus attention and better integrate visuals and text, also making content easier to understand. Signalling can guide viewers on where to focus their attention. Animation can help focus attention, but only when the animation is meaningful, such as demonstrating how gears operate.

Modality: Different learning modes show that listening and watching enhance learning outcomes compared to reading and watching. Additionally, verbal redundancy may improve learning results, which is presenting information in both visual and auditory channels rather than one.

Expression: Pleasant colours and anthropomorphic expression can increase cognitive engagement. Personalisation, which involves designing material in a way that is more relatable to the learner, facilitates better understanding. Additionally, removing seductive details or excessive irrelevant information helps avoid distraction and maintain focus.

¹⁴ The mental effort required to process and understand visual and auditory information (Sweller, 1999).

In summary, a body of research suggests that MGs have advantages regarding communication efficacy. These advantages are demonstrated in facilitating understanding, regulating attention, employing multimodal formats, and providing personalised aesthetic expressions. Moreover, these studies recognise that the quality and presentation of visual materials, the content design, the organisation of information, and the individual capabilities of the audience significantly influence communication effectiveness. As Noetel (2022) pointed out, good design is crucial. However, there remains a lack of sufficient research into how good MG design is produced, the processes and workflows used by designers, and how information is communicated effectively. As Jahanlou (2021) notes, the hybrid nature of MGs encourages designers to adopt various communication strategies, though not all of these prove effective; beyond using multiple complex tools, further investigation is needed into design references, sources of inspiration, design processes, and the communication strategies at each design step.

2.4 Communication of MGs: narrative, experience and symbols

Although science has developed a broad psychophysical and neurological understanding of how people respond to and interpret motion and graphics, the interpretation of MGs and the implications of their direct use and application in screen design remains largely under-theorised (Kim, 2007, p. x). This section aims to build a discussion on how MGs communicate by examining existing literature on narrative, experience, and symbols in MGs.

2.4.1 *Narrative*

MGs is often considered a non-narrative form of visual communication (Ryl, 2002; Tong, 2012; Chen & Cha, 2019). This perspective may stem from MGs often involving abstract and non-representational design elements. Unlike traditional storytelling methods, which rely on character development, plot, and other narrative devices, MGs may prioritise visual and audio impact over a linear story structure. However, according to Zhang (2014) and Li (2018), narrative is an essential means of conveying information in MG design. Li (2016) conducted a case study and identified six narrative structures commonly used in MGs design for logo creation, which represent abstract concepts continuously and concisely within a time sequence.

Research from cognitive psychology and neuroscience has shown that viewers use narrative structure to understand a sequence of images based on time. According to Cohn (2014), the brain engages similar neurocognitive mechanisms to build structure across multiple domains, including visual sequences. Barnes (2017) found that viewers

start building a mental model when they look at a narrative of image sequences. They identify each narrative component as a separate event unit and bundle together activities related to the story (Hagmann & Cohn, 2016). This mental model can aid viewers in better understanding and memorising the narrative and forming an overall sense. This understanding can be semantic or symbolic, depending on the symbols and language used in the story. By using symbols and language to construct a mental model, viewers can establish a deeper story structure in their brains and better understand and recall the narrative.

Cohn (2013) proposed a visual narrative theory based on sequential images (comics) which comprises a structure with four categories; see Table 2.1. This structure emphasised separating narrative structures (presentation) from semantic or symbolic structures (meaning). This separation allows us to describe how the same meaning can be conveyed in different surface presentations or underlying meanings.

Narrative Category	Conceptual Structure
Establisher (E)	Introduction of referential relationship Passive state of being
Initials (I)	Preparatory action Process
Peaks (P)	Culmination of event Termination of a process Interruption of event or process Reaching a goal of a path
Releases (R)	Wrap up of narrative sequence Outcome of an event Reaction to an event Passive state of being

Table 2.1 Primary correspondences between narrative categories and conceptual structures, in order of importance to a narrative arc (Cohn, 2013, p. 425)

For example, we can consider a baseball comic strip (Figure 2.29) that depicts a series of scenes of batting and running. When viewers observe this comic, their brains automatically package these scenes and interpret them according to narrative categories. Whenever viewers perceive a change or transition in the actions or events depicted in the frame, they identify separate components, marking the narrative shift from one category to the next (Zacks & Tversky, 2001), forming a cohesive narrative arc. In this

example, the viewer's brain would identify the batter's action, the flight path of the ball, the actions of the defensive players, and so on, combining them to form a mental description of a baseball game. This mental description not only contains the time and causal relationships of the actions but also gives meaning to the narrative components, enhancing the viewer's understanding and memory of the entire story. In addition to narration for viewers, sequential images also serve as a powerful tool for filmmakers and MG designers. At the beginning of a project, directors or designers often use storyboards to sketch out sequences that highlight key moments or significant transitions. As a form of pre-visualisation, the storyboard offers an opportunity to explore cinematic movement and narrative structure (Shaw, 2019, p. 151). Each moment and scene must be connected and arranged in order.

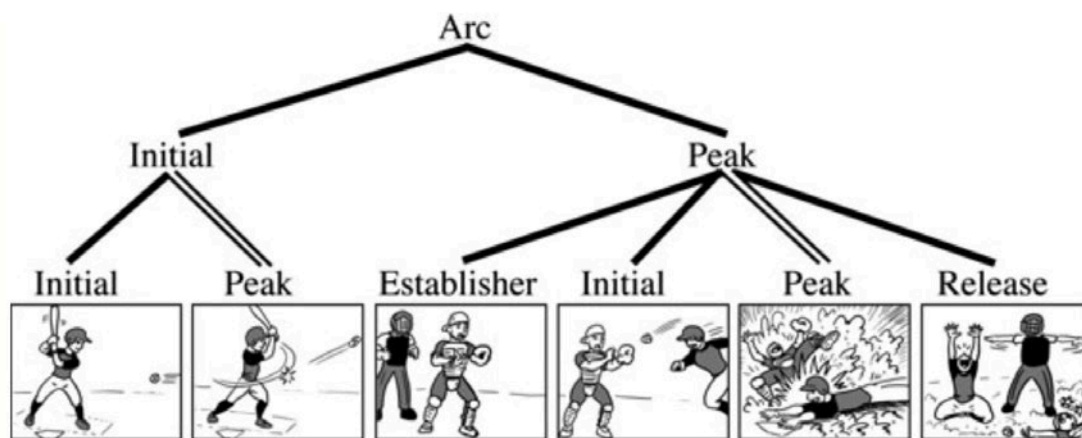


Figure 2.29 EIPR narrative model: Establishers, Initials, Peaks, Releases (Cohn, 2013, p. 437)

Barnes extended Cohn's visual narrative theory (2013) from static image sequence into MGs and provided further evidence that viewers use a narrative structure to comprehend MGs (Barnes, 2017). Compared to static comic sequences, viewers watching an animated sequence engage in a similar cognitive process; as viewers begin to watch an animated sequence, they gradually parse and comprehend its narrative components (Barnes, 2017). The viewers observe the temporal and causal dependencies between the elements, which helps them understand the relationships between events. Next, viewers assign meaning to these narrative components. They link the observed events to prior experiences, social backgrounds, and cultural contexts, thereby understanding the significance and meaning of these events. Lastly, viewers consolidate their interpretations of the narrative components and combine them into a comprehensive mental description. This mental description is continually updated and adjusted as the narrative unfolds. The overall understanding process is similar to the

three multimedia cognitive processes proposed by Mayer (2005): (1) Selecting—paying attention to important elements in the materials for further processing; (2) Organising—mentally incorporating the new information into a coherent cognitive structure; (3) Integrating—mentally connecting the new information with existing relevant knowledge.

Stage 1 Selecting/identifying: Identify a unit in a narrative structure

The process of identifying events in a narrative structure begins with the recognition of objects in relation to spatial characteristics such as colour, shape, and size. Kosslyn (1994, p. 262) suggests that spatial relations can be stronger than categorical relations, especially in the case of rigid objects¹⁵ that have precise metric spatial properties. This implies that the movement of the elements in a MG design can get an audience's attention when they start looking. As Rudolf Arnheim pointed out in *Art and Visual Perception*, people's visual attention is strongly attracted to and follows moving objects (Arnheim, 1960).

Colour plays an important role in guiding mood, while rhythm controls the plot and scene connection cues. The theme of a MG design drives resonance, and the style serves a specific purpose (Siwang & Li, 2021). However, viewers have limited attention, and they can only recognise and identify one object at a time in a single fixation, despite being able to identify multiple objects in the same scene (Treisman & Gelade, 1980). This limited attention leads to extraneous, intrinsic, and Germane processing (R. E. Mayer et al., 2005; R. E. Mayer & Chandler, 2001; Paas et al., 2003; Sweller, 1999, 2005), which might affect how viewers process and understand the narrative structure of a MG design.

Stage 2 Organising: Combine units into events

The organising stage focuses on how our brains organise these units into events. Discourse theories have stressed that narrative segments are triggered by the update of a situation model caused by semantic discontinuity like changes in characters, locations, or events (Gernsbacher, 2013; Loschky et al., 2020). In other words, viewers use this discontinuity to recognise and perceive event boundaries.

In time-based sequences (such as film), it is important to perceive the boundaries of events. The perception of contextual discontinuity is causally related to event segmentation. Discontinuity in action significantly impacts event segmentation

¹⁵ The screen border or edge can serve as a reference point or object when watching MGs, helping viewers establish their perspective and spatial reference coordinates. This essential reference coordinate system can help viewers better understand the motion and spatial relationships in the scene and assist them in placing the elements in the background in appropriate positions.

because our brains perceive a continuous sequence of actions as an event unit. However, visual or spatiotemporal discontinuity is different, as higher-order perceptual processing regions in our brains maintain continuity of activity in the face of spatiotemporal discontinuity (Magliano & Zacks, 2011; Zacks et al., 2001). For example, in a video clip, if we see a man opening a door with his hand, and the next second, the scene cuts to him in a room, even if we have not seen the action of him entering the room, we still recognise that the man opened the door and entered the room.

Additionally, continuity helps to establish a mental model from a sequence based on time. Filmmakers manage the flow of visual content across the boundary so that it supports the perception of spatial-temporal and action continuities across boundaries (K. Thompson & Bordwell, 2006). Hillner (2009) found if a still frame in the sequence is extracted in the study, its content will be difficult to explain, that is, the continuity of the sequence may also be one of the narrative methods of MGs. Skjulstad (2007) argued that montage can achieve continuity and coined the terms nonlinear space-time montage and linear space-time montage.

For instance, Christian Marclay's *The Clock* (2010) is a remarkable 24-hour montage draws on over a century of moving image history, composed of thousands of film and television clips depicting clocks and time-related elements, with each minute synchronised to real time (Figure 2.30). *The Clock* challenges conventional narrative structure, as it only has a beginning and end within the timeframe defined by each viewer's decision of when to enter and leave. Viewers construct meaning only between the scenes they witness, without access to an overarching timeline or causal sequence. They cannot determine which actions lead to which outcomes, or how a scene will unfold. This transcends from linear time and frees the viewer into a purely experiential mode—focused on the present moment, without needing to position it within a progressing narrative continuum (Levinson, 2015, p. 92). As Burgin (2004) notes, new technologies enable viewers to detach images from narrative contexts, creating their own mental juxtapositions and associative chains.



Figure 2.30 The Clock, 2010, Christian Marclay

In summary, continuity plays a crucial role in this stage. Continuity is facilitated by the identification of discontinuous events by viewers, and the determination of the boundaries of events is determined by the identification of the continuity of each narrative unit by each viewer. The process can be summarised as follows: viewers identify whether the narrative units constitute a continuous sequence - events are constructed from continuous sequences - event boundaries are made to distinguish different events.

Stage 3 Integrating/simulating: Understand and experience events in narrative

This stage is integrating events and gaining a holistic understanding and experience. In the previous stage, the boundaries of individual events in discontinuous time and space are identified. Before integrating these events into a complete narrative, clues or segmentation of events are essential. According to Cohn (2020), film conventions such as cutting, panning, and zooming can serve as cues for narrative segmentation provided the signal (a cue of event boundaries, such as transition) changes between even the smallest “units” that may exist within a single shot. In addition to film narrative, animation metamorphosis allows the creation of smooth connections between images through the animation process itself rather than through editing (Wells, 2013).

This lies with what Kosslyn (1994) argued, that we notice events or objects through visual cues (or agents), which create anticipation and a sense of what is to come. When a motion happens in a scene, viewers actively predict what they will see, and this anticipation is dynamic and fluent. Visual cues have both voluntary cues (the signal of the content) and involuntary cues (visual features and visual complexity), suggesting

two levels of cognitive engagement: shallow and deep (Shen & Pritchard, 2022). In these two levels, Shen found that visual and textual signals effect both shallow and deep cognitive engagement. Colour contrast contributes to neither shallow nor deep cognitive engagement, and visual complexity boosts only deep cognitive engagement. Shen posits that preference should be given to signals over visual features. Figure 2.31 illustrates the function of visual cues.

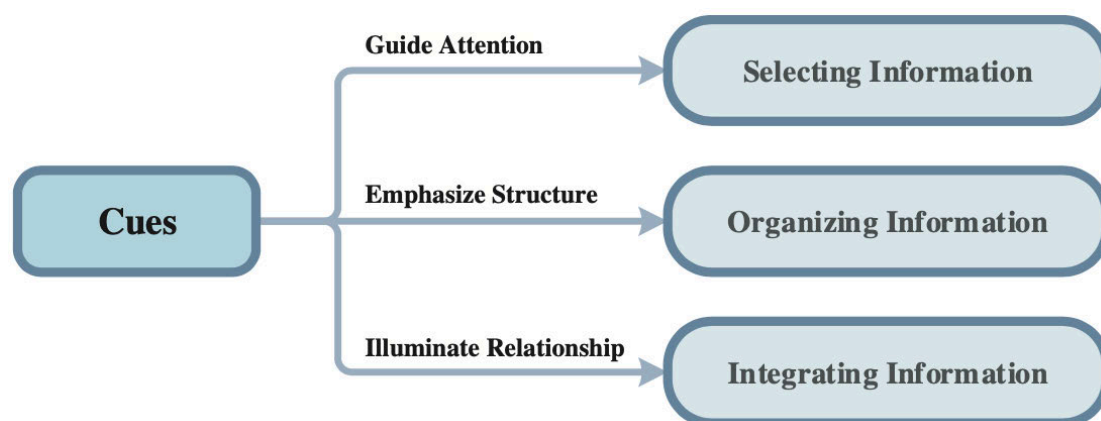


Figure 2.31 Function of Visual Cues (De Koning et al., 2009)

Understanding visual cues requires an embodied simulation mechanism. The tendency to look for causal relationships that seem to make the material more meaningful may be a low-level driving factor in how animations are interpreted (Lowe, 2003). Our brains can reconstruct actions by merely observing the static graphic outcome of an agent's past action. Referring back to the example of the man opening the door in the previous stage, even if we see him put his hand on the doorknob, we will still perceive him as acting as opening the door unless subsequent actions disprove this expectation of the viewer.

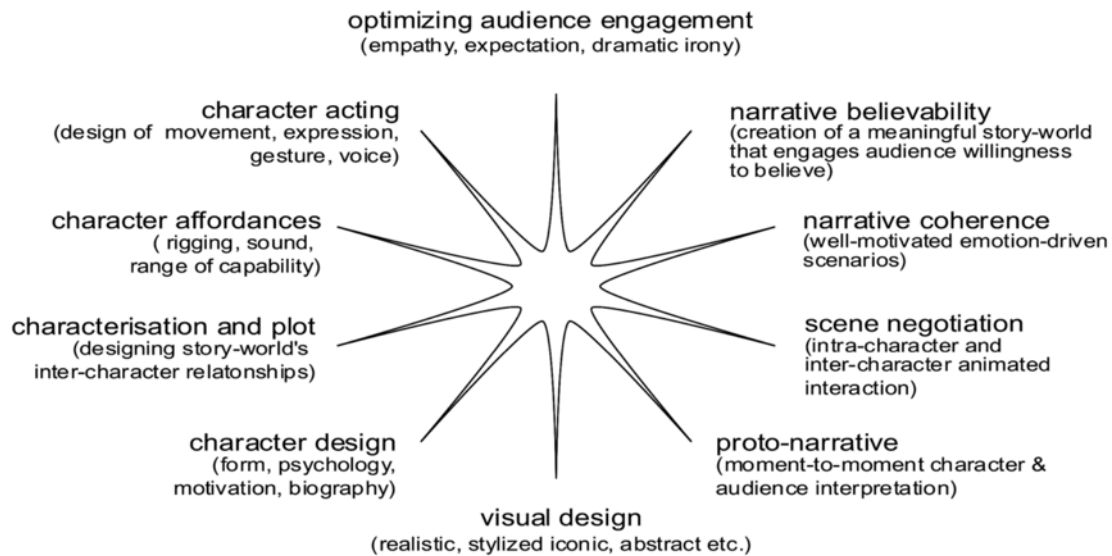


Figure 2.32 Mentalising (mind reading) in character & narrative design for animation
(Power, 2008)

The action reconstruction process relies on the activation of the same motor centres required to produce the graphic sign (Freedberg & Gallese, 2007). Some theorists hypothesise that simulation is the basis of emotional resonance, emotional contagion, and empathy, leading to narrative empathy (Goldman & Sripada, 2005). This narrative empathy prompts us to use our empathic perception to observe objects/elements and make it possible to “*the direct experiential understanding of the intentional and emotional contents of images*” (Freedberg & Gallese, 2007, p. 202). Additionally, our capability of empathy brings memory and emotional responses. Through the empathic perception of anthropomorphic agents, we can awaken our emotional memories through visual cues, bridging the gap between imagination and authentic experience (Power, 2008). This also aligns with the argument in Section 2.3.2 that MGs is communication design. In Yang’s words, “*The purpose of visual communication design is to convey an implicit concept to the audience and achieve an emotional exchange*” (2017a, p. 97).

In summary, the reviewed studies suggest that when viewers see a time-based image sequence, they build a mental model and use a narrative structure to understand/feel it. This process involves identifying each unit/element (shape, colour, spatial position), organising the information in Cohn’s narrative structure (2013) (by assembling each unit into an event), and integrating events using visual cues (movement of the objects, causal relation, etc). Furthermore, viewers use empathic perception during the entire process connect what they see to their memory, experience and emotions. Therefore, we can see a triangle ‘chasing’ a sphere even though we do not

know what that it means; it feels and looks like chasing. Similarly, we can assume that a cup of juice is made from strawberries, avocado, tomatoes and other fruits (Figure 2.33).



Figure 2.33 Illustration by FM ILLUSTRATION, 2016

2.4.2 *Communication and experience*

Simulation underpins aesthetic experience in many diverse respects: simulating actions and intentions, manipulation of objects, emotion and sensation, and the implied gesture (Freedberg & Gallese, 2007).

According to Zeki (2004), aesthetically pleasing experiences are not gained from ambiguity of the visual language but from our capacity of multiple experiences from multiple areas in the brain. This capacity influences what is perceived; even when faced with a single stimulus, different parts of the brain will respond differently. The artist, rather than creating ambiguity, thus uses, sometimes to stunning effect, this potential of the brain. Equally, the viewer uses this same potential in providing different interpretations (Zeki, 2004, p. 174). Our brain responds to basic visual elements, such as colour, form, line, and motion, which are also basic elements of art (Zeki, 1999). In MGs, through the creative mind of the designer, visual elements are integrated with sound and motion, and finally, they are presented to the audience and create an influential performance (Fathi et al., 2014).

One of MGs' unique visual experiences is abstraction or ambiguity (Lu, 2019), which is shown in the visual elements and the narratives we engage with. Compared to traditional graphic design and animation, MG design often emphasises multiple experiences by combining various elements, such as graphics, motion, sound, and colour, to shape more abstract or vague details to represent scenes and emotions (Geng, 2016; C.-L. Liu, 2020; Y. Liu, 2014; Pei et al., 2022). For instance, some designers may use simplified lines, geometric shapes, or colours to represent characters, objects, or scenes rather than realistic images.

This style of expression leaves more room for associations. It stimulates the audience's imagination and creativity, enabling them to attribute different meanings

and interpretations to work based on their understanding and experience. From such ambiguity, an experience similar to reading can be built (Hillner, 2009). In Zeki's words, it is creative ambiguity:

"Each interpretation is as valid as the other interpretations, and there is no correct interpretation. Multiple interpretations that are of equal validity to the same work" (2004, p. 173).

The capability of creating multiple experiences of MGs, in particular, the unique ability to separate the processes of motion and graphics, allows for a new context and a greater complexity for both. From this perspective, motion can add to, and even completely alter, our reading of an image. A snail can move like a tornado; a triangle can walk like an old man. As Torre puts it, one stream of information plays off against the other, and the combined meaning of such a disjoint may be superior to a synchronous narrative. In mixing motion and image in new ways, movement should be considered a layer within the animated form (Torre, 2014).

For example, Disney's *Fantasia* (1940) combines animation with classical music (Figure 2.34). Disney wanted *Fantasia* to be an open text, featuring both narrative and non-narrative visualisations of music (Luckett, 2013, p. 215), and described the creative vision behind the film as "*seeing music and hearing images*", highlighting the role of visuals in translating music expression (Luckett, 2013, p.223). *Fantasia* employs varied content and techniques to combine images, movement and sound. In the opening plot Toccata and Fugue in D Minor, the graphics are primarily abstract, with visual rhythm—such as movement and editing—closely synchronised with the music rhythm, where viewers can immerse themselves in the combination of music and animation to focus on the experience. In contrast, as a segment in *Fantasia*, *The Sorcerer's Apprentice* features clear characters and a sequence of events, using more concrete visual language to construct a narrative.



Figure 2.34 Fantasia, Disney, 1940

Many studies have been studying audio-visual materials based on MGs or animation, stating that these materials can facilitate participants' understanding and

memory and emphasising that MGs more effective than static media in communication (Hapsari & Hanif, 2019; Kurniawan et al., 2019; Puspita & Wardiyah, 2019). However, as noted in Section 2.3, compared with static media, MGs have not been found to have an advantage in communication efficacy unless in specific areas such as presenting procedural knowledge and creating atmosphere (Höffler & Leutner, 2007; Mayer et al., 2005; Van Gog et al., 2009). In addition, by using eye tracking, Wang (2020) finds that the information processing is more driven by texts rather than pictures. Wang's work suggests that images and graphics are more suitable as visual explanations for text.

Images with relatively less detail can promote the viewer's understanding and memory (Barnes, 2019). Too many interesting details can sap processing capacity away from deeper cognitive processing (Mayer et al., 2008). However, when offered choices of MGs to view, people overwhelmingly chose to watch high-fidelity images (more detailed graphic representations) over low-fidelity images with less detailed graphic representations (Barnes, 2016). Liu (2014) found similar results by showing participants video clips of MGs with different levels of narrative. When the video content was highly narrative and representative, participants passively accepted and received the information, which resulted in the highest level of understanding but also emotional disengagement. However, participants preferred videos with less narrative and representation because they elicited the highest level of emotional involvement. This is because participants were forced to become more personally invested and wanted more space for their own imagination, hoping to have the opportunity to participate in interpreting the content (Liu, 2014). The above findings indicate that when designing MGs, designers need to consider how to convey information and emotions through symbol combinations and emotional appeal, as well as the degree of dependence on narrative and representative elements.

The research discussed above suggests the advantages of MG design in conveying concepts and create experience, as well as the factors that influence its ambiguity. For example, the combination of motion and graphics may affect the transparency or accuracy of the information and lead to ambiguity based on narrative performance. In addition, the rhythm and tempo of MGs may affect the audience's emotions and experiences. For example, a fast tempo may create tension and excitement, while a slow tempo may develop a sense of calm and tranquillity. However, this view lacks sufficient evidence. Overall, the literature is slanted towards MGs focusing on creating multiple experiences and enhancing the audience's emotional engagement and experience rather than high-level communication efficacy.

2.4.3 *Symbols and communication system*

In the domain of digital media, humanities-oriented researchers have taken up productive relations between media practice and media research in areas such as hypertext and hypermedia. Liestøl (2004) suggests we may borrow concepts from neighbouring disciplines, apply general approaches such as semiotics, and through active synthesis, include developers' discourses into the subsequent analysis.

The overall theoretical approach discussed in this section is semiotics. Semiotics focuses on not only what we might ordinarily think of as “signs,” such as language, but anything that can “stand for” something else (Chandler, 2007, p. 2). Semiotics is appropriate due to the symbolic and ambiguous features of MGs, however there is limited semiotic theorisation concerned with text and image relationships in MGs. Early research from the 1960s and 1970s, primarily based on the work of Roland Barthes and Michel Foucault (Krasner, 2013), provides some suggestive foundations for developing a more thorough semiotic analysis applicable to MG title sequences and more broadly, the field of MGs.

Considering the origin of MGs is from film and animation, some findings from movie studies suggest that every type of communication presupposes the use of a language (Deleuze, 2005; Metz, 1964), and the same can and should be applied to MGs. Also, concepts from semiotics are often used as a methodology for creating and imposing meaning in graphic design (Chandler, 2007). Following this line of study is Brandão, who proposed that movement is a language that complements the text. From the given text information, Brandão created a series of MGs projects, using motion as a variable to establish a functional grammar, and found the text corresponds to the substantial part of the symbol, to the graphic and acoustic image of the letter, and the movement adds meaning, concept or conceptual content (Brandão, 2015). Similarly, Betancourt in a series of publications on MGs, brought the theory of semiotics into MG design in the movie title sequence emphasising the intrinsic association of text-image, and he proposed that there are three MGs modes in title sequence: The Figure–Ground Mode, The Calligram Mode and The Rebus Mode (Betancourt, 2018). However, their research is limited to the symbolic mechanism of conveying information in similar films. It focuses on typography, paying attention to the results of information transmission and the impact of factors such as display environment and font on legibility, and does not mention MGs visualisation approaches or communication mechanics. Moreover, there are multiple languages and signs in MGs. For example, graphics are often used as an example to explain how signs do not have any intrinsic

meaning and only become significant once they are invested with meaning by a community that uses them. The same applies to motion; it is only understood by representation of an object, usually a graphic.

2.5 Summary

Section 2.2 provided a historical review of MGs, highlighting the significant influence of technology and practice on MGs development. The review identified that, over time, MGs have integrated techniques and principles from graphic design, filmmaking, and animation, evolving into a hybrid medium. Although the definition of MGs and its terminology remain subject to ongoing debate, this study views MGs as communication design based on its communicative function in practice and application. However, how designers convey information through MGs in their practice is an area that requires further exploration, as there is currently insufficient research in this domain (Jahanlou et al., 2021). Therefore, the first research question that this study seeks to address is: As practitioners, what communication strategies and approaches do producers adopt in their practice, and what factors influence them?

Section 2.3 continues the perspective of MGs as communication design, reviewing studies on its communicative performance. These studies suggest that MGs have communication advantages, as they tend to produce better results in various applications across different fields. However, as this study also finds, the generalisability of these conclusions is problematic (Lowe, 2003), since many moderating factors and variables influence communication outcomes (Berney & Bétrancourt, 2016). Although the review of several key studies reveals certain aspects and principles through which MGs demonstrate communication efficacy, these aspects require further investigation, such as how the design quality and the viewers' individual differences affect the results. Therefore, the second research question this study seeks to address: As consumers, how do viewers understand and experience MGs, and what factors influence their understanding and experience?

Section 2.4 reviews studies on similar time-based media, such as comics and animation, and sets a potential theoretical foundation for the communication mechanisms within MGs, including three aspects: narrative, experience, and symbols. While narrative has been shown to be a viable and effective approach in communication design practice and education (Yang, 2015, 2017a, 2017b), these aspects require further exploration to identify how MGs communicate and generate meaning. Therefore, the third research question this study seeks to address: How do producers and viewers communicate through MGs to make meaning?

In summary, through an extensive literature review and a historical perspective, as well as potential interdisciplinary theoretical support, this research proposes considering MGs as a communication design. The literature review presents and discusses the theoretical foundation of communication through MGs by employing a comprehensive approach that combines the analysis of visual elements, narrative structure, and cognitive processes. It provides a deeper understanding of how MGs express content and are interpreted, confirming the feasibility of studying the communication mechanisms of MG design as a visual language that integrates various techniques and forms.

Furthermore, the literature review highlights that the characteristics of MGs in communication may extend beyond effectiveness, encompassing the creation of multiple experiences and emotional impact. However, the reviewed studies have not undertaken an in-depth exploration and explanation of these characteristics, resulting in a paucity of discussion regarding the processes and mechanisms through which MGs convey information and meaning. To address this gap, this study regards the design process of MGs as the concept of “*design-in-practice*” (Kimbell, 2012), considering it as a social process emphasising the involvement of the individuals beyond the designer’s work (Garud et al., 2008). Following this concept, the research activities focus on the production and consumption processes of MGs, involving both producers and viewers, i.e., the experiences of designers in their practice and the audience in their viewing experiences.

CHAPTER 3 METHODOLOGY AND METHODS

3.1 Introduction

Through an extensive literature review of MGs, the previous chapter identified gaps in the existing body of knowledge that this study aims to address and established the research questions to guide the investigation (Section 2.5). To address the research questions, this study adopts a participatory design approach within a qualitative research framework. This chapter presents the methodology and methods used in this study, organised as follows. Section 3.2 outlines the foundation of the research and describes contextualism as the epistemology and the participatory design approach. Section 3.3 introduces the research participants and describes the ethical considerations. Section 3.4 details the data collection and analysis methods. Section 3.5 describes the research design and the structure and activities of the participatory project.

3.2 The research paradigm and world view

The Chapter 1 (Section 1.3) positions the study as exploratory design research. It discusses how design research methods facilitate the development of knowledge, and how participatory design enables collaboration among users and stakeholders from diverse backgrounds to produce what Cross describes as “*satisfactory solutions*” (Cross, 1982, p. 224). To address the research questions, it is essential to first clarify the type of research and the conceptual framework for epistemological development to design the research and select specific methods effectively. This approach helps mitigate the inherent biases often accompanying qualitative research (Johnson et al., 2020). Such clarity and strategic methodological design are crucial for helping to ensure the research outcomes are valid and applicable to real-world contexts.

3.2.1 *The qualitative research*

In Chapter 2, theories and methods from other disciplines were considered valuable contributions to the research, requiring synthesis and empirical investigation to address the research questions. As mentioned in Section 2.5, the reviewed studies do not adequately explain how MGs, as a communication medium, achieves information transmission and generates meaning. Qualitative research is suitable for this investigation to explore these aspects further.

According to Creswell (2016), qualitative research explores and understands individuals’ or groups’ behaviours, attitudes, and experiences within specific contexts through various approaches. Design research is described as one of the approaches to conducting qualitative inquiry. In design research, data is collected through various

qualitative methods such as interviews, observations, and focus groups, and the outcomes are usually actionable insights that lead to the improvement or creation of products, services, or systems (Creswell, 2017).

According to Nelson and Stolterman (Nelson & Stolterman, 2014) and Owen (Owen, 2000), design is neither science nor art but occupies a space in between, possessing its own tradition of inquiry, values, and procedures. Bruce Archer regards design as a third culture, comparable to the sciences and the humanities (1979a). Inquiry into the culture of design focuses on several aspects (Cross, 1982, p. 221):

1. Phenomena: the man-made world.
2. Methods: modelling, pattern formation.
3. Synthesis: practicality, ingenuity, empathy, and concern for ‘appropriateness’.

Using design as a strategy within qualitative research determines the specific methods and tools for data collection (Denzin & Lincoln, 2011). However, given the creative interpretative nature and contextual constraints of qualitative research (Johnson et al., 2020), the design, methods, and tools of the research must adhere to rigorous standards and quality to ensure the integrity and credibility of the study. Therefore, the epistemology related to design research, which is distinct from the cultures of the sciences and the humanities, need to be considered. This is described in the next section.

3.2.2 Epistemology for the research

“Design shapes things in the world, while epistemologies shape things in the realm of knowledge. Epistemologies outline what true knowledge (valid, legitimate, genuine knowledge) looks like, and enable us to account for the point, purpose, and meanings of the knowledge we acquire... In other words, epistemologies design the act of designing” (Murphy, 2017, p. 118).

As Murphy’s words suggest, epistemology influences the action of design and the knowledge it produces. Therefore, a philosophical foundation is needed for the design research and the knowledge produced in this study. The philosophical foundation of this study followed the concept of design as practice and took contextualism as epistemology, which is described below.

The topic of this research is MGs—a hybrid medium which is produced by designers and consumed by the public. This research follows the *design-as-practice* view as an analytical device. According to Kimbell, *design-as-practice* refers to design work that recognises design practices as habitual, potentially rule-governed, often routinised, conscious or unconscious, and embodied and situated. It recognises the work

of professional designers in these practices but also opens up design to others, such as managers and employees within organisations, as well as clients, end-users, and others who participate in design through their practices (Kimbell, 2011, 2012). Under this concept, the research theme of MGs will be opened up to both professional practitioners and non-practitioner audiences; they are referred to as producer and viewer of MGs in this study. The research focuses on the producer and viewer, emphasising their experience and, more importantly, their “doing” and “making” in this design research.

From the above discussion, the research determines contextualism as the epistemology. Contextualism is between essentialism and constructionism (Willig, 1999). The concepts of essentialism hold that certain essential qualities or characteristics define a particular concept or phenomenon, which are objective and inherent to the phenomenon itself. Alternatively, constructionism posits that these characteristics are socially constructed and depend on the context and perspective of the observer. In the case of this study, contextualism is a middle ground between these two approaches, recognising that there may be some inherent qualities to MGs as a communication medium but also acknowledging that the interpretation and meaning-making of these graphics are heavily influenced by the societal context in which they are created and received. Highlighting the societal impact of commercial advertisements and technological developments on MGs communication, this study’s focus on the experiences and creative responses of producers and the viewers’ interactive cognition and perceptual experiences further emphasises the importance of considering both the individual and societal factors at play in MGs communication. By acknowledging how individuals interpret and obtain meaning from their life experiences and how the larger social context shapes those interpretations, the study provides a nuanced understanding of MGs as a communication design.

Based on contextualism as the epistemology, addressing the research questions (Section 1.2) involves the producers’ practice and viewers’ understanding, which is the design composition (sending) and understanding (receiving) in MGs communication. According to Verganti (2020), designers are experts with professional sensory knowledge, mainly related to their specific material expertise (such as products, interfaces, etc.). Designers’ creative practice and sensitivity to aesthetics in interactions with people and the environment are also important (Stigliani & Ravasi, 2018). To explore how producers use their knowledge in practice, the study focuses on producers’ outputs, workflows, and decision-making processes, i.e., what they did and why they did it when designing MGs.

In addition, Verganti (2017) noted that the public is more closely related to design practice through bodily and emotional cognition. Bodily cognition refers to how people understand the things they come into contact with through sensation, action, and experience. Emotional cognition is how people interpret and evaluate experiences and perceptions through feelings and emotions. To explore how viewers understand MGs, this study focuses on viewers' comprehension processes and emotional experiences in certain scenarios.

3.2.3 *Design thinking to participatory design approach*

As outlined in Sections 3.2.1 and 3.2.2, this study employs design as its primary qualitative research strategy, situating MGs within a 'design-as-practice' framework informed by contextualist epistemology. This perspective enables the researcher to integrate design, methods, and outcomes, implementing the design research approach introduced in Section 1.3. The Participatory Design Project (Chapters 4, 5, 6) follows a systematic process, evolving into a design-driven investigation that collects, analyses, and interprets data to generate reliable, practical knowledge in response to the research questions.

The Literature Review (Chapter 2) highlights that MGs communication aligns with what Rittel & Webber (Rittel & Webber, 1973) describe as a wicked problem—one that lacks clear definitions and absolute solutions. Addressing such issues requires researchers to approach problems as designers, adapting solutions to specific contexts (Buchanan, 1992, pp. 16–17). Thereby, this study adopts a “designerly way of knowing” (Cross, 1982), enabling collaboration with participants in the Participatory Design Project and locates the research context into the production and consumption scenarios of MGs—specifically, the producers' practice and viewers' understanding process. Furthermore, design thinking follows an iterative, creative, and human-centred approach to uncover effective ideas and solutions (Brown, 2008), which ensures the research outcomes are both fit for purpose and relevant to stakeholders.

Through acting as a designer and adopting design thinking, the researcher generates reflective insights and addresses complex research problems via design activities in the production and consumption scenarios of producers and viewers. Under this approach, the knowledge produced through design thinking is inherent to the object of cognition rather than derived purely through inductive or deductive reasoning (Cross, 1982). That is, practical knowledge generated from design emerges through experience and exploration rather than theoretical principles. A hammer, for instance, is an

effective tool for driving nails—not because of an understanding of physics or mechanics, but because practice confirms its functionality.

Design thinking has been widely applied beyond the design industry, including in business and management (Verganti, 2017). It offers a human-centred approach that non-designers can adopt in various contexts to foster creativity and innovation (Rylander Eklund et al., 2022). Still, design thinking has faced criticism regarding its feasibility and theoretical foundation. Laursen & Haase (2019) argue that design thinking lacks consistent methodological grounding, making its applicability to research contexts unclear. They describe it as a guiding framework rather than a structured research method. Similarly, Lloyd (2019) criticises design thinking for being too vague and abstract, functioning more as a way of working or thinking than a concrete methodology.

Laursen & Haase (2019, p. 825) further point out, “*The majority of the process models or action models did not focus on situating the action in relation to the problem situation – that is, they did not help the design thinker to adapt or align different tools to the specific problem situation at hand or to ensure that the use of different tools and techniques was aligned with the design thinking paradigm*”. This suggests that a more concrete methodology is necessary to link design actions to research objectives (Cross, 2023, p. 8).

To address these concerns, the participatory design provided a structured procedure and concrete methods. As Tschimmel (2012) noted, participatory design provides procedural models and toolkits to enhance, accelerate, and visualise creative processes. For example, Liedtka (2018) proposes that incorporating design thinking with visualisation, ideating with diverse groups, co-creation tools, prototyping, and field experiments can enhance the novelty of ideas generated through design, increase their potential for value creation, and improve the accuracy of evaluation, all of which are common methods in participatory design.

Furthermore, participatory design “*is a human-centered approach advocating active user and stakeholder engagement throughout all phases of the research and design process, including co-design activities*” (Martin et al., 2012, p. 128). It also integrates stakeholder perspectives with design expertise, ensuring collaborative input is translated into design standards, services, and artefacts (Martin et al., 2012), which highlights the importance of attending to the situated, embodied routines of designers and others involved, offering a productive way to rethink design thinking (Kimbell, 2011). Thus, participatory design enriches the depth of the research findings, making it

connected to a broad range of formats and genres in MGs (e.g., 2D or 3D, motion design or kinetic typography) and various fields (e.g., design, media studies, education). This is because participatory design goes beyond merely involving users and stakeholders in the design process; it is about designing a socio-technical system where stakeholders' reflections become an integral part of the system (Yamauchi, 2012, p. 132).

By embedding participatory design within a design thinking framework, this study ensures that research outcomes are comprehensive, accurate, and relevant. Moreover, the participatory design facilitates dialogue and collaboration among participants from diverse backgrounds, empowering them to determine what is possible and what is not, thus shaping what should be rather than what is (Simon, 2019). Throughout the participatory process, the tools developed by the researcher for specific scenarios (e.g., producer's real-time practice, viewers' engagement in understanding MGs) and the methods employed further facilitate participants' engaging in co-design (Sanders & Stappers, 2008). This approach positions design as an effective tool for articulating knowledge and advancing the researcher's understanding of key issues through experience and collaboration (Lloyd, 2019).

By involving producers and viewers from different backgrounds and cultures, participatory design might ensure that research findings apply to various stakeholders. It also has the potential to transform theoretical challenges in MGs communication into practical, actionable design principles tailored to specific needs and contexts in communication.

3.3 Participants

3.3.1 Two groups of participants: Producer and Viewer

Section 3.2 introduced the epistemological and methodological framework of this study, indicating a focus on the individuals involved in MGs communication, encompassing both the designers producing MGs and the viewers consuming them.

The proposed sample size for the study was twenty participants (10 producers, 10 viewers). This number was chosen to ensure a degree of representativeness, while allowing for a deeper understanding of each participant, leading to more profound insights. Additionally, this manageable number facilitates better data management and analysis, ensuring that the research can be conducted within the constraints of the available time and resources. The recruitment plan involved direct and indirect recruitment, including using the researcher's social networks based in the UK and China, as well as participant referrals. The inclusion criteria for producers were professional designers with expertise in MG design and aged 18 and over. As discussed

in the literature review, the concept and definition of MGs are challenging to pinpoint due to the hybrid nature of different technologies and fields. Therefore, producers could be recruited from various design disciplines, including animation production, graphic design, visual effects, and video production. The inclusion criteria for viewers were members of the general public who were interested in the research topic and aged 18 and over.

Ultimately, the study recruited sixteen participants (6 producers, 10 viewers), aged 18 to 44 years, from different cultural and professional backgrounds (Table 3.1). Four producer participants were observed designing MGs – this research activity is referred to as ‘Producers Observation’ (Chapter 4). Five viewer participants took part in a focus group – this activity is referred to as ‘Viewers Focus Group’ (Chapter 5). Seven participants comprising both producers and viewers took part in design workshops – this activity is referred to as ‘Design Workshops’ (Chapter 6). The participants who took part in the Design Workshops had not previously participated in the Producers Observation or Viewers Focus Group. This lack of continuity meant that the same participants were not involved throughout all stages of the research. However, the participants in the Design Workshops provided new perspectives, contributing a broader range of insights to the research. Additionally, the new participant pool offered an opportunity to evaluate and iterate the findings from previous activities.

Name	Gender	Age Group	Participated in	Dates	Country of residence
Ryan	M	25-34	Producers Observation	16. Jan. 2023 18. Jan. 2023	China
Gina	F	25-34	Producers Observation	25. Feb. 2023 27. Feb. 2023 28. Feb. 2023	China
Hart	F	25-34	Producers Observation	17. Feb. 2023 20. Feb. 2023 22. Feb. 2023	China

Jack	M	35-44	Producers Observation	18. Feb. 2023 24. Feb. 2023 26. Feb. 2023	Japan
Lucas	M	25-34	Viewers Focus Group	19. Aug. 2023	UK
Heather	F	25-34	Viewers Focus Group	19. Aug. 2023	UK
Ringo	F	25-34	Viewers Focus Group	19. Aug. 2023	UK
Jo	F	16-24	Viewers Focus Group	19. Aug. 2023	UK
Daniel	M	16-24	Viewers Focus Group	19. Aug. 2023	UK
Phoebe	F	25-34	Design Workshops	29. Jan. 2024	UK
Elizabeth	F	25-34	Design Workshops	29. Jan. 2024	UK

Hua	F	16-24	Design Workshops	29. Jan. 2024	UK
James	M	16-24	Design Workshops	29. Jan. 2024	UK
Emma	F	16-24	Design Workshops	05. Feb. 2024 09. Feb. 2024	UK
Alan	M	25-34	Design Workshops	05. Feb. 2024 09. Feb. 2024	UK
David	M	16-24	Design Workshops	05. Feb. 2024 09. Feb. 2024	UK

Table 3.1 Participants overview (all names are pseudonym)

3.3.2 *Ethical considerations*

All activities involved in this study were reviewed and approved by the Research Ethics Committee at the Glasgow School of Art (GSA). Due to the use of different methods and tools in the Producers Observation, Viewers Focus Group, and Design Workshops, there were several months between each activity to allow for development of customised tools and materials, as well as data analysis. Consequently, the study was divided into three separate ethical applications. The application for Producers Observation was approved in December 2022, the application for Viewers Focus Group was approved in July 2023, and the application for Design Workshops was approved in November 2023. These approvals ensured that each part of the study was ethically sound and complied with the required standards before proceeding, facilitating a structured and responsible research process. The Information Sheets and Consent Forms can be found in Appendix 1, 2, 7, 8, 13 and 14.

Recruitment. The process of inviting participants included direct and indirect approaches using the researcher's social network and snowball sampling. Direct recruitment involved contacting design studios in China and UK-based associates within the researcher's network. Additionally, invitations were sent to UK-based design studios, various Glasgow-based groups interested in animation and film, and advertisements were placed on the GSA campus. Indirect recruitment used snowball sampling, which involved recruiting through participant referrals. When interested individuals responded to the researcher, they are considered potential participants and provided with the participant information sheet (PIS) and consent form. The researcher informed potential participants that their participation would comply with the GSA's General Data Protection Regulation (GDPR), and their consent was required before engaging in any research activities. The researcher emphasised that taking part in the research was voluntary and that they were free to withdraw at any time and without giving any reason. If participants decided to take part, they were given seven days to read and understand the PIS before signing the consent form. They then signed the consent form before or on the day of the research activities. The PIS and consent form included details on why their participation was desirable, how their data would be used, and to whom the results would be reported. Participants were asked to use pseudonyms, which they chose at the outset of the research activities to ensure anonymity. They were informed that their research data would be used solely for the doctoral thesis, publications and presentations, and that anonymised extracts from the recordings or notes may be quoted in the thesis or other published works. Additionally, recordings from the sessions would not be released to ensure they could not be identified.

Considering that the recruitment process involved Chinese and English-speaking participants, the researcher provided the PIS and consent form in either English or Chinese, based on the participant's first language. This ensured that participants could understand the documents. Informed consent was obtained from all participants.

Location. The research activities were delivered either online (Producers Observation) or in person (Viewers Focus Group, Design Workshops) on the premises of the researcher's institution, GSA. For the online sessions (Producers Observation), Zoom was proposed as the primary platform for engagement, as it is supported by GSA's IT Department. Microsoft Teams or Tencent Meeting were suggested as alternative options if participants encountered any issues with access or connectivity on

Zoom. In the remote sessions, all China-based participants used Tencent Meeting¹⁶. The sessions were audio recorded to allow the researcher to gather helpful information not included in the screen sharing (the screen sharing included the software producers used and Miro¹⁷ boards). Photographs/ screenshots were taken of the screen during the sessions with the participants' consent, but their faces will not appear in any record.

Throughout the research activities, the researcher has been mindful to avoid causing offence, harm, or embarrassment to individuals and their work. For example, this includes refraining from pressuring participants to answer specific topics that might make them feel uncomfortable and redirecting attention if any signs of discomfort occur during the sessions.

Participant data. All data collected during the study is being dealt with securely and in confidence to preserve anonymity. Up to a maximum period of six months after the end of the study, any identifiable data will be destroyed. Paper files are currently stored in a secure filing cabinet accessible only to the researcher, and digital data is currently securely stored on the personal drive of the researcher on the GSA network. This drive is only accessible to the researcher and his supervisory team (supervisors have access to the data for complaints handling or examination purposes).

3.4 Methods

3.4.1 Data collection methods

The methods adopted are outlined below in Table 3.2 and then described in more detail.

Method	Brief description
Literature review	A literature review is an integral part of academic papers but is also a useful component of any design project, to collect and synthesise research on a given topic.
Participatory design	Participatory design engages users and stakeholders in a wide range of activities throughout the exploratory, generative, and evaluative cycles of research and design, including co-design activities (Martin et al., 2012, p. 129).

¹⁶ China-based users have been unable to create a Zoom account since Aug 2020. They can join as no-account visitor. However, Zoom has a separate data centre in China, which causes users from China to encounter performance issues, such as poor links, when accessing meetings outside the country.

<https://support.zoom.us/hc/en-us/articles/360042411451>

¹⁷ Miro is an online visual workspace for collaboration. <https://miro.com/index/>

	The methods and activities in participatory design are described later in Section 3.4.1.3.
Creative toolkits	Creative toolkits are a collection of elements that provide users and stakeholders with tangible artefacts, enabling them to project their thoughts, feelings, desires, and emotions into creative expression, and inspire design and research by actively engaging participants in the creative process (Martin et al., 2012, p. 48).

Table 3.2 Methods adopted in the data collection

3.4.1.1 Literature review

The literature review is a research method that systematically identifies, evaluates, and synthesises existing research on a particular topic. The literature review makes this study related to current knowledge and highlights gaps (Marshall & Rossman, 2014). The literature review is generally shaped from the larger problem to the narrower issue, which leads directly to the methods of a study (Creswell, 2017, p. 66).

3.4.1.2 Participatory design

Section 3.2.3 discusses how participatory design provides a procedural creative process that ensures the research outcomes are comprehensive, accurate, and relevant by involving stakeholders in the research and design. This section introduced more details about how participatory design operates to facilitate participants' experience to produce knowledge.

According to Sanders (2008), participatory design refers to the creative collaboration between designers and non-designers in the design development process. Participatory design is widely applied across various fields. It encompasses several methods at different stages of research and design (Hu & Cai, 2023), ideally through face-to-face engagement in activity-based co-design engagements (Martin et al., 2012, p. 128). The common principle behind methods within participatory design is collaboration and consultation with users and stakeholders throughout the design and research process (Schuler & Namioka, 1993). It can reveal their underlying ideas, identify their challenges, define their needs (Bannon & Ehn, 2012, p. 41), iterate their ideas to produce possible solutions that meet the needs of diverse groups learning and transforming from a user/stakeholder to a designer (Yamauchi, 2012). This also implies that the research needs to change and improve in many aspects, including the need for the researcher to act as facilitator in the design process (Manzini, 2015; Sanders &

Stappers, 2008), design simple and interactive tools for participants to “...*trigger, support, and summarize social conversations*” (Manzini, 2015, p. 133).

Drain and Sanders (2019) noted that effective co-design activity is a result of designer activities and materials, participants’ engagement capabilities, and the collaborative environment. They also suggest a collaboration system model for participatory design.

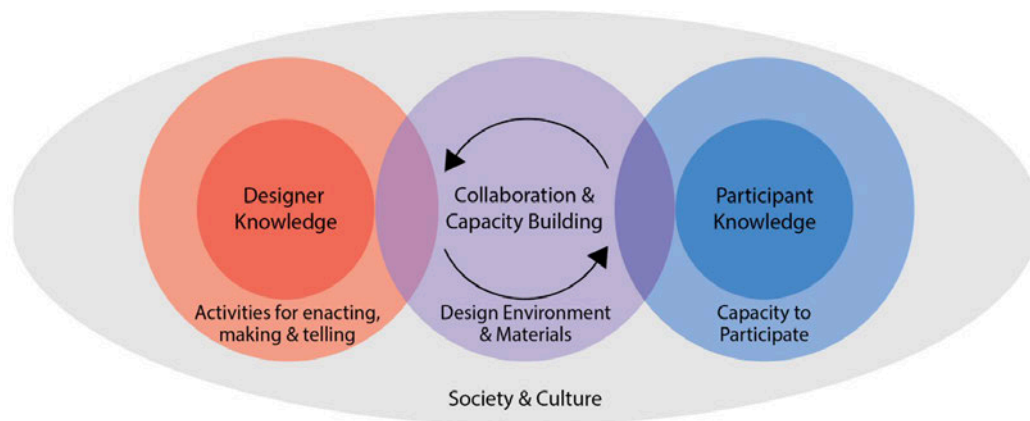


Figure 3.1 Participatory design collaboration system model (Drain & Sanders, 2019, p. 43).

This model provides a comprehensive and holistic perspective of collaboration between designers and participants in the participatory design process. It also acknowledges that both designers and participants possess valuable knowledge and experiences that contribute to the collaboration through different mechanisms. Christiaans (1992) provides valuable insights into the designer knowledge and participant knowledge involved in this model. Christiaans categorises the knowledge sets involved in design activities, including domain-specific Design knowledge (knowledge and skills involved in design tasks) and Basic knowledge (knowledge and skills from other domains), as well as domain-independent Process knowledge (knowledge about the design steps required and the optimisation of design tasks). Based on this concept, the research activities aimed to establish an inclusive and democratic environment where power dynamics were minimised, and participants could collectively contribute, influence decisions, and shape the design and study outcomes.

Design is a process of pattern synthesis (Cross, p. 224), as seen in the Drain and Sanders model above. This process involves integrating the knowledge of the designers (producers) with that of the participants (viewers). However, the gaps identified in the literature review (Section 2.5) suggest that how producers and viewers send and receive

information in MGs communication requires further exploration. Therefore, it is necessary to investigate these groups separately to gather sufficient information about their knowledge of MGs to support the co-design process.

Therefore, this study organised a Participatory Design Project (Section 3.5), which first identified and made explicit participants' knowledge about MGs communication. Based on translating this knowledge into design tools, participants collaboratively used these elements to generate “*satisfactory solutions*” (Cross, 1982, p. 224) to address the research questions in a designerly way of knowing.

3.4.1.3 Methods and activities following participatory design

As noted, participatory design can encompass various methods tailored to specific contexts and situations (Hu & Cai, 2023). This study employed the following methods and activities.

Questionnaire. The questionnaire is a survey instrument used to collect data from respondents through a series of open and/or closed questions (Rowley, 2014). It is an effective tool for gathering quantitative data and collecting qualitative insights. Questionnaires in this study were designed to collect self-reported information from participants about their characteristics, thoughts, feelings, perceptions, behaviours, or attitudes (Martin et al., 2012, p. 140).

Interview. The interview is a fundamental research method for direct contact with participants, to collect first-hand personal accounts of experiences, opinions, attitudes, and perceptions (Martin et al., 2012, p. 102). This study's interviews were all semi-structured and conducted after the questionnaires. The interview questions were a series of MGs topic-related questions and included follow-up inquiries based on the participant's responses to the questionnaires. This allowed for a deeper exploration of the participants' insights and experiences, providing a richer understanding of the research themes.

Shadowing. Conducting observations early in a project is often beneficial to familiarise oneself with a particular practice or group of people. Shadowing is a method of observation that involves the researcher following participants closely throughout their daily lives or working alongside them (Martin et al., 2012). By closely following the research topic over a period of time to investigate what people actually do in the course of their work time, not what their roles dictate of them (Quinlan, 2008), shadowing allows the researcher access to mundane or subtle aspects difficult to articulate, such as the language and emotions of the participant being shadowed (McDonald, 2005). At the end of the shadowing period, the researcher will have a rich,

dense, and comprehensive dataset, offering detailed, first hand, and multifaced insights into the participants' roles, methods, philosophies, and tasks. These data can then be analysed like any other qualitative data. Shadowing allows the researcher to gain comprehensive information and insights into producers' design processes, including decision-making, and what influences their practice. Furthermore, the researcher can observe producers' workflows, problem-solving strategies, and the use of tools and techniques.

The shadowing and think-aloud protocol were employed in this study to better understand producers' implicit knowledge of their design practices. During the shadowing sessions, producers followed a think-aloud protocol (Lewis & Rieman, 1993) in which they were encouraged to talk about their real-time thoughts and actions as an explanation to the researcher. According to Spinuzzi, in participatory design, users' knowledge is implicit rather than explicit, meaning their knowledge is holistic rather than systematic; "*it is what people know without being able to articulate*" (Spinuzzi, 2005, p. 165).

Focus group. The focus group is a qualitative research method in which a group of people are brought together to discuss a specific topic, focusing on their verbal and behavioural aspects (Krueger, 2014; Morgan, 1996). As Sanders and William (2003) noted, communication in focus groups is rooted in speaking. While this approach can generate rich information, it is primarily limited to what people can express in verbal communication. Therefore, in addition to recording participants' words, this study customised tools to capture underlying motivations or emotions behind people's understanding of MGs. The aim of the focus group was to gather in-depth information on participants' perceptions, attitudes, and opinions about how MGs make sense to them and why. The dynamics and interactions among participants provide insights into themes and patterns regarding how they feel and understand MGs.

Design workshops. Design workshops are often used as a form of participatory design, integrating co-design activities into organised sessions where design exercises stimulate participants' creative thinking (Martin et al., 2012, p. 62). Design workshops can facilitate the evaluation and iteration of designs, ultimately providing feasible solutions to complex problems. In this study, the researcher acted as a facilitator to support participants in the design exercises. The researcher developed customised design tools, design processes, and workbooks to aid participants in creatively expressing their experiences.

3.4.1.4 Creative toolkits

Creative toolkits are a means of conveniently packaging the elements of several participatory, generative design methods (Martin et al., 2012, p. 48). These elements can facilitate participation in model-making and visualisation, inspiring both the participants and the researcher (Sanders & William, 2003). By using tools and materials, participants are engaged in design exercises with creative thinking. According to Root-Bernstein, “*Creative thinking in all fields occurs preverbally, before logic or linguistics comes into play, manifesting itself through emotions, intuitions, images and bodily feelings* (1999)”. More specifically, creative toolkits allow participants to project thoughts, feelings, desires, and emotions—elements that may be difficult to express through verbal interpretation. Thus, the use of creative toolkits was crucial in the activities of this study.

The creative toolkit developed by the researcher for activities in the Participatory Design Project (Section 3.5) involved different tools and materials, comprising forms, cards, and visual references.

Forms were used as tools for participants to record their ideas, allowing them to capture their thoughts and feelings through sketches or handwritten notes. These forms included an interview chart (used in Producers Observation) and a recording sheet (used in Viewers Focus Group), as shown in Appendix 5 and 11.

Cards were used as tools to express participants’ ideas. Different types of cards were used throughout the study for different activities. During the Viewers Focus Group, the participants used cards to complete visual tasks (Section 3.5.2.2). In Design Workshops, customised cards were employed as design tools (Section 6.3.1), providing participants with essential design elements and concepts to assist in the collaborative design of concept prototypes.

Additionally, some examples of MGs as visual references were provided to participants during the Viewers Focus Group and Design Workshops. These examples helped participants understand the research topic and establish a shared language, facilitating interaction and communication among them.

3.4.2 Methods for data analysis

This study employed two methods to analyse data collected from the research activities: thematic analysis (Braun & Clarke, 2006) and analysis on the wall (Sanders & Stappers, 2012). The data analysis descriptions can be found in Section 4.5 (Producers Observation), Section 5.5 (Viewer Focus Group), and Section 6.5 (Design Workshops). As Braun and Clarke (2022) explain, the researcher needs to engage in careful

conceptual and design thinking to produce qualitative research with methodological integrity. Therefore, this study embeds the method of data analysis into the Participatory Design Project as a part of the research process.

The choice of different analytical methods aimed to fully leverage the strengths of each approach, tailored to the specific data types and analysis objectives, thereby achieving reliable and convincing research outcomes.

3.4.2.1 Thematic analysis

Thematic analysis involves systematically coding data to identify themes and patterns within qualitative data, and interpreting those themes and patterns to the research question/s (Braun & Clarke, 2006). Thematic analysis has theoretical and design flexibility. There are six steps for using thematic analysis (Braun & Clarke, 2006, pp. 87–93):

1. **Familiarising with data: Reading through data.** Transcribing data from recordings, reading and re-reading the data, noting down initial ideas.
2. **Generating initial codes: Identifying meaningful segments or quotes and assigning descriptive codes.** Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code. Visualising codes and making it visual.
3. **Searching for themes: Grouping codes into categories or themes.** Collating codes into potential themes, gathering all data relevant to each potential theme. Interpreting the meaning of the themes and their implications for research.
4. **Reviewing themes: Organising categories or themes.** Reviewing and comparing themes against the coded extracts. Checking if the themes accurately capture the essence of the coded data and ensuring they are distinct from each other. Generating a thematic map to create a clear and comprehensive thematic structure.
5. **Defining and naming themes: Ongoing analysis to refine the specifics of each theme.** Emphasising an overall story the analysis tells. Generating clear definitions and names for each theme, and renaming, combining, or splitting themes as necessary.
6. **Producing the report: The final opportunity for analysis.** Generating coherent narratives to describe the identified themes and their significance

within the research context. Using compelling extracted examples and analysing those selected extracts to link the analysis to the research questions and literature. Reflecting these connections in the analysis report.

Thematic analysis can help identify and examine recurring themes and patterns within the data, extracting meaningful insights. However, the thematic analysis relies on the researcher's subjective interpretation and flexibility, which can lead to weak or unconvincing analysis when themes overlap, or inconsistencies arise (Braun & Clarke, 2006, p. 94). Therefore, a clear and transparent approach is necessary to reduce subjective bias when dealing with different data types. With its visual and interactive nature, analysis on the wall effectively handles and displays different data types (Sanders & Stappers, 2012), making it well-suited for analysing the data collected through shadowing, including transcribed text and screenshots.

3.4.2.2 Analysis on the wall

Analysis on the wall is a method of organising data visually on a large surface, such as a wall, using sticky notes or other visual aids (Sanders & Stappers, 2012). It demonstrates connections and patterns in the dataset directly, which is helpful for collaborative analysis. Also, it is a light analysis method suitable for small sample sizes, such as six or seven participants (2012, p. 212), and can be effectively conducted by one researcher. It is an appropriate way to analyse the “messy” data collected during design research (Sanders & Stappers, 2012, p. 212), as these data often mix various materials, such as text, images, and artefacts. The value of analysis on the wall lies in its ability to simultaneously provide information and inspiration while analysing the collected messy data.

The researcher digitised the collected data of this study, thereby transitioning this method from a physical wall to Miro's digital whiteboard. This digital adaptation allowed for a flexible analysis environment, preserving the method's core strengths while leveraging modern digital tools. The steps for using analysis on the wall (Sanders & Stappers, 2012, pp. 213–215) are as follows:

1. **Setup and display.** This step involves arranging the collected data on the wall and annotating it for easy tracking. A more formal structure also helps make the creative toolkit materials easier to review and facilitates participant comparisons.
2. **Identify patterns and themes.** After familiarisation with the data, review the materials created by participants (e.g., workbooks and recording sheets)

and add initial ideas and labels to the data to identify patterns and themes. Once all themes are identified, categorise them and re-examine the findings within each category to ensure accuracy and coherence.

3. **Grouping and interpretation.** Based on reviewing the results from the previous step, compare them with the initial ideas formed at the beginning of the research. Examine whether the current categorisation provides clues for previously overlooked insights and identify any unexpected new themes that have emerged or become more significant than initially anticipated. Then, merge similar categories of themes and form coherent explanations.
4. **Synthesis.** Finally, construct a visual summary in a diagram or model to integrate identified themes and categories.

3.4.2.3 Reflexivity and data saturation

As Braun and Clarke (2006) noted, to ensure the reliability and validity of the analysis, it is important to incorporate reflexivity and iteration into the research design process. This involves critically interpreting the data and addressing the following questions: What does this theme mean? What are the assumptions underpinning it? What are the implications of this theme? What conditions are likely to have given rise to it? Why do people talk about this thing in this particular way (as opposed to other ways)? What is the overall story the different themes reveal about the topic? It is also important to consider the conditions that may have contributed to the emergence of a theme and why it is discussed in a particular manner. By exploring these aspects, the analysis can reveal an overall narrative encompassing the identified themes. Thereby, the research data is processed without attempting to fit it into a pre-existing coding frame or analytic preconceptions. The focus is on providing a detailed description of the data. This approach enriched the research findings. For instance, there is limited research on MGs producers (who may have many roles in practice, such as motion designers, animators, graphic designers and game developers); more detailed data description for this study helped articulate producers' practice and their communication strategies.

The reflexivity and iteration approach reflects the researcher's deep engagement with the data, as well as a contextual and interpretive approach to analysis. However, as Braun and Clarke (2021) pointed out, in reflexive thematic analysis, codes are not fixed endpoints but keep developing, and codes often become more interpretive and conceptual across an analysis. This process-oriented and evolving approach to coding creates challenges for determining data saturation in qualitative research, as analysis may never reach a clear endpoint within such an organic and reflexive process (Low,

2019). Therefore, the challenge lies in the interpretive judgement of when to stop coding and move towards theme generation and thematic mapping to complete the written report (Braun & Clarke, 2021, p. 210). The researcher must make these decisions based on the context of the study and interpretive aims. Based on the results, the researcher evaluated that the sample size had generated sufficient data (Section 7.6).

In addition, the researcher needs to acknowledge the limitations and potential sources of bias in the analysis. These limitations may relate to factors such as sample size, the generalisability of findings, and the potential influence of the researcher's own biases or assumptions. By recognising these limitations, the researcher can be transparent about the potential shortcomings of the analysis and address them appropriately. The limitations of the study are discussed in Section 7.6.

3.5 Research design: Participatory Design Project

As noted in previous sections, this study follows a perspective that explores the communication of MGs through a “*designerly mode of inquiry*” (Archer, 1979a, 1979b). This mode is focused on discovering the nature of the problem by creating solutions/designs rather than an in-depth analysis of the nature of the problem (Saikaly, 2005). To address the problems through design, the design process is exploratory, iterative, and sometimes even a bit chaotic (Braha & Reich, 2003). As Hatchuel (2009) pointed out, the design process is a cycle of mutual adjustments between research outputs and specific conditions until the final outcome.

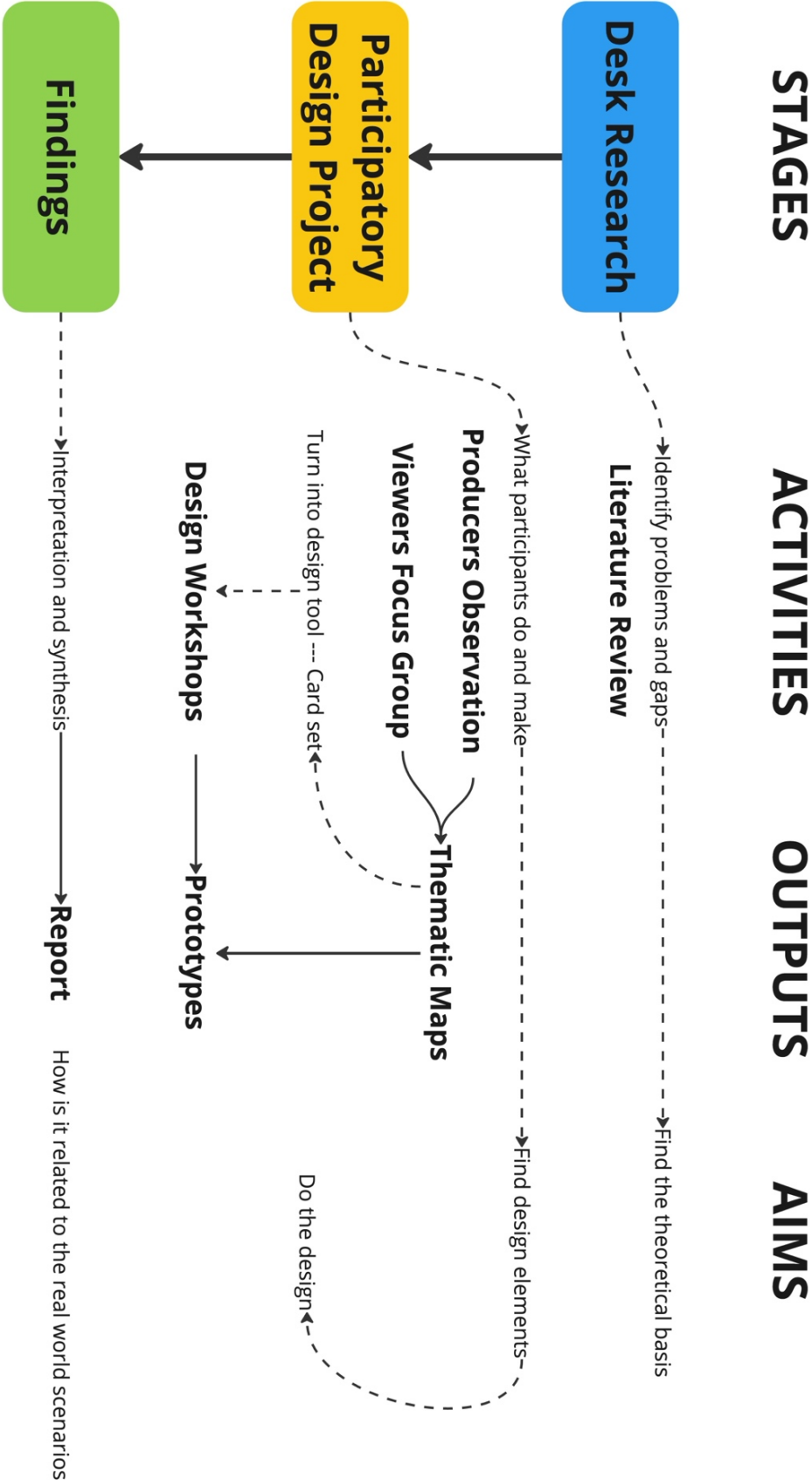
According to Saikaly (2005), design projects serve a methodological role during the research process in the Master of Research and PhD programmes in design. Integrating different research strategies with design projects forms an approach that aids in understanding and developing the research process. Thereby, this study conducted a Participatory Design Project that transformed problems related to specific groups or situations into concrete concepts and practical activities, followed by an established design process. The design activities in the project become both the method of inquiry and the medium to address the research questions.

The Participatory Design Project comprises three parts: Producers Observation, Viewers Focus Group, and Design Workshops, described in the following sections.

3.5.1 Overview of the research process

The research design dictates the paradigm, strategies, and methods guiding the research process (Creswell & Poth, 2016). The research design developed for this investigation consists of three stages, with each stage building upon the findings of the previous one

to address the research questions. The overall research process is illustrated in Figure 3.2.



The first stage involved desk research, where the literature on MGs communication was critically reviewed, establishing the theoretical foundation for MGs communication. The research questions identified from this review (Section 2.5) helped to define the research direction, leading to the formulation of the fieldwork. In addition, a desktop survey (Section 1.4) was conducted to explore the context of MGs production and consumption by examining local industry practice, including various outputs, aesthetics, techniques and viewer-oriented practices. This helped situate the study within the current industry landscape and provided a foundation for the discussion of research findings in the subsequent chapters.

The second stage involved the Participatory Design Project, implemented through three parts of participatory investigation. Each part informed the next. Moving from exploring what participants do to what they can make, the findings from the Producers Observation (Chapter 4) and Viewers Focus Group (Chapter 5) helped identify design elements. These elements were further utilised in the Design Workshops (Chapter 6), where participants collaboratively designed prototypes to respond to the research topic.

The third stage involved findings. By interpreting and synthesising the overall findings of the Participatory Design Project, Chapter 7 discusses how these findings address the research questions and contribute to knowledge, aligning theory with real-world phenomena (Weisberg, 2007). A conclusion is provided in Chapter 8.

3.5.2 Part I, Producers Observation

Producers Observation (Chapter 4) is the first part of the participatory project, investigating the practices of producers to focus on their workflows, approaches, and decision-making processes. The sessions were conducted remotely via Zoom and Tencent Meeting, and Miro's online whiteboard was used. All research in this thesis was approved by an institutional research ethics process.

The researcher employed activities of questionnaire, interview and shadowing to observe and record the producer participants' practice and design processes. Before any research activities, the researcher informed the producers that only audio recordings of their participation, and screenshots of key steps shared on their screens were captured. The scheduling of the sessions depended on each producer's timetable. The producers coordinated with the researcher to confirm the dates of the sessions at different stages of a design project (at the start, during its progress, and at the final output stage).

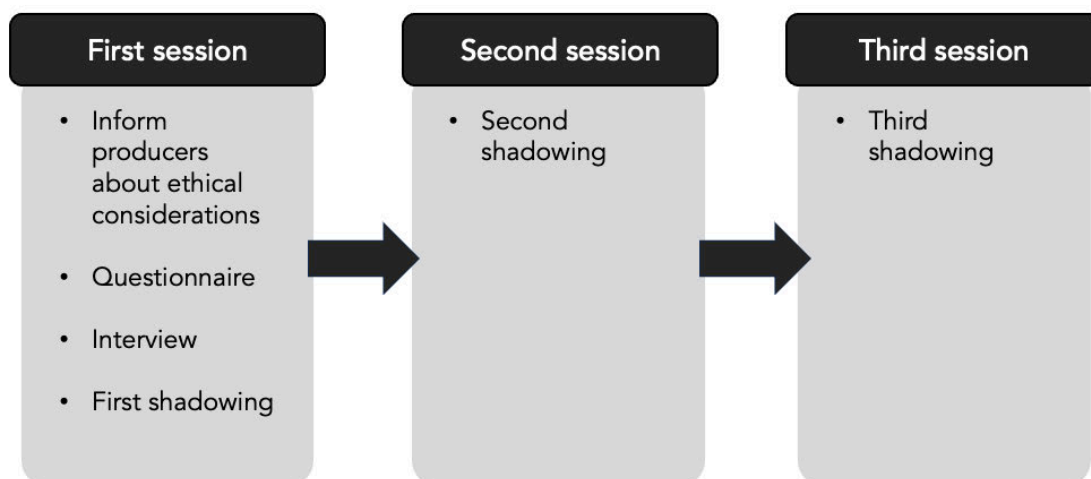


Figure 3.3 The process of the Producers Observation

The shadowing included three sessions (Figure 3.3). The questionnaire and semi-structured interview were conducted at the beginning of the first session. The producer was asked to complete a questionnaire to provide preliminary data: demographic information and data related to the research topic, including work experience, professional background, design principles, workflow, and inspiration. The questionnaire can be found in Appendix 3. This data collection established a foundation of initial information, facilitating more focused and insightful discussions in the subsequent interview.

The researcher developed an interview chart (Figure 3.4), based on Shaw's (2019, pp. 68–72) "Process-to-Outcome" structure, Jahanlou's (2021) summary of the design stages (Video Concept, Pre-Production, Production, Post-Production, Final Video), Woolman's (2004) design process; and Krasner's (2013) steps of evaluation, selection, clarification, and refinement. The chart was designed to capture the producer's general design process and workflow. During the interview, the producers provided their experiences and thoughts by writing comments on stickers and placing them in the relevant spaces of the interview chart.

The interview chart was iterated through a pilot study (Section 4.3.1). The chart divides the producers' design process into five stages: Start, In Progress, Output, Evaluation, and Iteration. Producers were asked to write down their thoughts for each stage, addressing the following aspects: tasks to be done, their reach point (how they approach these tasks), the gains they expect to obtain, and the challenges or difficulties they encounter. Producers were also asked to evaluate the time they spent on each stage, represented in a simplified line graph. Additional thoughts were recorded in the notes section to cover topics and ideas not addressed during the interview. The novel aspect

of the interview chart lies in its iteration and structure. The iteration makes it align with the real experiences of producers, and the stage-by-stage structure enables the research to capture the practices of producers comprehensively.

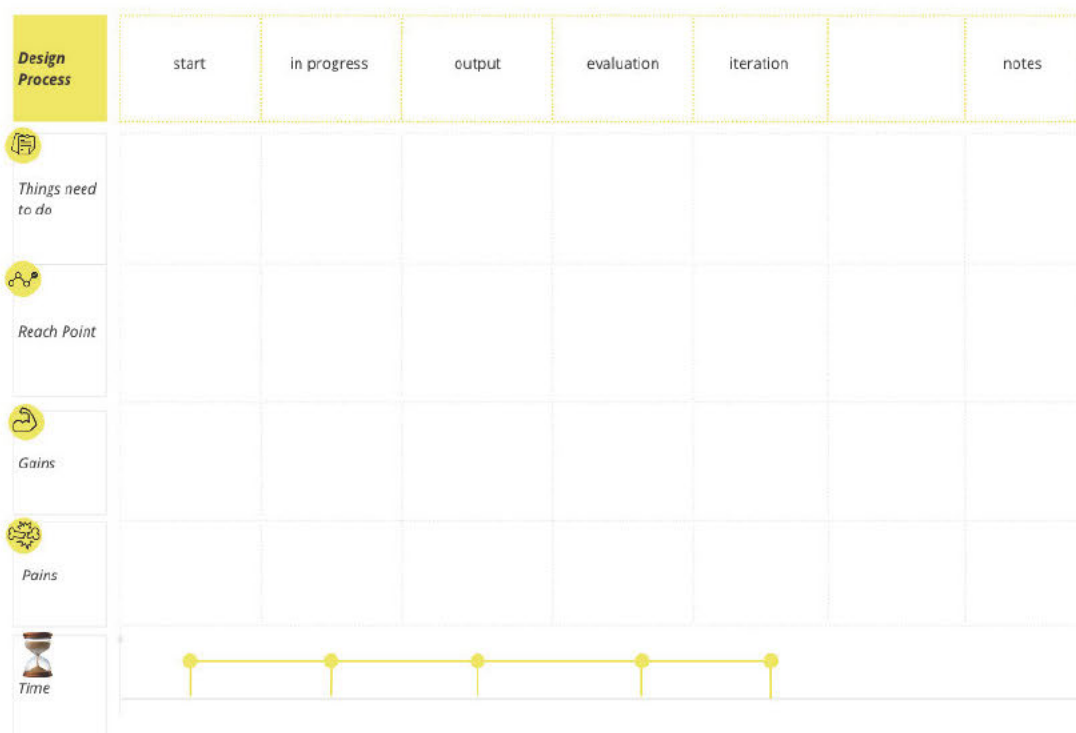


Figure 3.4 The template of interview chart, created in Miro

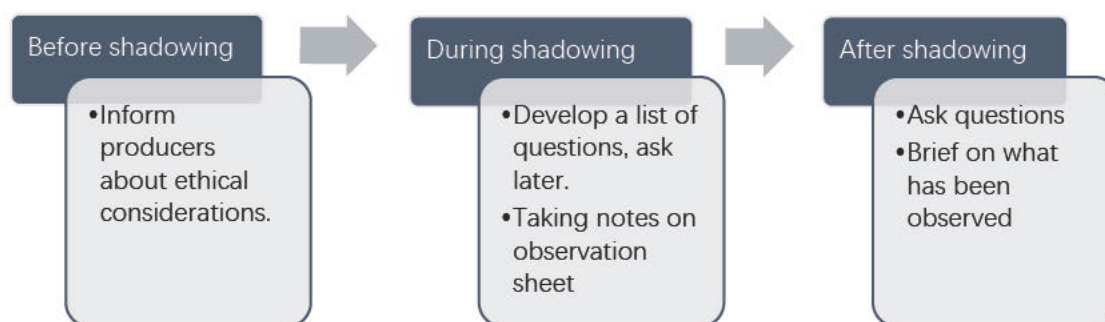


Figure 3.5 Shadowing process

After the questionnaire and interview, the shadowing proceeded.

During the shadowing, to facilitate observing the producers, the researcher developed an observation sheet (Figure 3.6) based on the People Shadowing template from the DIY Toolkit: Development Impact & You (Nesta, n.d.). Conducting the shadowing within participants' natural environments and targeted situations is essential (Polaine et al., 2013, p. 55); thereby the novelty of the observation sheet lies in its

customisation based on the context of the study, specifically, the producers' practices. Moreover, it offers a structured approach to documenting and comparing different observation.

The following categories were developed to reflect the contexts of producers' activities and their rationale, helping the researcher capture immediate key information and insights:

- Likes: Observation on producers' personal preferences in design actions, such as using visual effects.
- Dislikes: Observation on specific concerns of the producers, such as the problems encountered as a part of a design team.
- Habits: Observation on producers' existing routines, such as software operations.
- Activities: Observation on producers' actions, such as the techniques they employ.
- Philosophy: Observation on the producers' personal design philosophy as described or demonstrated, such as emphasising storytelling.
- Environments: Observation on the producer's relationship and interactions with their surroundings, such as how they work in the design team.

Where & When LOCATION: DATE: TIME:	Likes	Dislikes	Habits
Who PERSON SHADOWED: REASON FOR SHADOWING: TASK:	Activities	Philosophy	Environments
Key findings 	Questions & Notes:		

Figure 3.6 Observation sheet for shadowing

At the end of each shadowing, include a Q&A and briefing. In Q&A, the producer answered a series of questions developed by the researcher during the shadowing (e.g., Why did you choose this approach in the visual storytelling you showed earlier?). This approach was intended to avoid disrupting the producers' design process. In the briefing, the researcher briefed the producer on what had been captured and observed, giving participants the opportunity to respond and ensure the record accurately reflected their real experience.

Data gathered from the questionnaire and interviews were analysed by thematic analysis, and data gathered from the shadowing were analysed using analysis on the wall. The results were integrated into a thematic map (Figure 4.7), which helped to identify key themes and patterns in the producers' design practices, revealing how they work and what influences and impacts their design decisions in MGs communication.

3.5.3 Part II, Viewers Focus Group

The second part of the Participatory Design Project involved viewers participating in a focus group. The focus group was held in-person on the GSA campus and was audio recorded. For the process of the Viewers Focus Group, see Figure 3.7.

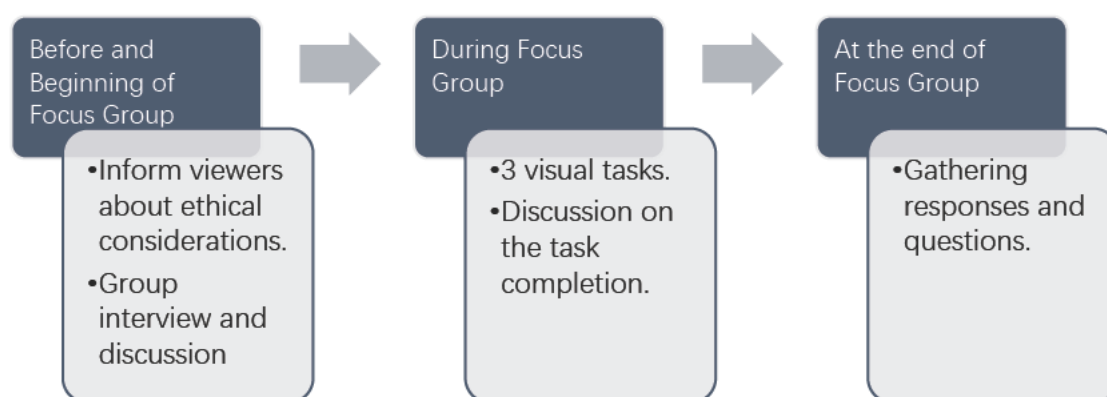


Figure 3.7 The process and activities of the focus group

At the beginning of the focus group, the researcher informed the viewers about the agenda and ethical considerations, and distributed the PIS and consent form for viewers to sign. After the viewers signed the consent forms, the researcher distributed a questionnaire to each individual. The questionnaire covered basic demographic information and their consumption of MGs, such as the frequency and types of their consumption. A group interview and discussion were then conducted, building upon the questions in the questionnaire. The discussed topics included, for example: What do you consider a good design in the context of MGs? How would you describe your overall impression of this visual medium? When watching MGs, what factors do you

think will influence your understanding and experience? The full list of the questions is in Appendix 10. The group interview and discussion allowed viewers to share their initial experiences and viewpoints while fostering mutual understanding and interaction. Viewers were asked to record their thoughts on the recording sheet (Figure 3.8).

During the focus group, viewers completed three visual tasks—Arrangement Task (AT), Sequential Reasoning Task (SRT), and Narrative Comprehension Task (NCT)—using visual materials provided by the researcher. Detailed descriptions of the tasks and materials are provided in Section 5.3.1. The task results were recorded in the recording sheet (AT, SRT, NCT).

RECORDING SHEET

Questionnaire	Q4	Q7	
Interview	Likes	Dislikes	
Tasks	AT	SRT	NCT

Figure 3.8 Recording sheet for the focus group

The selection and development of these three visual tasks were inspired by tasks commonly used in neuroscience and cognitive psychology, where some studies prompt participants to complete specific tasks using wordless visual narratives in experimental settings. This can be regarded as an exploration of how viewers understand MGs through visual narrative and what influences viewers' cognition. Cohn (2020) reviewed tasks used in behavioural and neurocognitive research and summarised several tasks related to visual narratives. These include the Picture Arrangement Task (PAT), Narrative Elicitation Task (NET), Sequential Reasoning Task (SRT), Fill in the Blank Task (FITBT), and Narrative Comprehension Task (NCT) (Cohn, 2020, pp. 89–92). The three visual tasks used in this study were developed based on PAT, SRT, and NCT.

The Picture Arrangement Task (PAT) involves presenting participants with a set of images and requires them to arrange the pictures in a coherent sequence. PAT is

a method commonly used in various fields, such as IQ testing and clinical assessments (Kaufman & Lichtenberger, 2005; Wechsler, 1981). The sequence in which participants arrange the pictures is often related to their understanding of a story (Dickstein & Blatt, 1967). Variations of PAT are frequently designed for specific purposes, such as assessing fluency and comprehension in visual language (Khaleefa & Ashria, 1995) or exploring the potential spatial metaphors behind participants' interpretations of time (Boroditsky et al., 2008). However, as Cohen pointed out, some individuals in certain studies do not follow the continuity constraints and instead interpret each picture as a standalone explanation, leading to the observation that “*Not everyone comprehends sequences of images as sequential*” (2020, p. 95). The Arrangement Task (AT) used in the study is a variation of the PAT. Viewers are presented with a set of shuffled clips from an MG design and asked to arrange the clips in the order they interpret the material, explaining the rationale behind their sequencing. This task aimed to explore viewers' comprehension processes and how they identify event boundaries and construct narratives (Section 2.4.1).

The Sequential Reasoning Task (SRT) requires participants to select images to be placed at the beginning, middle, or end of a picture sequence to complete a coherent sequence (Dodich et al., 2015). Similar to PAT, SRT is used for cognitive or empathy testing. An incomplete sequence of an MG design and several optional clips were provided to the viewers. They were asked to select the clips they believed would complete the sequence and explain their reasoning. This task aimed to uncover differences in the perception of visual narrative among viewers and identify the factors contributing to these differences within the visual materials provided.

The Narrative Comprehension Task (NCT) typically assesses the overall understanding of visual sequences, comparable to reading comprehension tests for textual stories (Cohn, 2020). Originally, NCT tasks were used to study various cognitive aspects, such as intelligence, temporal cognition, theory of mind, or other domains, and were not limited to visual narratives (Cohn, 2020, p. 89). The materials used in NCT are primarily static media, such as photographs and comic strips, while participants are encouraged to use cards or collages to describe the visual material and share any related stories. The NCT encourages participants to express their understanding and emotions and visually articulate them. This task in Viewers Focus Group aimed to reveal how the ambiguity in MGs impacts individual interpretations and uncover the reasons and factors influencing these interpretations in visual communication.

After completing all three tasks, viewers presented and explained their task results in turns and discussed them. Based on the explanation and discussion, the communication between participants further facilitates their reflection on how they understand MGs. Building on the reflection of the task results, the researcher guided the viewers to summarise their opinions and provide a final response to the research topic at the end of the focus group. These responses provided a more comprehensive understanding of MGs understanding and experience, revealing viewers' different perspectives and interpretations of visual materials of MGs and the shared thinking modes and challenges they encounter in communicating and expressing them.

The researcher processed the interview data using thematic analysis and the data from the visual tasks by using the analysis on the wall. The results of these analyses were integrated into a thematic map, as shown in Figure 5.20.

3.5.4 Part III, Design Workshops

The third part of the Participatory Design Project, the Design Workshops, focused on how producers and viewers communicate and create meaning through MGs, aiming to identify the nature and characteristics of this communication—achieved by conducting design workshops with co-design activities.

Through participatory design and following a design process, dialogue and collaboration among participants can be facilitated. The Design Workshops aimed to identify participants' underlying ideas and challenges, define their goals and needs, and iterate their ideas to create concept prototypes to address their goals and needs. The researcher provided tools for participants to design with (Section 6.3.1), including card sets, whiteboards, paper, pens, and sticky notes. These tools enabled participants to visualise their ideas and concept prototypes of MGs communication and interact with them in real-time. The visual and interactive nature of these tools facilitated communication among participants during the prototype design, allowing them to quickly experiment with and express their ideas and make real-time adjustments to their designs. The researcher developed a BEPI (Brainstorming, Emerge, Prototyping and Iteration) design process (Section 6.3.2) to guide the design workshop.

The Design Workshops were conducted in-person on the GSA campus and involved three workshops with two participant groups. During the workshops, each group followed a design process developed by the researcher (described in Section 6.4) to create concept prototypes that illustrate MGs communication. The output of the workshops included two prototypes. The overall process of the workshops is illustrated below in Figure 3.9.

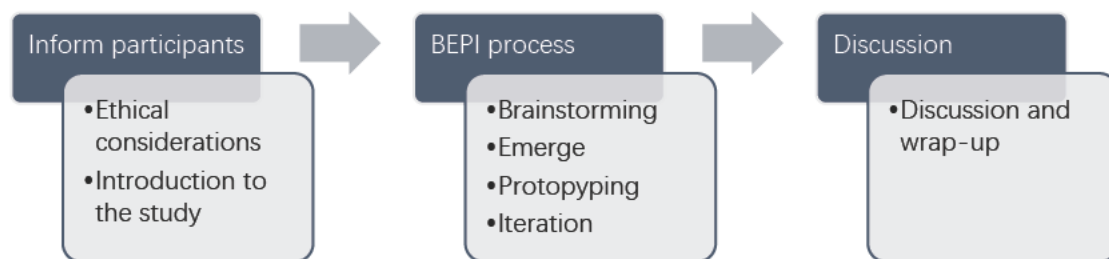


Figure 3.9 The process of Design Workshops

Firstly, the researcher obtained informed consent from participants, and established a shared understanding of the research content among participants. The researcher introduced the workshop activities and tools, and presented MG design cases (examples) as visual materials to explain previous findings from the study, thereby establishing a common understanding of the research topic among participants.

After the introduction, the researcher distributed a workbook to each participant based on the BEPI design process (Appendix 16). This workbook included step-by-step design processes and instructions for each part of the BEPI. Participants documented their ideas and the results of their exercises in these workbooks. A more detailed BEPI design process is described in Section 6.3. In brief, this design process includes four parts:

Brainstorming: Participants generate and exchange their ideas and opinions.

Emerge: These ideas from Brainstorming are further discussed, focusing on reaching a consensus among participants to identify key concepts and ideas.

Prototyping: Participants collaboratively use design tools to visualise their ideas into concept prototypes to describe MGs communication.

Iteration: Participants evaluate and refine the prototypes they have created.

Finally, the participant groups discussed and reflected on their prototypes. This reflection allowed participants to understand their contributions better and helped the researcher gather more profound insights into the research topic.

The data collected by the researcher from the workshops were processed using analysis on the wall. The results of this analysis were synthesised into a model to illustrate MGs communication (Section 6.5.2), which addressed Research Question 3: How do people communicate through MGs to make meaning?

3.6 Summary

In summary, this chapter suggests adopting contextualism as epistemology when addressing the “indeterminate” and “wicked” problems (Buchanan, 1992; Rittel, 1972) of MGs communication, which leads to locating this research in a suitable environment within specific contexts to explore the research questions further. Specifically, the research context and environment include production, consumption, and communication:

The production involves one-to-one observations of producers’ real-time practices to investigate their communication strategies.

The consumption involves a group dynamic to explore viewers’ understanding and experience when engaging different MGs.

The communication involves collaboration and dialogue to discover and define the goals and needs of the producers and viewers. Furthermore, they create prototypes to describe MGs communication through co-design.

Additionally, the study acknowledges the limitations of design thinking in qualitative design research for exploring wicked problems and proposes that a combined approach of participatory design and design thinking is better suited to context-specific research questions. This approach is implemented through the Participatory Design Project. By integrating methods and activities into the project, the study’s activities and findings are more aligned with the research questions and the gaps identified in the literature review (Chapter 2), thereby laying a foundation for a contribution to knowledge.

CHAPTER 4 PRODUCERS OBSERVATION

4.1 Introduction

As summarised in Section 2.5, the positioning of MGs as a hybrid medium with communicative functions raises the question of *how* they convey information—a topic that requires further exploration. Under the contextualism epistemology described in Section 3.2.2, the research acknowledges the inherent communicative attributes of MGs while also examining the impact of commercial and technological developments on their production and information dissemination. This provides a comprehensive perspective on how MGs convey information.

The Producers Observation addresses Research Question 1: As practitioners, what communication strategies and approaches do producers adopt in their practice, and what factors influence them? The Producers Observation aims to investigate following aspects:

- Workflows
- Communication strategies and approaches (e.g., composition, storytelling techniques); decision-making processes (e.g., reasons for choosing particular strategies or approaches)
- Influencing factors (e.g., new techniques and design demands).

The researcher conducted a series of observations in January 2023, employing a questionnaire, interview, and shadowing method to investigate the above aspects. Four professional designers (producers) participated in these observations.

This chapter is structured as follows. Section 4.2 presents an overview of the participants. Section 4.3 describes the data collection process, tools, and activities in the observations. Section 4.4 presents a thematic analysis of the data collected. Section 4.5 presents the results. Section 4.6 discusses and reflects on the findings.

4.2 Participants

The Producers Observation was approved by the GSA Ethics Committee in December 2022. See Section 3.3.1 for a full description of ethical considerations and procedures. Participants were selected based on the criteria of possessing animation and video production skills as designers or artists, and they contributed to the Producers Observation through their professional expertise and experience. Before engaging in research activities, all participants received a participant information sheet and signed a consent form.

4.2.1 Overview of the participants

The researcher recruited four producers through personal networks and referrals: three were based in China and one was based in Japan. Table 4.1 summarises the producers. The producers all possess extensive practical experience and have interdisciplinary knowledge and skills e.g., graphic and animation. MGs is just one aspect of their design practice, reflecting their broader understanding of MGs as a hybrid medium. This aligns with the description of MGs in Section 2.2.

Pseudonym	Gender	Age group	Ethnic group	Background	Work as	Working experience
Ryan	M	25-34	Asian Chinese	Visual Communication Design	Fulltime	7-9 years
Gina	F	25-34	Asian Chinese	Computer Art Design	Fulltime	7-9 years
Hart	F	25-34	Asian Chinese	Animation	Freelancer	7-9 years
Jack	M	25-34	Asian, Japan	Fine Art	Entrepreneur	7-9 years

Table 4.1 Participants overview

4.2.2 The form of participation and schedule

All four participants took part remotely via Tencent Meeting or Zoom. Table 4.2 summarises the form of participation and the dates of the sessions.

Pseudonym	Platform	Session 1	Session 2	Session 3	Participation Hours
Ryan	Tencent Meeting	Pilot study 16.01.2023	Pilot study 18.01.2023		3.4
Gina	Tencent Meeting	25.02.2023	27.02.2023	28.02.2023	4.6
Hart	Tencent Meeting	17.02.2023	20.02.2023	22.02.2023	3.7
Jack	Zoom	18.02.2023	24.02.2023	26.02.2023	4.2

Table 4.2 Participation of the producers

The sessions were conducted individually, with each producer participating in three sessions to cover the key stages of their design process (start, progress, and completion). Ryan participated in a pilot study (Section 4.3.1) but only attended two sessions due to his schedule. During the pilot study, Ryan tested all research activities and processes, providing feedback that helped refine the interview chart. The other producers completed the full three-session process.

To ensure that the research meetings aligned with each producer's real-time projects, scheduling remained flexible. For example, Gina selected meeting dates based on critical stages in her ongoing design project. The first session was conducted at the project's outset, after which Gina continued working and notified the researcher when she reached the next key stage, scheduling the second session accordingly. As the project neared completion, she confirmed the final session date with the researcher. All producers followed this scheduling process.

4.2.3 *Ethical considerations*

Before any research activities began, producers received the participant information sheet and signed the consent form. The producers participated via audio only during the remote sessions and kept their cameras off (Figure 4.1). The researcher referred to participants using pseudonyms during the sessions and for research presentations.

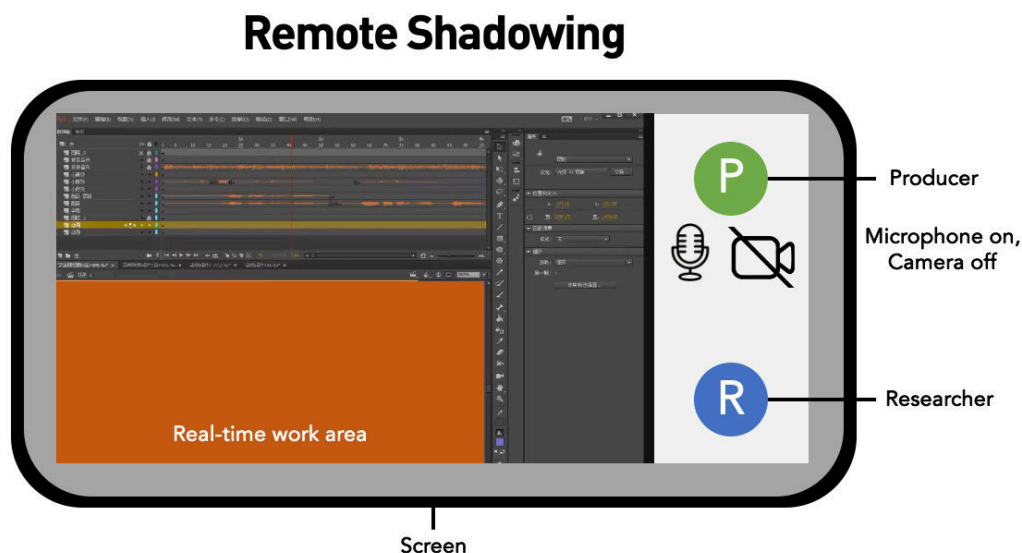


Figure 4.1 The example of shadowing

Sessions were audio recorded, and key content shared on producers' screens was captured through screenshots. These screenshots were edited to remove identifiable design elements, ensuring anonymity. At the end of each session, the researcher provided a summary of the findings and key observations.

All personal data was securely protected and anonymised. Producers were informed that they had full access to the observational results, recordings, transcriptions, and research findings.

4.3 The data collection process

Under the epistemology of contextualism (Section 3.2.2), this research emphasises the need to consider an individual's specific context comprehensively when analysing their actions and motivations to understand the complexity of knowledge attribution (DeRose, 1992). Therefore, the data collection focuses on the subjective factors and influential factors of producers when conveying information.

Subjective factors refer to aspects over which producers have agency, such as the choice of techniques and strategies to convey information. Influential factors refer to the aspects that impact their decision-making, such as the design and communication demands they face and the sources of their inspiration. Specifically, producers' experience varies due to the surrounding conditions such as their role within a design project and workflow, specific contexts such as the advertising sector, or other relevant factors such as personal experience and preferences.

Throughout the Producers Observation, the individual design practices of participating producers contribute to shaping their subjective perspectives on the research topic, and the researcher acknowledges the potential limitations inherent in these perspectives. For example, Hart, who works as an animator, believes that simply adding motion to graphics for MG design lacks the refinement and complexity of proper animation. In contrast, Gina, with a background in graphic design, considers even simple movements can elevate the quality and impact of a design.

4.3.1 Pilot study

A pilot study involving one producer (Ryan) was conducted to test the research activities and tools. The pilot study completed the observation on a small design project from Ryan in two shadowing sessions. At the end of each session, Ryan provided feedback on the activities and tools.

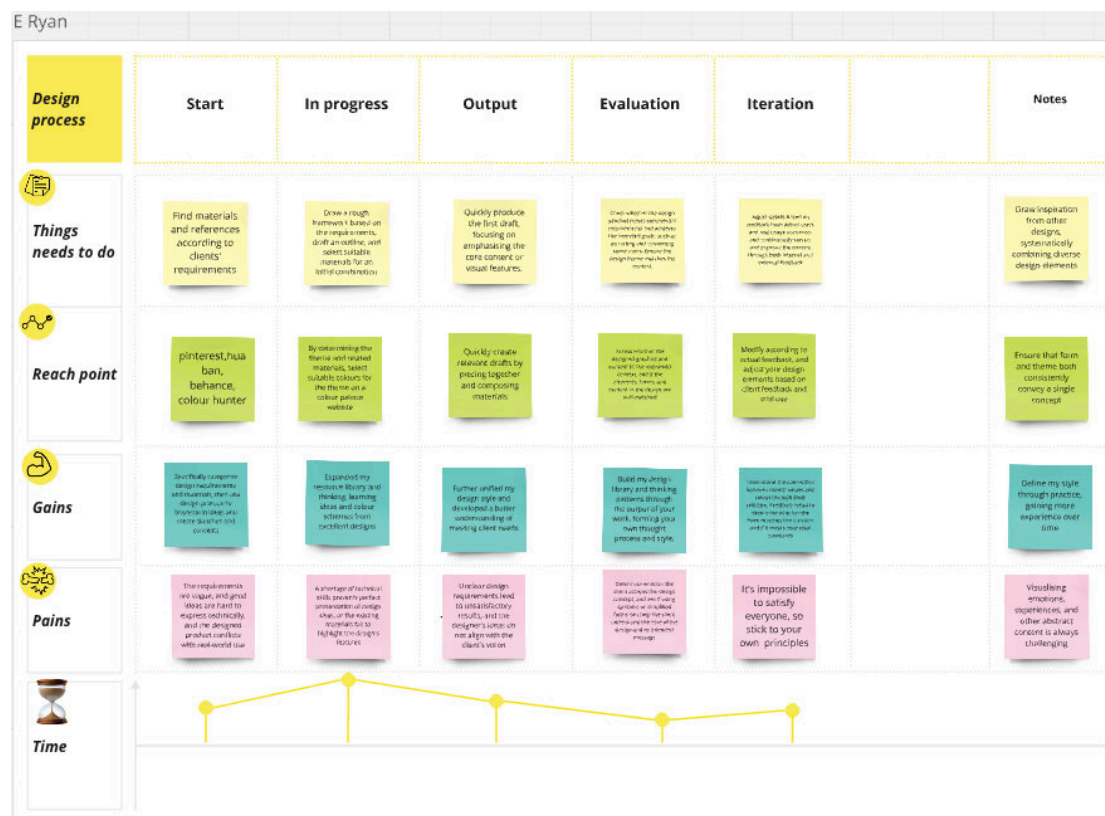
The pilot study helped refine the interview chart and observation process. The questionnaire and interview proved helpful, and Ryan's feedback, as an experienced designer, ensured the interview chart aligned more closely with a general design process. The study also confirmed that shadowing and the think-aloud protocol were effective in capturing producers' real-time thoughts.

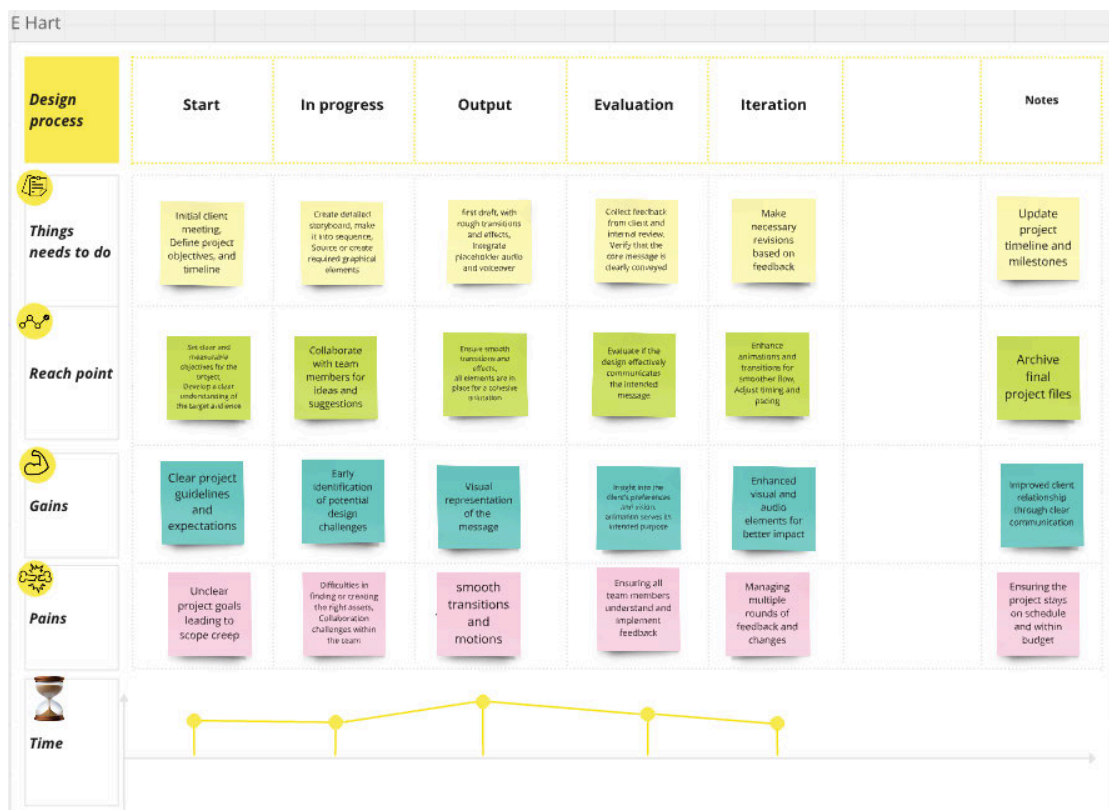
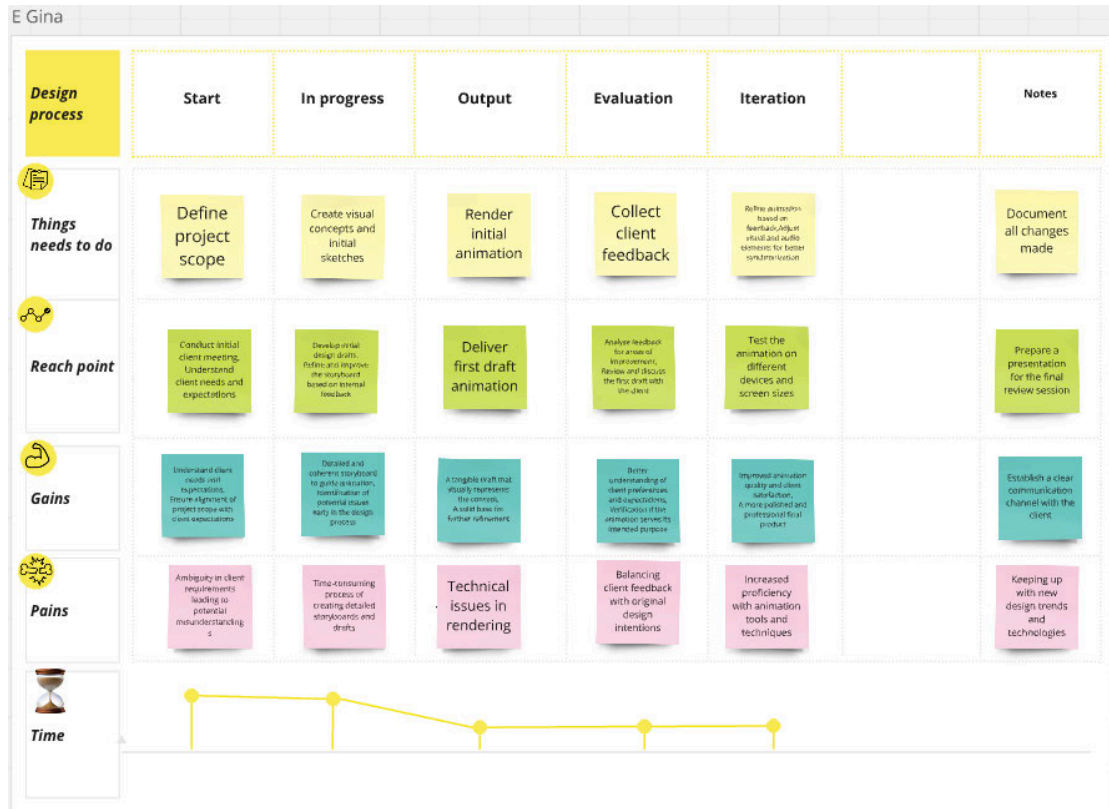
Data from the pilot study was partially analysed and integrated with the main study's dataset analysis. Analysed data includes Ryan's questionnaire and interview

responses, which reflect his experiences and ideas. However, instead of real-time practice during the shadowing sessions, Ryan shared his previous work and walked through his design process with the original project file. Therefore, his work is not considered formal shadowing data for the research.

4.3.2 Main study

The first session gathered information about the producers, such as their professional background and experiences and design approaches, using a questionnaire and interview (see Appendices 3 and 4). The interview followed the questionnaire, and explored the connections between the producers' backgrounds and their design practice, asking questions such as: How did you change your creation from graphic design to motion graphics? What do you think is the difference between animation and motion graphics? The interview also asked producers about their design process. As mentioned in Section 3.5.3, the interview was structured using a template (interview chart) created in Miro. Producers recorded their thoughts during the design process, including things to do, reach points, gains, pains, and their perceptions of time investment in this chart. The chart provided insights into each producer's work and experiences, capturing their key perspectives and ideas in practice. Figure 4.2 shows the completed charts from the four producers. Note: as the producers were non-English speakers, the researcher translated their words into English for this figure.





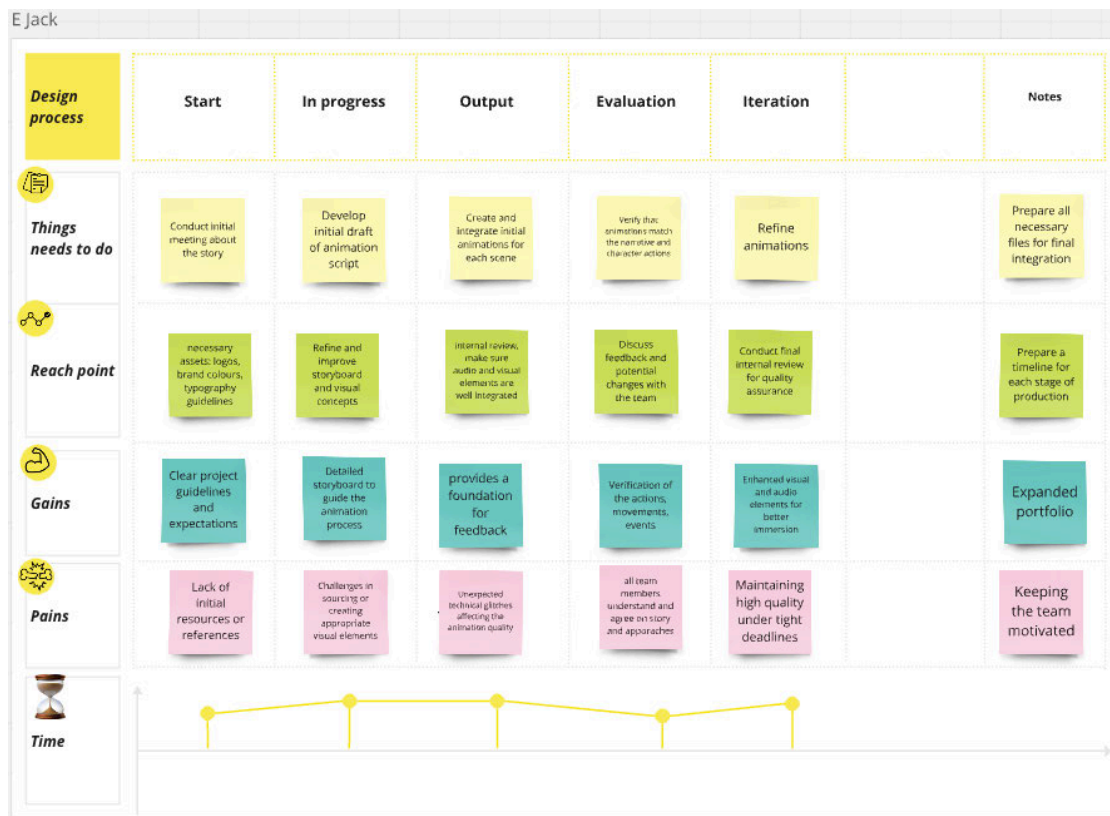


Figure 4.2 The completed interview charts

After the interview concluded, the shadowing started. The researcher's documentation of shadowing included note-taking, audio recording, and screenshots. An example of the observation sheet used by the researcher can be seen in Figure 4.3.

Where & When
 LOCATION: TM
 DATE: 2.25, 2.27, 2.28
 TIME:

Who
 PERSON SHADOWED: G. J. J.
 REASON FOR SHADOWING: background, branding
 TASK: brand video

Key findings
 平面设计的影响
 品牌传达, 视觉
 创意是关键
 很多人需要视觉
 效率至上

Likes 故事, 动画时间 表达, 视觉设计 整体观感 平面 2D 创意	Dislikes 直白的描述 和客户解释设计 当创意得不到实现 效率为先, 只存在于	Habits 用软件 人物, 色彩 AI, PS, PR, AE 英文为脚本
Activities 为图形, 角色添加 动画 图形添加图形 平面设计, 视频剪辑 动画效果	Philosophy 用创意的方式传递信 息 不论内容和形式	Environments 需求产生了变化 可以团队, 可以个人 效率至上

Questions & Notes: 有关迭代, 学习技能, 对软件的使用, 形式的对比...

Figure 4.3 The example of observation sheet

From the main study's shadowing sessions, the researcher observed three design projects (Table 4.3).

Gina's project was a brand promotional video, which is a common video form to promote marketing initiative, event or sale (Hanna & Coman, 2021). Gina's video designed for an estate agent company, which she completed by herself. Considering the client's budget and schedule, Gina chose a 2D illustration style to composite the design. During the first shadowing session, Gina established the basic style and illustrated the background elements. Following the session, Gina illustrated all the graphics she needed before the second session. In the second session, Gina added details to the graphics and arranged the motions. The final session captured the steps Gina took to finalise the design, involving the adjustment of coherent transitions, sound effects, and movement of specific elements.

Hart's project was an explanatory video¹⁸ using characters and stories from the Chinese classic novel "Journey to the West" to explain concepts about taxes. It was a team effort, with Hart as the leading designer. The study captured the key steps of Hart's design through three sessions. The first session involved Hart designing the main elements and characters and placing them in a storyline. Hart's design team wrote the storyline and created the background before the first session. In addition, the other team members produced a voiceover before the second session. The second session captured how Hart added the voiceover into the timeline and added motion to each element. After Hart received the client's feedback on the first version of the video, the final session proceeded. It captured the final refinement steps, including changing text, transitions, sound effects and outputting the project as a video.

As an individual game developer, Jack shared an ongoing experiment project that he completed by himself: an animation demo for a developing game. The demo lasted five seconds and aimed to test a character's action. It involved one big zombie swinging axes. The first session captured Jack drawing the character and background scene. The second session involved adding motions to different parts of the character, and the process of adjustment. In the third session, Jack refined the details of the motions, adding visual and sound effects.

¹⁸ A video that explains abstract concepts and relationships. It is often used in educational and business environments to convey information in storytelling (Schorn, 2022).

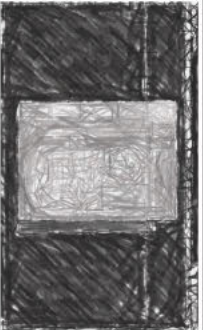
Participants	Project Description	Session 1	Session 2	Session 3
Gina	A brand promotional video for an estate agent company. Duration: 1 min 26s Style: 2D illustration	 Establish the basic visual style and elements	 Refine graphic details and add motion	 The steps to finalise the video
Hart	An explanatory video to explain concepts about taxes. Duration: 3 min 58s Style: 2D illustration	 Design graphics and arranged the storyline	 Add motion to the graphics and incorporating voiceovers	 Refine and output the video based on client's feedback
Jack	An animation demo Duration: 5 seconds Style: 2D illustration	 Draw characters and scenes	 Add actions to the characters and incorporates attack effects	 Refine details of movement, visual effects and sound

Table 4.3 Overview of captured projects

During the shadowing, the researcher compiled a list of questions to ask the producers at the end of each session. Finally, a verbal overview of the session's findings was provided to the producers to ensure that the researcher's understanding of the captured content aligned with the producers' expression.

Additionally, the producers offered feedback on the research activities at the end of the session, such as their thoughts on their practice when observed.

4.4 Data analysis

The Producers Observation captured what producers 'do and say' during the sessions and was documented through interview charts, observation sheets, screenshots and audio recordings. These aids provided a more comprehensive review and examination of producers' practice, enriching the insights, comments, and reflections obtained by the researcher during sessions. The audio recordings of all sessions were transcribed into text via Tencent Meeting. All producers spoke in Mandarin during the sessions, and the researcher translated the text into English for research presentation. Transcribed text and screenshots of important moments provided vivid and compelling examples to support the researcher's reflections. In the following data transcription and extraction, text was reduced in length, enhancing readability by eliminating repetitions, stutters, grammar errors, pauses, etc., unless such elements were deemed essential for preserving the meaning of the data (Clarke & Braun, 2013).

As noted in Section 3.4.2, this study employed thematic analysis and analysis on the wall to analyse the collected data. The collected data was entirely digitised, and the analysis was carried out using Miro. Specifically, the interview data was processed by thematic analysis, and the shadowing data was processed by analysis on the wall. At the end of the data process, the researcher synthesised the results from the interview and shadowing data.

4.4.1 Interview data analysis

Figure 4.4 illustrates the thematic analysis process for the interview data. The first step involved the initial coding of extractions. Along with the interview sheet, an Excel spreadsheet was created with a column for each of the extracts and codes. For instance, the extracts from Gina's interview, "*Like we have a graphic design background, will pay more attention on, like kind of layout or visual aesthetics of a design... and I think aesthetics is the most basic requirements*", was coded "Influence from graphic design." Through an inductive approach, the codes from the extracts were grouped into eight preliminary categories: Animation vs MGs, Types and Forms, Storytelling and Engagement, Design Process and Skills, Quality and Fluency, Challenges and Changes

in the Field, Skills Development and Adaptation, Work Environment and Evaluation. To align with the research question and aims (Section 4.1), the researcher reviewed identified categories with a deductive approach. The categories were reorganised into two groups - Subjective and Influential – to highlight what producers do and what influences their practice. After reviewing the themes, the final step involved further defining and integrating similar concepts and naming the identified themes. The Subjective group includes Workflows, Types, Message Delivery, Skills, and Techniques. The Influential group comprises Inspirations, Role Changing, and Demand Changing.

Transcribe and initial coding

Design process	Start	In progress	Output	Evaluation	Iteration	Notes
Things need to do	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Ready point	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Design	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Points	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Time	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved

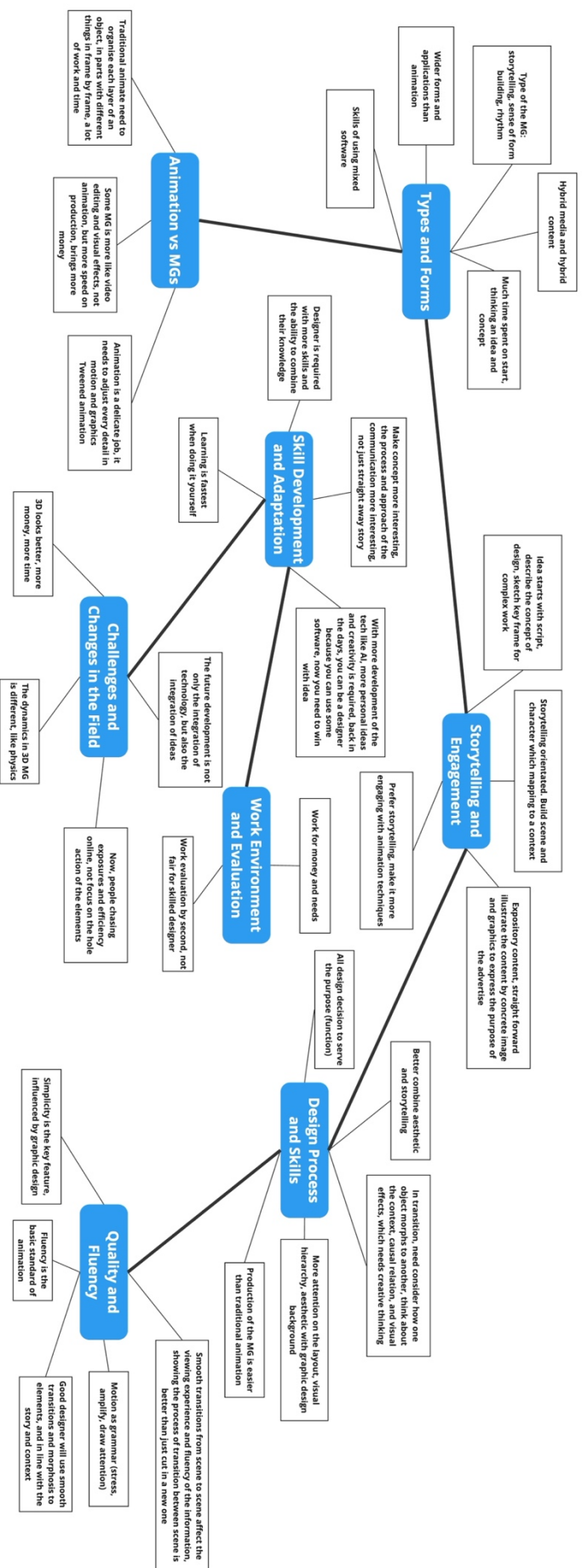
Design process	Start	In progress	Output	Evaluation	Iteration	Notes
Things need to do	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Ready point	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Design	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Points	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Time	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved

Design process	Start	In progress	Output	Evaluation	Iteration	Notes
Things need to do	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Ready point	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Design	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Points	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Time	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved

Design process	Start	In progress	Output	Evaluation	Iteration	Notes
Things need to do	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Ready point	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Design	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Points	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved
Time	Define the project goals and objectives	Research and gather information	Develop a storyboard	Review and refine the storyboard	Implement the storyboard	Storyboard is approved

Initial coding

Data extract	Coded for
...MG is basically divided into three types. The first type is delivering the concept from a story perspective, and the second type is formal. It uses some motion effects, for example, adding movement to some charts and elements to make it look like slides. The third type is like a music video, with a strong sense of rhythm. (Gina)	Storytelling, sense of form building, rhythm
Personally, I still prefer storytelling... The MG animation only has a little bit of storytelling, combined with some other forms of expression like animation...(Gina)	Prefer storytelling, more engaging with animation techniques
...Most of the MG is made by Adobe After Effects. After all, it is after all the final output is still in the form of video. (Gina)	Using software
Like we have a graphic design background, will pay more attention on, like kind of layout or visual aesthetics of a design... and I think aesthetics is the most basic requirements. (Gina)	Influence from graphic design
In the past, the income from a three-minute animation was enough for me to cover two or three months. I would put myself in and focus for ten or twenty days of work, but now I am doing MG. I only need three days, but my income is only enough for 3 or 4 days. So, can you understand this efficiency and quality? There is no comparison at all. (Hart)	More efficient on MG production
...Let's just say that every frame is done that way, but it's also done with some laws of motion in it... you see, yeah, you have to follow the dynamics of it. As long as it fit the dynamics, the movement is right. (Hart)	Motion needs to follow the dynamics
Now it doesn't matter if it's an animator or a graphic designer. They come from different backgrounds and end up making something similar out of it... I just advertise the stuff... Nowadays, people are concerned with speed and efficiency. (Hart)	Chasing efficiency, not focus on the whole action of the elements, just like make graphics moving
In the past, if you need to do transitions, how the scene disappear, how to appear the new scene, how to blend the scene together, and now it's rarely done like this, you	Many MG don't have delicate smooth transition



Review the themes/categories

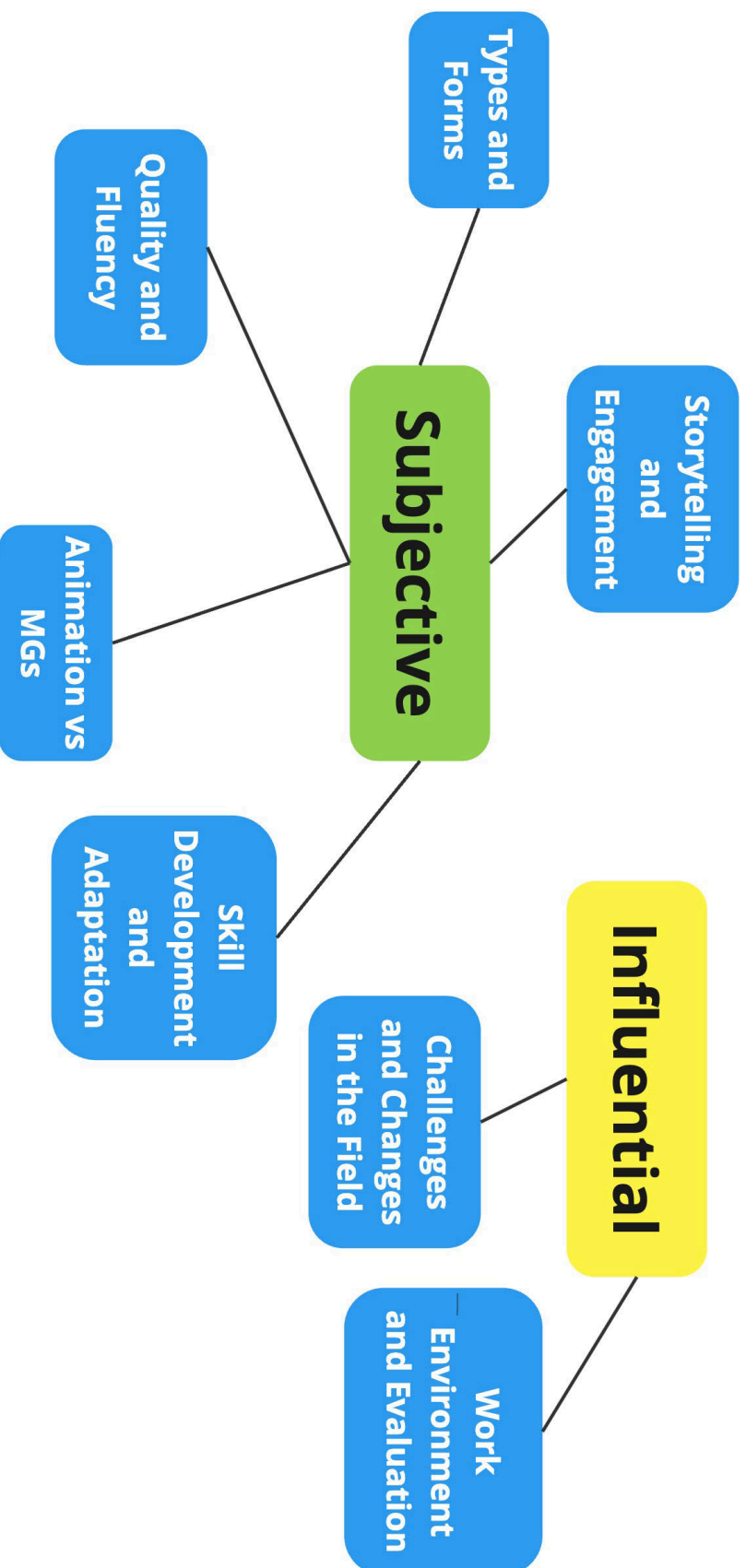
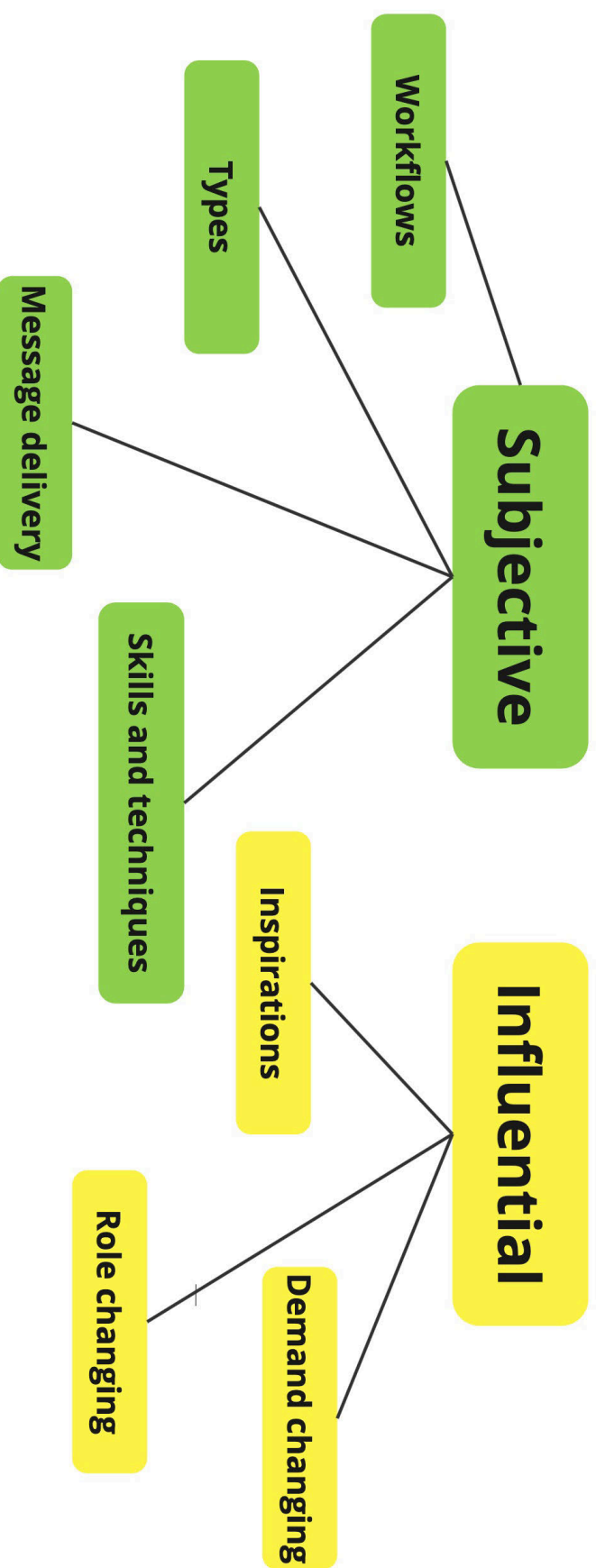


Figure 4.4 thematic analysis for interview data

Defining and naming themes



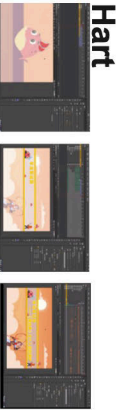
4.4.2 *Shadowing data analysis*

The process of analysing the shadowing data using analysis on the wall is illustrated in Figure 4.5. The process used inductive and deductive approaches. To begin, the Miro board was divided into three sections, one for each producer. Sticky notes with key extracts from the transcriptions and screenshots of the design projects were then arranged on the Miro board under the relevant producer. The extracts from each producer were distinguished using different coloured sticky notes and arranged according to the meetings they participated in (with S1 representing the first shadowing session and so forth).

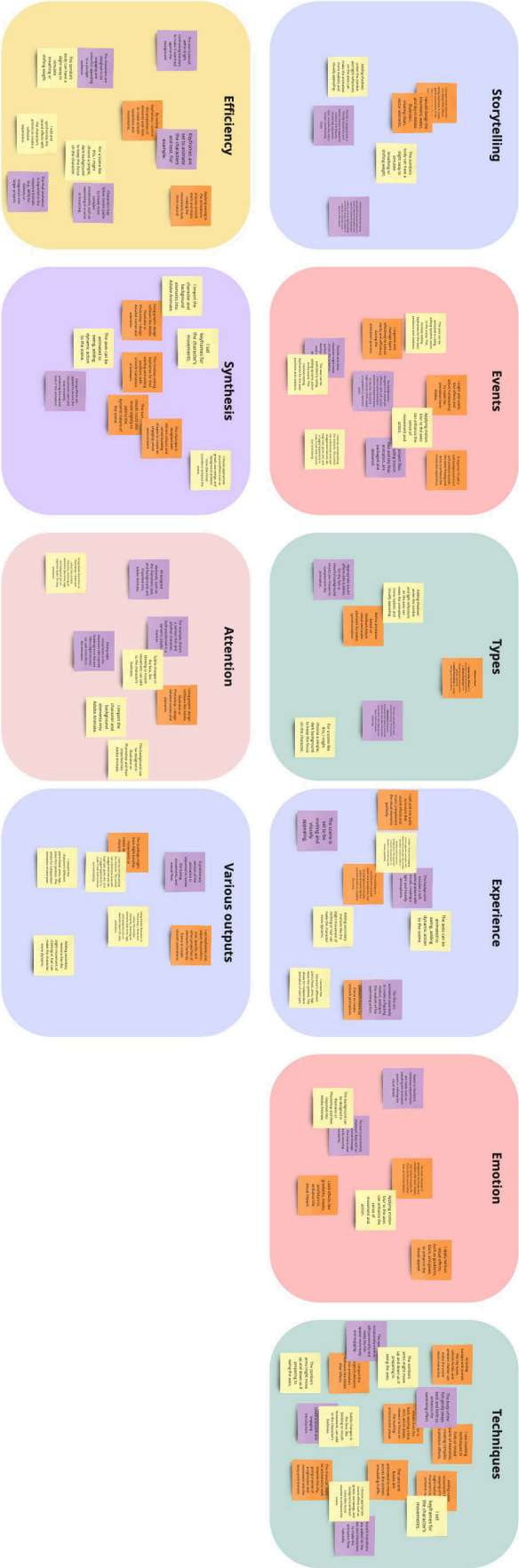
The sticky notes were then clustered into groups on a separate board to identify patterns and themes using an inductive approach. For instance, the notes *“I edit and synchronise the sound effects with the character’s actions to create a cohesive experience”* (Jack), *“I edit and mix audio to ensure that sound effects and music complement the visual elements perfectly”* (Gina) and *“The background includes a soft, pastel gradient with clouds, creating a light and friendly atmosphere”* (Hart) were clustered into the Experience theme. Ten preliminary themes were identified: Storytelling, Events, Types, Experience, Emotion, Techniques, Efficiency, Synthesis, Attention, and Various Outputs.

Similar to the analysis of the interview data, these themes were further integrated into Subjective and Influential groups using a deductive approach to ensure they were aligned with the research questions and aims. Under the Subjective group, the identified themes included Message Delivery (with three sub-themes: Types, Events, and Experience) and Approaches (with three sub-themes: Synthesis, Creative, and Learning). The Influential group included Social Background (with two sub-themes: Roles and Demand), Inspirations (with one sub-theme: Innovation), and New Knowledge (with one sub-theme: Learning).

Setup and display



Identify patterns and themes



Grouping and interpretation

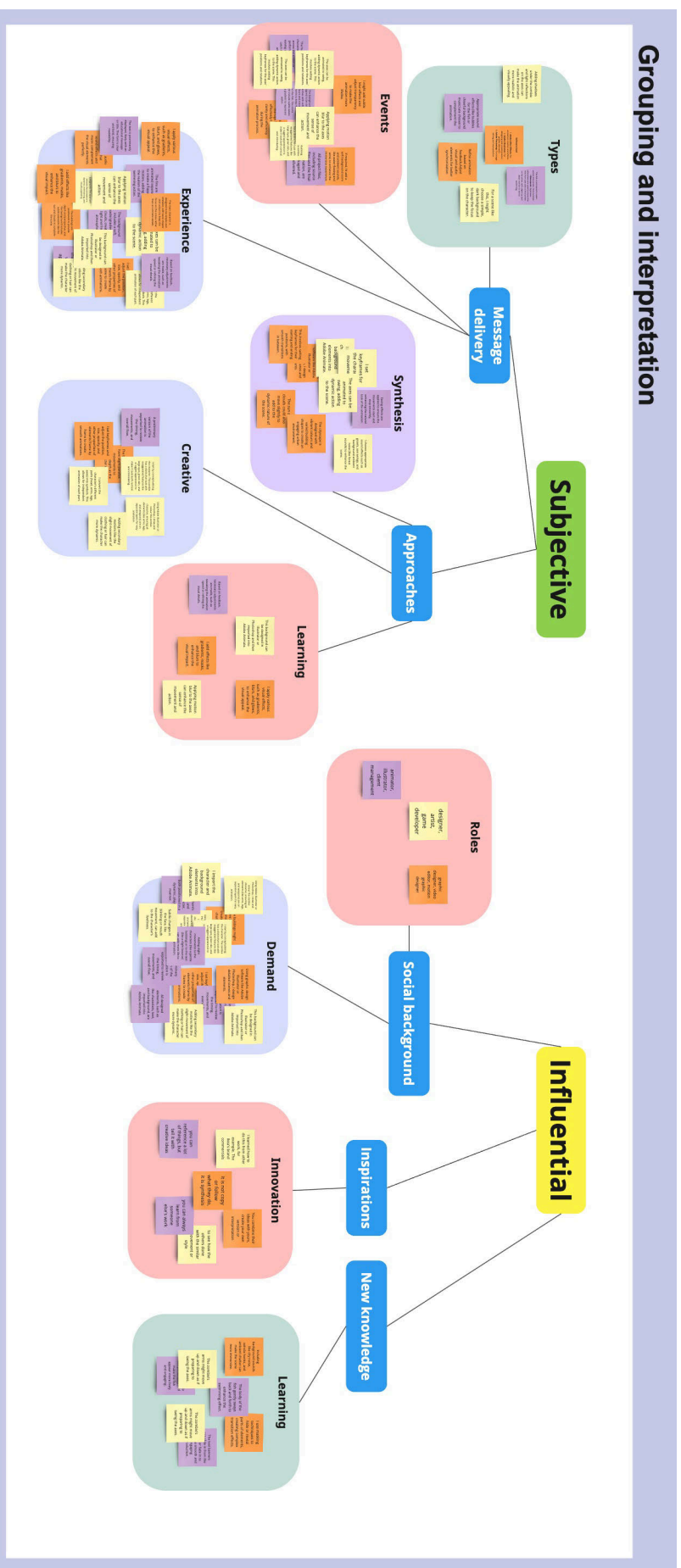


Figure 4.5 Analysis on the wall for shadowing data

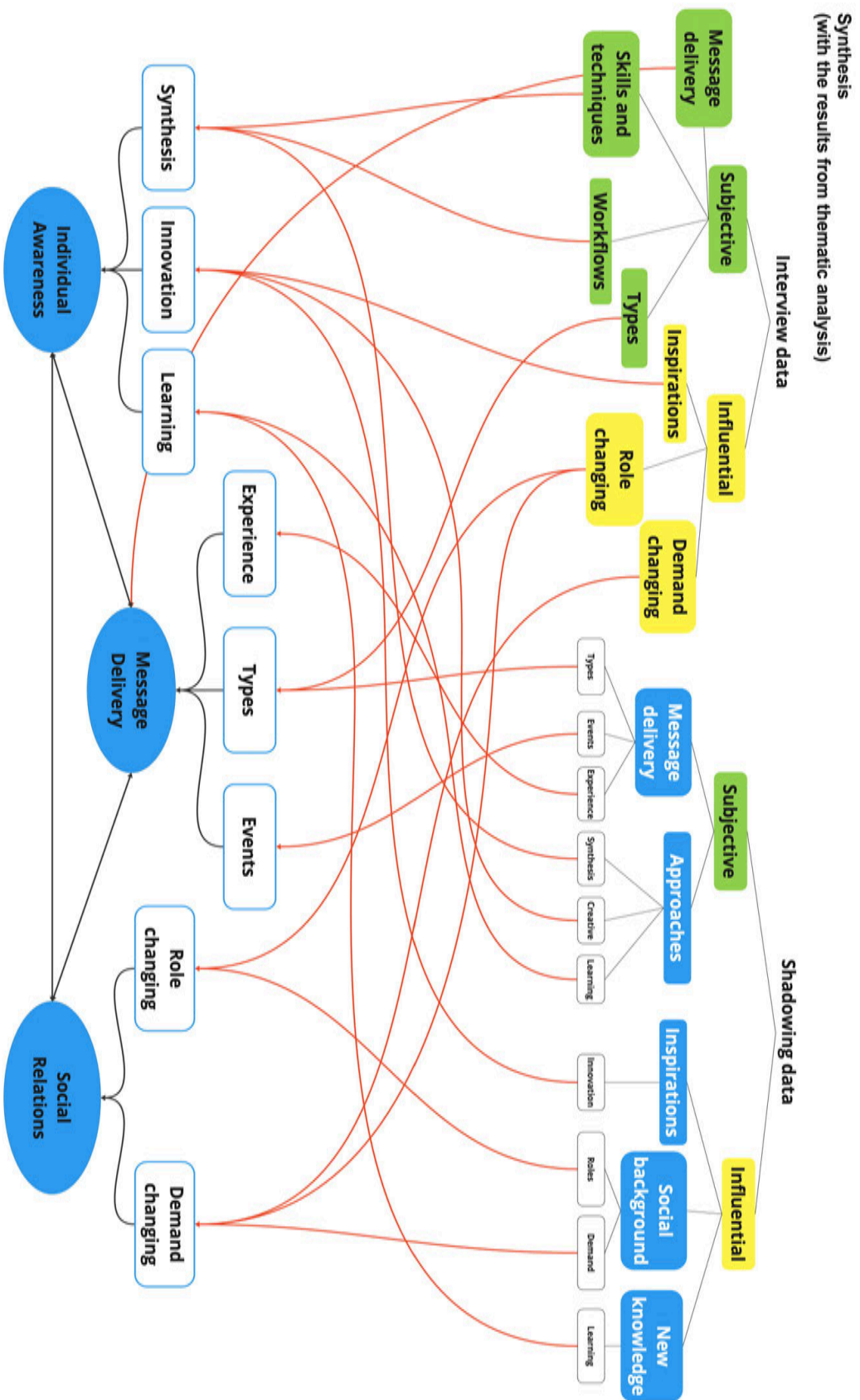


Figure 4.6 Synthesis results

Finally, synthesising the analyses of the interview and shadowing data (the synthesis process, see Figure 4.6), the researcher developed a thematic map to provide a comprehensive interpretation of the Producers Observation (Figure 4.7).

Three main themes were identified in the thematic map: Message Delivery, Individual Awareness, and Social Relations.

Within the Message Delivery theme, sub-themes from the interview and shadowing analysis in the Subjective group were integrated. The sub-theme Workflows (from interview) were combined with Events (from shadowing) to form a sub-theme, Events, identifying *story-telling* and *context building* as subjective factors. Further, within the Types sub-theme, integration identified *2D*, *3D*, *hybrid*, and *interactive* as subjective factors. In the Experience sub-theme, *emotionally* and *visually* were recognised as subjective factors.

The Individual Awareness theme includes sub-themes of Synthesis, Innovation, and Learning. The Synthesis sub-theme integrated Synthesis (shadowing) and Skills and Techniques (interviews), identifying *techniques* as a subjective factor. The Innovation sub-theme merged Inspirations (interviews) and *creative* (shadowing) further identifying *ideas* and *experiments* as subjective factors, with *inspirations* as an influential factor. The Learning sub-theme integrated Skills and Techniques (interviews) and New Knowledge (shadowing), recognising *skills* and *techniques* as subjective factors and *knowledge* as an influential factor.

Within the Social Relations theme, sub-themes include Role Changing and Demand Changing. These sub-themes emerged by integrating Role Changing and Demand Changing (interviews) with the Social Background (shadowing), further identifying a set of influential factors, including *blurry boundaries*, *various outputs*, *attention*, and *efficiency*.

The following section provides a detailed description of the final thematic map.

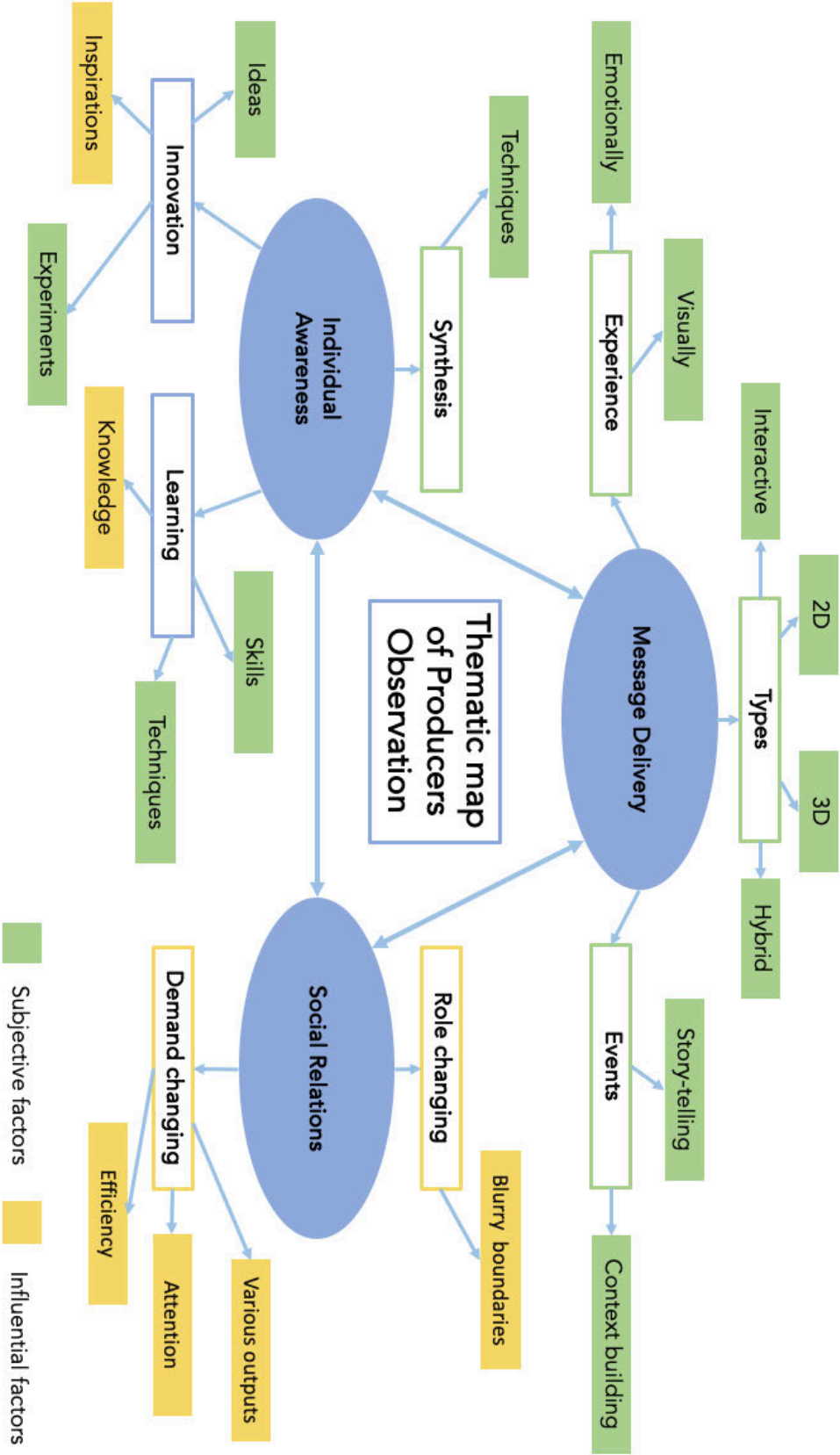
4.5 Results

Based on the data processing described in the previous section, the researcher developed a thematic map (Figure 4.7) to illustrate the final analysis results. This map visualises the integration and categorisation of themes derived from the interview and shadowing data analysis, providing a comprehensive overview. Different colours were used to indicate theme, sub-theme and factors. For instance, the theme Message Delivery is in the blue circle, and its sub-themes are in green outlined boxes. The subjective and influential are in the green and orange boxes accordingly. For the sub-

themes, which comprised both subjective and influential factors such as Learning, are in the blue outlined boxes.

Three main themes were identified: Message Delivery, Individual Awareness, and Social Relations. Under these, eight sub-themes were categorised: Types, Events, Experience, Synthesis, Innovation, Learning, Role Changing, and Demand Changing. Additionally, nineteen factors were grouped under the sub-themes, including: *story-telling*, *context building*, *hybrid*, *2D*, *3D*, *interactive*, *visually*, *emotionally*, *techniques* (under Synthesis), *ideas*, *inspiration*, *experiments*, *knowledge*, *skills*, *techniques* (under Learning), *blurry boundaries*, *various outputs*, *attention*, and *efficiency*. These are referred to in this chapter as subjective and influential factors, with italicisation used to denote them.

Figure 4.7 Thematic map of Producers Observation, showing the subjective and influential factors in producers’ practice



4.5.1 Message Delivery

4.5.1.1 Types

All producers highlighted different types of MG designs, such as 2D and 3D MGs, which are primarily distinguished by production techniques and presentation styles. This theme explores how these types represent deliberate design choices for communication rather than merely technical outputs. The producers unanimously agreed that, despite variations, all MGs serve a communicative function. As Jack summarised, *“In the end, it all serves its purpose, no matter the form.”* This consensus underscores that communication remains the core objective across MG types.

Producers shared their perspectives on MG types. Ryan noted, *“Firstly, what we do is commercial design, so there has to be something conveyed, even if it’s just a feeling.”* Gina highlighted distinctions between 2D and 3D MGs, stating, *“2D MGs has many different styles, which are easier for me to make,”* but emphasised the different mindset required for 3D: *“Making 3D, the thinking is different; you have to follow its [physical] dynamics.”* Hart discussed client preferences: *“Many clients think 3D MGs look more impressive, at least that’s how it seems, so they’re willing to pay more, so we’re willing to spend more time on it.”*

Beyond 2D and 3D MGs, hybrid forms are emerging. Jack noted, *“Now, some videos are made using the Unreal Engine¹⁹; they even had interactive versions. It’s hard to say this is motion design in the traditional sense.”* Similarly, Ryan commented, *“I don’t know if you’ve seen it, but in many TV shows or promotional videos, they combine live shooting and animation. That visual experience is different.”* This blending of materials and techniques reflects the hybrid nature of MGs. Gina and Jack further observed that MGs are becoming more *interactive*, pointing out that many MG techniques and principles are applied in game and UX/UI design.

However, producers held different opinions on whether all MG types effectively convey the intended messages. Gina noted, *“In 3D MGs, some of them really are not meant to tell you something. They don’t have advertising slogans or things like that. It’s just looking good on elements or movement.”* Similarly, Ryan commented, *“For example, dynamic interfaces and interaction designs in websites or apps, I think they are motion design, but they are just providing feedback to your actions.”* These perspectives are explored further in Sections 4.6.1.2 (Experience) and 4.6.1.3 (Events).

¹⁹ A game engine use to develop video games.

The key challenge when producing different MG types is not categorisation but creativity. Producers are now more focused on storytelling and entertainment. As Gina explained, *“We can now tell stories in a new way, whether it’s a new form or not, it can be different from before, more interesting, more interactive.”*

This creativity, however, comes with trial-and-error costs—primarily time. Gina noted, *“Sometimes I think it’s a good idea, but the effect when trying to present it isn’t good, so I have to try something else.”* Jack echoed this: *“Changing 3D models is too complicated; sometimes you have to do the modelling again, which takes a lot of time.”* In contrast, 2D MGs offer greater efficiency. Hart explained, *“If you have some drawing basics and find some references, you can create those simple graphics quickly.”* She also highlighted another advantage of 2D MGs: *“I like 2D because they have infinite possibilities. They can exaggerate, squash and stretch without limit.”*

The producers must balance creativity with practical constraints such as time and complexity. As Hart described, *“From the beginning, we have to discuss with the client to decide the video content and what type we can work on, based on the content and their budget.”*

Producers also recognised that different types require distinct communication strategies, shaped by their expertise. Hart, an animator, observed that professionals from different backgrounds prioritise different aspects: *“Professionals like animators or film directors pay more attention to specific movements and actions of characters and whether the story is good enough.”* She added, *“In the graphics like this... it is influenced by some graphic design principles.”* Ryan agreed, stating, *“Graphic design has influenced me; I pay more attention to the hierarchy of the visuals, the composition of various elements, etc.”* He further noted, *“3D MGs are more like being a director; you need to arrange scenes, actors, lighting, cameras.”* Gina also acknowledged the impact of a graphic design background: *“Those with a graphic design background will pay more attention to the layout or visual aesthetics of a design... and I think aesthetics are the most basic requirements.”* She further explained, *“In 2D, besides the movement of objects, many times, animation techniques are also added, such as compression and deformation.”*

Producers acknowledged the interdisciplinary nature of MGs and the limits of their expertise, recognising that background differences influence creative outcomes. Jack illustrated this with 2D MG transitions: *“In the past, if you needed to do transitions, how the scene disappears, how the new scene appears, how to blend the scenes together, and now it’s rarely done like this; you can see that basically, a lot of work directly*

changes the scenes.” Hart added, “Now it doesn’t matter if it’s an animator or a graphic designer. They come from different backgrounds and end up making something similar out of it... I just advertise the stuff.”

Ultimately, different skills and knowledge shape MG design choices. Producers leverage their expertise to find effective design solutions. As Gina summarised, *“Whether it’s 3D MGs or 2D MGs, there is something in common; it just depends on what kind of form you need and whatever you want to present.”*

4.5.1.2 Experience

All producers highlighted subjective factors of *visually* and *emotionally* within the Experience sub-theme, which reflects the role of subjective choices and the personal experiences of producers in shaping their practice. This relates to the expectations they aim to meet when conveying information through MGs.

Producers consider audience reactions to their work, often guided by their own experiences and skills. Hart illustrated this by explaining, *“For example, if you look at what I did before, it’s a common explanatory video, mainly focusing on characters or graphics, narrated by voiceover content, and the visual part completely corresponds to the text. However, you can see that I put a lot of effort into facial expressions, mouth movements, actions of characters, and scene transitions just to make it visually richer and more interesting; otherwise, it would be too boring.”* Similarly, Jack discussed the visual depth of 3D MGs: *“The content itself in 3D is different because it’s three-dimensional, so you have more ways to enrich details visually, such as materials and textures of the objects. This brings a different visual experience. You have a different feeling even if it’s just a sphere.”* These insights demonstrate how producers use visual details to enhance the richness of their work and create distinct visual experiences.

Producers do more than simply add decorative elements; they treat motion as a fundamental material, integrating it with graphics and colour to achieve their design objectives. Ryan explained, *“There are many similarities in designs. For example, when I do graphic design and want to show a sense of speed, I might apply a motion blur to the edges and add speed lines. In MGs, I make the thing move fast, and you directly feel that speed.”* Designing for motion requires considering the entire composition, rather than focusing on individual elements. Gina elaborated, *“Now, what I do is completely different from when I started learning. Now I know that when one thing moves or changes, others should change together to be unified and look better.”*

Beyond visual elements, producers emphasised the importance of conveying emotions and feelings. They approach design from the audience's perspective, aiming to communicate their own emotions through their work. Hart cited Tom and Jerry as a foundational influence: *"Tom and Jerry is the Bible of the animation industry. Every animator should learn from it. The vivid and interesting characters and actions leave a deep impression."* She further described her own stylistic approach: *"My work has a strong personal style, with a soft and bouncy feeling. Many people from the industry can recognise my work... I like this style, and it makes people feel cute and fun."* Emotional expression is not solely dependent on movement but also on animation principles. Ryan explained, *"For example, you can add a morph to an object like squeeze or stretch to emphasise feelings, but don't overdo it, it will become strange instead of fun."*

The two subjective factors, *visually* and *emotionally*, are achieved through deliberate design strategies. Producers maintain visual consistency by applying related motions to all connected elements and adding graphic details, as Hart noted: *"This visually enriches the scene and makes it more fun."* Additionally, animation techniques help composite characters and objects, reinforcing emotions and sensations. Gina summarised the goal of design experience as, *"to catch the audience's interest through better design, rather than copy everything in a boring and similar way."*

4.5.1.3 Events

All producers highlighted the topic of Events. This sub-theme reflects the communication strategies employed by producers in compositing MGs, where they rely on constructing individual units, stringing them together into events, and interconnecting them to form a narrative. As Jack summarised: *"You see, in this case, actually, the most crucial thing is the beginning and ending frame in this action. It defines the action and event, although completing the process is quite complex."* This theme underscores how producers navigate the choice between *story-telling* and *context building* as communication strategies, both of which depend on event construction.

Producers emphasise that these strategies must be defined at the outset of a project to ensure a clear direction and objective. Hart elaborated on this structured approach, *"A team member will determine the story and theme with the client. After that, we proceed with that story and refine it for our work, such as drawing*

*storyboards*²⁰ and *writing outlines*.” Additionally, producers place significant emphasis on setting the mood or atmosphere. Jack described a method, “*I organise my reference images using mood boards*²¹, allowing me to have a rough idea about the themes I want.”

In MGs with specific textual or narrative content, communication is primarily achieved through *story-telling*, using representative graphics, explanatory text elements (captions, voiceovers, and narration), and structured narratives. In contrast, MGs with abstract content rely on *context building*, employing conceptual elements such as colour and symbols to establish atmosphere and mood. Both strategies incorporate non-verbal cues, including character expressions, movement, colour schemes, animation, and camera techniques.

Story-telling involves directly conveying a narrative through MGs. Gina highlighted explanatory videos as a common example, “*Many of the introductions or educational videos you see now follow this format, with characters or graphics for explanation and narration.*” In text-centred narratives, the visuals often serve as direct representations of the textual story. Hart explained, “*Many times, you can easily create graphics and characters corresponding to the story. If it’s too conceptual, you can replace it with something similar, not necessarily accurate, and the audience can still understand.*” In such cases, the visuals may play a secondary role in the textual content.

However, visual storytelling can transcend language barriers, making it highly effective for international audiences. Hart shared her experience, “*We’ve done MGs for many different countries and languages, and generally, there is no or very little text on the screen, just graphics. Subtitles are added during the post-production stage, and I often can’t even understand the subtitles. So sometimes, before the right scripts are sent to me, I can only use Chinese as an alternative.*” This highlights how MGs facilitate transparent visual communication through symbolic graphic expressions that transcend linguistic differences.

In addition to storytelling, producers use non-verbal cues to construct context, reinforcing themes and environments. Jack described an example, “*I once did a Halloween-themed video in 3D. Although it wasn’t the traditional pumpkin figures, if I remove the slogan here, you can still recognise it as Halloween. The graveyard, lighting,*

²⁰ A visual planning method in which sketches or images are arranged sequentially to outline a motion graphics piece (Krasner, 2013, p. 301).

²¹ A collection of visual references, such as colour schemes, typography, and textures, used to establish the aesthetic direction of MGs (Shaw, 2019, p. 273).

and mist all express this theme, and the yellow and black colour scheme also reminds you of Halloween.” By maintaining consistent visual elements and cues, producers reinforce themes and atmospheres, ensuring that audiences can intuitively grasp the intended meaning.

Producers not only use graphics to establish themes and context but also incorporate motion to enhance visual and emotional experiences (Section 4.5.1.2). Hart explained, *“You have to consider whether the motion fits your character or element. You have to make it convincing.”* Convincing design is achieved by establishing internal rules and patterns rather than simply replicating real-world physics. Gina described this approach, *“Because everything you see in MGs is in video format, everything follows a linear structure. You have to consider whether the motion aligns with dynamics and think about how the currently moving elements transform to another.”*

Producers also consider how motion affects the overall composition. Hart elaborated, *“A single action or motion is not enough. Sometimes, you also need to consider Secondary Action, which is an animation term. For example, if I want to show someone walking, the main action is the swing of the arms and legs, and the secondary action is their facial expression and posture.”*

Furthermore, animation techniques play a crucial role in creating smooth and engaging transitions. As Gina stated, *“When you learn to use animation techniques to create transitions, you’ve already learned the trick. This makes your work smoother and more comfortable to watch, and such coherence and consistency will make people keep watching.”* This coherence and consistency extend beyond visual presentation—they directly impact the communicative function of MGs.

Producers emphasise that maintaining visual consistency is essential not just for aesthetic appeal but also for storytelling clarity. Gina provided an example, *“If I want to create a video explaining how a hamburger gets to the table, I might illustrate a cow turning into beef, then transition to a truck delivering the beef to a restaurant, followed by a chef preparing the burger, and finally, the hamburger appearing on a plate. I’ll try to use similar animation effects to ensure consistency, like morphing transitions, so you don’t need any textual explanation; you can easily understand and accept what you see.”* By unifying different scenes and elements, producers establish a consistent theme and atmosphere, reinforcing both the narrative and the contextual coherence of their work.

Both *story-telling* and *context building* are communication strategies shaped by producers’ experience, skills, and creativity. They create events to convey

information—using text and representative graphics for storytelling, while ensuring consistency in motions and visual effects for context-building. However, their creative choices are not made in isolation but are influenced by various constraints and external factors. These limitations and adaptations are further discussed in sections 4.5.2 (Individual Awareness) and 4.5.3 (Social Relations).

4.5.2 Individual Awareness

All producers mentioned their thinking in design practice. The producers are aware that the knowledge and techniques in their professional field influence their practice, motivating them to continually learn, experiment, and innovate.

4.5.2.1 Learning

All producers discussed the topic of learning, reflecting on how they adapt to evolving demands and changing mediums. Faced with these shifts, they are influenced by various factors and make choices accordingly. As Gina noted, *“Keep learning is to follow the development society. Now, we are in an environment such competitive. If you continue doing the same thing as a few years ago, it definitely won’t work.”*

Skills and techniques are subjective factors that reflect producers’ active pursuit of new knowledge and technologies for self-development. Ryan described his transition: *“I used to work on print publications; now, everything is digital. From a static image to a video, you have to learn how to adapt.”* This shift requires not only software proficiency but also adjustments in workflow and standards. Hart explained, *“Now, we also have to consider what device the audience is watching, whether it’s on the phone or monitor, 4:3 or 16:9, 1080p or 4k, and what format to output – these are all questions.”*

Producers shared their learning approaches. Jack highlighted the accessibility of online resources: *“Nowadays, you can find tutorials online easily; there are too many, and many of them are good. Just follow the tutorials step by step.”* Gina added a practical perspective: *“After all, in design, you have to produce something in the end, and many details you only know when you’re doing it. So, basically, if you follow tutorials and practice with a case or two, you can get started.”* Hart, familiar with traditional animation, provided a different viewpoint: *“Now, we’re dealing with something different from traditional animation. For example, MGs are mostly created by After Effects now. I think it’s a video software because it is designed for producing videos and visual effects. This may be the current trend.”* She further noted the impact

of automation: “Nowadays, MGs have templates; you just click, and it can generate the design you want... you stand out only through your unique idea.”

These reflections highlight the influence of technological developments and automation. In learning new skills and technologies, producers are shaped by their *knowledge* base, which directly impacts their creative processes. As mentioned in Section 4.5.1.1, producers’ design backgrounds influence their practices, reflections, and learning strategies. Their level of expertise in different areas affects their approach to MG creation. Gina acknowledged this limitation: “*I knew nothing about animation principles before, so making graphics move seems enough to me. It’s not that I didn’t want to do better, I just don’t know how.*” Hart shared a similar experience: “*Although I think MGs are simpler than traditional animation, my work has a strong sense of animation and illustration. It is lacking a bit of sense of design.*”

This challenge often stems from gaps in theoretical knowledge. Jack explained the issue with many learning resources: “*Many tutorials focus on teaching you how to operate the software, like which parameters to adjust to achieve a particular visual effect. But the underlying principles and theories are something you completely don’t understand, so you can only copy the case you see. Unless you learn relevant theories by reading books or someone teaches you.*”

4.5.2.2 Innovation

All producers emphasised the concept of innovation, reflecting their proactive pursuit of change and creativity. This sub-theme explores the factors influencing their innovation and how they actively seek new approaches in their design practices. As Jack stated, “*I think about how to create works that satisfy me, not just the client; after all, they are outsiders.*” This self-motivation drives producers to experiment with new ideas and creative techniques. In generating ideas, they inevitably draw inspiration from other creators and works.

Inspiration plays a crucial role in shaping producers’ creations, often influenced by external works. Gina described her approach: “*I often visit designer websites or communities to stay updated on recent works, observe current design trends, and find inspiration.*” Keeping up with industry peers and their work provides a continuous source of creative stimulation. Producers recall memorable works or elements, as Jack shared: “*Not sure if you’ve seen a movie, The Adventures of Tintin. The opening sequence is great, no dialogue, but you can understand what it’s about, and the art is beautiful. I really want to create something like that.*” Hart summarised this integration

of influences: *“My ideas come not only from my experiences but also from all the works I’ve seen.”*

Beyond external influences, inspiration also stems from producers’ observations and real-world experiences. Hart explained, *“Even though many actions or effects in animation are exaggerated, they are mostly based on the real world. You must follow certain rules if you want your work to be convincing. The more details you include, the more aspects you must consider.”* Gina also commented, *“I reference real-life scenes and how objects move, or you could call it dynamics. Real-world references are much better than imagining things out of thin air.”* These observations serve as valuable references for design.

Additionally, producers draw inspiration from their own understanding and imagination. However, not all inspirations are immediately stored as ideas ready for use. Instead, they can be passively triggered in specific situations. Ryan described this process: *“Sometimes, when you’re walking down the street and see some people or things, you get some strange ideas or creative thoughts, like stories or fantasies. Maybe you forget them after a while, but you’ll suddenly remember them when working on a project.”*

Ideas, as a subjective factor, reflect producers’ active expression of creativity. They often generate multiple ideas when inspiration is activated. As Ryan noted, *“You know that design doesn’t have a right answer. For the same problem, you can provide many solutions. So, I try to prepare several different ideas each time.”* This practice allows for trial and error. However, different types of MGs come with varying time constraints (as discussed in Section 4.5.1.1 Types), requiring producers to test multiple approaches. Hart explained, *“If it’s a single motion, like a few seconds of a small animation, you can do it over and over again. But if the entire movement or action needs to be changed, it’s much more complicated. So, when we draw storyboards, we list out different ideas and then determine which one is the best.”*

Experiments is another subjective factor, reflecting producers’ continuous validation of their ideas through iterative testing and learning from trial and error. It also serves as a way to push creative boundaries. Ryan described his approach: *“I try to do something different from before. For example, I tried combining 2D animation with live-action video, and the visual experience was exciting.”* Gina shared her own experiments: *“I tried making those music videos, not that MTV, but the kind where the elements and actions are synchronised with the music, everything follows the rhythm. I think this form is more immersive and more engaging.”* This process challenges

producers' existing knowledge and skills, as Jack reflected: *"Sometimes, I don't know and don't care about the value of this kind of innovation. It may be useful, or not. I just feel that trying something new is simply fun."*

4.5.2.3 Synthesis

This sub-theme captures producers' perspectives on how they integrate various techniques in practice. Synthesis is closely related to all the previously discussed topics. When starting a project, producers must consider factors such as type, theme, communication strategy, and audience experience— all guided by their creativity and knowledge. They synthesise these aspects into their workflow, as Gina described: *"Actually, my workflow is different from before. I used to work with a single software, straightforward, like for graphic design, I use Illustrator or Photoshop. Now, I need to write a storyline, sketch, then draw graphics in Illustrator, import them into After Effects, and finally export them as a video."* This multi-method, multi-software collaborative process is a defining feature of MG design, requiring producers to carefully manage tasks, workflow, and progress. Sometimes, efficiency takes precedence over refinement, as Jack noted: *"Sometimes, when facing urgent demands, completing your work is the top priority. The next is how good it looks."*

A key aspect of synthesis is maintaining the core *idea* throughout the process. Ryan highlighted this balance: *"I try to assess the most efficient way to finish the job but still ensure creativity. You don't need all details because the audience can't tell."* This suggests that producers prioritise expressing their ideas effectively, even if every detail is not perfected. However, this approach also raises questions about the necessity of certain techniques in synthesis. If the sole aim of MGs is message delivery, multiple methods can achieve that goal. Hart illustrated this point: *"For example, before, if you make an animation of a kid running from left to right, the shoes, the body, the face, the hair, and so on, all require a lot of arrangement and design. Now, I just move the kid's figure from left to right, and people still will understand that the kid ran from left to right. I even can make that by PowerPoint, so what is the point of all this?"*

Ultimately, producers strive to balance their objectives with the *techniques* they employ. They adopt a critical approach to tools, using them as a means to achieve their creative vision rather than allowing technical constraints to dictate their work.

4.5.3 Social Relations

This main theme explores the influential factors affecting producers, focusing on their changing roles and the demand facilitating such change. These changes impact

producers' decision-making, objectives, and production approaches when creating MGs.

4.5.3.1 Role changing

All producers addressed the topic of their changing roles, providing insights and reflections. While describing their role as designers may seem simple to describe how they achieve design demands, the producers find it much more complex. As Jack points out, *"Many times, I have to do illustrations, also work on UI and produce animations."* The roles of producers have evolved beyond the traditional categories of graphic designers, animators, or artists. Gina shares, *"Many times, I feel more like an editor than a designer. It's not just about the visual design; I also have to write a lot of text to ensure that others understand my ideas and purposes."*

This multifaceted practice has blurred the concept of their professional roles. Hart explains, *"I don't know whether to call myself an animator or a motion designer now, but I don't think it's a problem. In the past, we worked as a team, and my part was the animation... but now, MGs is completely different. One person can now do what used to be a team effort."* In the production of MGs, this situation can be seen as an increase in efficiency. As mentioned in Section 4.5.2 Individual awareness, producers learn and integrate new *knowledge* and *techniques*, which enables them to involve broader domains. This allows one person to accomplish many tasks.

However, the sub-theme of Role changing also indicates the *blurry boundaries* between different professions and techniques. For producers, this may not necessarily be a problem to solve or declare, but it highlights the reasons behind their blurred roles. As Jack puts it, *"Whether I'm working on a video, a game, or an animation, I'm making what I want to express."* This pragmatic, project-centred approach makes producers focus on completing tasks rather than struggle with the final form of their practice. However, the changing design demands determine the tasks that producers need to complete, and those demands are evolving, ultimately leading to a shift in their roles. As Ryan explained, *"Things are different now. It's all digital, on the internet, and our work has to keep up with these changes."*

4.5.3.2 Demand changing

This sub-theme captures how producers think changing demands impacts them. Changing demands primarily affects producers in three aspects: efficiency, attention, and various outputs.

Efficiency has become a key objective in MG production, driving trends in workflow and output. As discussed in Section 4.5.3.1 Role Changing, producers have increased their efficiency by acquiring diverse skills and taking on multiple roles. Hart noted that this has significantly reduced production time: *“Previously, a three-minute video might require three to five people working for a week; now, one person only needs three days.”* This improvement stems from both professional experience and advancements in technology. Jack explained, *“There are many ways to reduce work. For example, in explanatory videos, there are few characters or graphics, and only a few types of movements and motions. Your attention is on the voiceover, so you might not notice.”* Gina added, *“Nowadays, software makes tweening animations very easy. If you want to transform a circle into a square, you just draw both shapes, and the computer automatically generates the transition. There are also many templates available, allowing you to add interesting scene transitions effortlessly.”*

While these advancements accelerate production, they also raise concerns about depth and detail. Hart commented, *“To be honest, I think in today’s MGs, it’s just colour moving. The graphics are simple, just composed of many colours, and lack a lot of details, whether graphics or movements.”* She further illustrated the complexity of past work: *“Look at this fish in the middle. If I open the layers inside, there are over a dozen, and every time it moves, maybe each layer needs adjustment. Now you know why I’m so busy sometimes.”* This simplification of graphics and motion has increased efficiency but has also reduced intricate motion relationships.

Producers have also observed a growing societal demand for efficient communication, particularly in advertising. Businesses aim to deliver messages quickly and effectively to consumers. Ryan noted, *“Now the clients want you to quickly promote their content, to find efficient ways to convey it to the audience. So, you see a lot of those ads repeating the same slogan to make the audience remember. It’s annoying, but it really works.”*

Beyond content efficiency, advertising strategies now prioritise quantity. Gina shared, *“Our company frequently releases ads or promotional videos; this is how to make a lasting memory and impression.”* The rapid proliferation of content has implications for audiences and producers alike. Jack observed, *“Really, you see tons of similar things every day. In this fast-paced environment, you need to learn how to distinguish the information you see in a very short time.”*

For producers, this demand for efficient-driven content production has fundamentally changed producers’ work. Hart explained, *“I used to spend a whole day*

on a single motion, maybe just a one-second animation, but no one allows you to do that nowadays. I feel like many works are fast-food-style; it feels like I'm a worker on a factory line, I'm a machine that only does copy and paste."

With an overwhelming volume of content, capturing audience attention has become a key challenge. Hart described a layered approach to engagement: *"Visualised content is everywhere; your work must be interesting to stand out. For example, when the sound starts, it catches attention. Then, when you look, the graphics are quite beautiful. This way, people will take a look. Then, if the story is interesting, they'll look again and again."* To achieve this, producers incorporate unique visual effects and storytelling elements. Gina emphasised the importance of creativity: *"You have to think about what idea to use to attract the audience. It can be a different visual effect or an appealing story."* These elements are often brief but impactful. Jack described them as *"like a small thing that happens in your life that makes you smile,"* while Ryan gave another example: *"In a quiet place, suddenly you hear someone shouting."*

Producers also consider where and how MGs are presented in audience engagement. In public settings, the physical placement of content affects its impact. Hart pointed out, *"If a video is played on a big screen in New York Times Square, and you play the same video on a smaller street screen, the impact is definitely different."* For personal devices such as computers and mobile phones, user experience plays a crucial role. Gina noted, *"Even for ads, you expect to see better-produced ads."* Jack similarly commented, *"Because it's on the phone, even if it's an explanatory video, I try to make it vivid and interesting. Even kids can find it engaging by the visuals or content."*

Another major shift driven by changing demands is the producers' various outputs. As they acquire a broader skill set, their work extends beyond traditional MGs. Gina explained, *"I didn't know about UI or web design before, but now I design my company's official pages, including computer and mobile versions. Many animations on the website feel similar to MGs."* Jack further illustrated this shift: *"This demo animation I'm showing you—it's actually made following the principles and logic of animation. In a game engine, you have to use code to implement such actions."*

Producers' work is shaped by project demands, influencing the format and scope of their outputs. However, it is clear that by integrating knowledge, technology, and MG principles, they have expanded their creative reach beyond motion design into various other fields.

4.5.3.3 Summary

The results presented in this chapter emphasise the subjective and influential factors in producers' practice. Each factor is explained in terms of why it is perceived by the researcher as subjective or influential, showing that producers act as both decision-makers and executors in the communication of MGs. They are responsible for constructing and conveying information while being influenced by various factors.

As decision-makers in main theme Message Delivery, producers strategically consider which types of MGs are the most suitable for their aims and how to construct events and experiences. These decisions and strategies are rooted in the producers' Individual Awareness. Within this main theme, producers emphasise the importance of learning techniques and skills; they recognise that different technical and knowledge backgrounds lead to different composition and communication strategies among producers from various professional backgrounds, acknowledging the impact of knowledge from other fields on their practice. Producers also strive for innovation, continuously experimenting with ideas and drawing inspiration from various sources for their practice. Finally, they integrate these ideas through technical synthesis.

However, as executors, producers' communication strategies and practices are influenced by the production environment and market demands, as producers' outputs serve these contexts. Market feedback and considerations of communication efficiency are linked to producers' practices, adhering to the functional purposes of communication and market rules.

4.6 Discussion

This section discusses the results in relation to the aims of the Producers Observation (Section 4.1). To recap, the aims were to investigate producers' workflows, communication strategies and approaches (e.g., composition, storytelling techniques); decision-making processes (e.g., reasons for choosing particular strategies or approaches), and influential factors (e.g., new techniques and design demands). The findings on these aspects highlight how producers navigate evolving demands, integrate various techniques, and adapt to shifting industry expectations.

4.6.1 Workflows

The workflows of the producers align with the process outlined by Jahanlou (2021), which involves the stages of video concept, pre-production, production, and final video. Shaw refers to this process as a process-to-outcome sequence (Shaw, 2019, p. 69). After confirming the project's content and direction, producers start their design projects

using various methods, such as drawing storyboards, writing scripts, and seeking inspiration from other sources. Furthermore, these approaches are also consistent with the works mentioned in Section 1.4. As the project progresses, producers work to turn their concepts into visual expressions, constantly experimenting and adjusting. After evaluation and revisions, producers finalise and deliver outputs.

From the results, the sub-theme Synthesis further identifies that producers' workflows follow a multi-software, multi-method approach. Producers now synthesise various tools and techniques, reflecting the increasing complexity of MGs production. They need to write storylines, sketch ideas, design assets in vector-based programs, animate in motion software and finalise outputs for different platforms. For instance, Hart used to handle only the animation part in a team but now must do everything alone. Similarly, Jack, a game developer, is responsible for animation, programming and testing character movements. This synthesised workflow can impact the design's outcome and efficiency, such as how long it takes to complete a project when one person is responsible for all tasks.

The expansion of using multiple tools and approaches has improved creative flexibility, but it has also introduced challenges related to efficiency and workload management. The results indicate that automation and pre-built templates have become instrumental in streamlining workflows. Producers now utilise motion tweening, built-in animation effects, and digital templates to reduce production time. As the sub-theme Demand changing underscores the focus on efficiency-driven workflows in MGs production, where producers must balance time constraints with creative output.

The producers play a dual role as decision-makers and executors in their workflows. As decision-makers, they strategically consider the type of MGs and the methods for constructing events and experiences from the outset. Their decisions are deeply rooted in their personal experiences and reflections. For example, Gina was a graphic designer, and Hart focused on animation. Now, both mainly produce MGs. Also, the sub-theme Role changing suggests that the producers recognise how their backgrounds are reflected in their work. As executors, the production environment and market demand influence their strategies and practices. This dual role underscores the complex nature of their workflows, where creative decision-making is balanced with practical production requirements.

4.6.2 *Communication strategies and approaches*

As noted in the previous section, the Producers Observation found that producers' approaches and strategies are shaped by their personal experiences and reflections. This is evident in the main theme Individual Awareness, which includes personal experiences, learning from different fields, and pursuing innovation. The producers' emphasis on technical skills and integrating knowledge from various domains demonstrates how interdisciplinary insights influence their communication strategies. The theme of Individual Awareness highlights how personal and professional growth impacts their work.

Furthermore, the study found that a pragmatic approach taken by the producers is to focus on output rather than make clear distinctions between the techniques and principles they use. From the sub-themes Synthesis and Learning, producers continually learn and absorb new knowledge and techniques, synthesising various methods in their work. Regardless of the tools and techniques producers adopt, everything is tailored towards achieving communication objectives. Like ISO Design and Revenant mentioned in Section 1.4, the producers constantly synthesis various technologies and materials for continuous innovation. As Emmy Award-winning designer Lindsay Daniels mentioned in an interview, "*Designers are tasked with solving problems, forming ideas, and developing stories. In motion, the designer has to consider and inform what the audience sees, hears, feels, and understands*" (Shaw, 2019, p. 73).

One of the key findings of Producers Observation is the subjective factors of *story-telling* and *context building* as the communication strategies that producers actively adopt for their objectives. *Storytelling*, often employed in text-driven MGs, relies on representative graphics and narration to convey information. The STV Creative's works are good examples of using storytelling (Section 1.4.1.1). Producers prioritise clarity and accessibility, ensuring that audiences can follow the content without requiring extensive textual explanations. *Context-building* is more focused on establishing an atmosphere. Producers use symbolic visual elements and coherent expressions to reinforce the experience and emotions in a unified context. The works from The Mill provided examples (Section 1.4.1.3).

Another significant aspect of communication strategies lies in the sub-theme Experience. As shown in the results, producers actively use colour, motion, and composition to reinforce emotions, atmosphere, and meaning in MGs. The ability to convey emotions through motion design has been linked to animation principles, where

techniques such as exaggeration and secondary actions play an important role in making movements more expressive and engaging. This suggests that while producers prioritise efficiency, they also leverage animation techniques to maintain emotional and aesthetic appeal in their work.

Furthermore, the findings of this study supplement the reviewed literature in Section 2.4.1 (Barnes, 2017; Q. Li, 2016; X. LI & Yang, 2018; Zhang, 2014), which regards MGs as a narrative-based medium from the viewer's perspective. The above discussion suggests that producers' communication strategies are not always centred on clear narrative structures. Particularly in non-objective and non-linear expression, producers pay attention to experience, emotion, and expression rather than solely specific story and plot (Wells, 2013, p.29). As Scott (2011) notes, MGs is a conceptual form of communication where the information and content expression can vary. This finding helps clarify how MGs can also operate as a non-narrative form of visual communication in certain production contexts, as argued by Ryl (2002), Tong (2012), and Chen & Cha (2019), contributing to a broader understanding within the field.

However, the increasing demand for efficiency in communication has reshaped how producers design MGs. The sub-theme Demand changing indicates that brevity and impact are now prioritised over intricate visual storytelling. Producers recognise the challenge of standing out amid an overwhelming volume of content, leading to a shift toward more concise, engaging, and easily digestible narratives. This aligns with broader industry trends where advertising and promotional content often use repetition, simplified messaging, and rapid dissemination to enhance memorability and influence (Berger & Milkman, 2012; Coker et al., 2021; Das, 2024).

4.6.3 *Influential factors*

Several aspects influence how producers work: changing industry demands, their role in production and personal creative motivations. As Wells (2008) suggests, it is important to consider the broader context in which a work is created, as well as the intentions of its creator, and the relationship between the designer, the work, and the production environment.

The changing expectations of clients and audiences are evident. The factors in sub-theme Demand changing highlights that producers' work increasingly prioritises fast production cycles and high output volume. As noted in the previous section, producers focus on output, whether in dynamic images, videos, games or infographics; the types and formats depend on producers' communication objectives. Producers are

required to create different outputs quickly, often sacrificing intricate motion details in favour of broad visual appeal. This shift is particularly evident in producers' current practice, where short, engaging MGs with clear messaging are prioritised. In this efficiency-oriented production, the boundaries of the producers' role in a project are blurry (sub-theme Role changing). As noted in Section 4.6.1, producers often deal with different tasks throughout the entire process in a project rather than one particular task. Additionally, audience attention spans and content consumption habits have influenced MG design. With visual stimuli being more ubiquitous than ever, producers need to ensure that their output is immediately engaging. This has led to the growing importance of attention-grabbing techniques, including dynamic motion, smooth transitions, and visually striking compositions.

Furthermore, the market demand is also reflected in how producers choose different types of MGs (Section 4.5.1.1), where such choices are often influenced by the client's budget demand and production timeline. Producers must consider appropriate MG types and communication strategies depending on these demands. However, these external constraints can also foster innovation (Friedman, 2025, p. 136). For instance, *Flow* (2024), winner of the 97th Academy Award for Best Animated Film, was created using open-source software Blender under limited funding and technical support. The film, which has no dialogue and features a distinct artistic style (Figure 4.8), was completed with a budget of just £3 million, starkly contrasting with major studio productions like *Inside Out 2*, which cost \$200 million (Brooks, 2025). This example indicates that the quality of ideas and production craft skills are what win business and awards.



Figure 4.8 Flow, 2024, directed by Gints Zilbalodis

Despite external influences from the main theme Social Relations, producers remain driven by personal creative motivations, which are reflected in the main theme Individual Awareness. The sub-theme Innovation identifies that producers actively seek innovation and experimentation, whether through trying new animation styles, integrating mixed forms, or pushing the boundaries of traditional MGs. This suggests that creativity remains a core motivation, even as producers navigate industry demands. The *inspiration* from life experiences and other MGs influenced producers' creativity, and *knowledge* of techniques or tools determines whether producers are able to achieve their vision. Therefore, the producers all mentioned that learning is crucial to developing their skills and creativity.

However, the results also highlight a degree of tension between creative freedom and commercial constraints. As discussed, some producers feel that contemporary MGs have become formulaic, resembling “fast-food-style” production due to the emphasis on efficiency. This suggests that while technical advancements and market trends shape their work, producers still strive to maintain a sense of artistic integrity and originality. Producers often engage with existing tools while learning and experimenting with new techniques to improve and grow. However, as technological development leads to increasing standardisation and even automation, the most significant achievement of producers' innovation and distinctive techniques may no longer be concerned with art, but industry, where producers' craftsmanship can become an inhibiting factor in this context (Wells, 2013, p.2). As Macdonald (2014) points out,

the drawing skills may be seen as irrelevant when design becomes a matter of choosing software effects. Popular styles and preset templates risk creating what Merritt (1987, p. 14) calls a “*bland international look*.”

Finally, whether responding to changing roles or market demands, producers maintain a drive for innovation and personal development. They are not merely workers to make products; instead, the design ideas remain central, with technology serving only as a tool to realise that idea (Lambie-Nairn, 1997). Moreover, as Macdonald (2014) noted, technology is a powerful force in changing industrial production processes, and such change will continue as long as there is demand for new products and experiences. The creative industries may risk repeating past mistakes—undervaluing expertise and favouring cost-efficiency. The role of producers should be acknowledged and encouraged to continue striving in their work, instead of being covered by generic digital solutions.

4.7 Summary

The results suggest that the production of MGs involves structured workflows and creative expression. As MGs integrate with different forms and synthesis techniques, producers adapt their skill sets and strategies to focus on communication purposes. Additionally, amid the tension between efficiency-driven production and growing demands, the results identify the roles of producers as decision-makers and executors in practice. They continually learn and strive to meet changing demands. Ultimately, the findings from Producers Observation highlight that while tools and industry expectations evolve, the fundamental role of MGs remains rooted in communication and creative expression. Producers focus on constructing events and experiences to convey information. Furthermore, within the context of production practice, the above discussion adds more detail to the desktop survey in Section 1.4 by identifying how producers’ experiences, strategies, and environments shape their work. It also provides a systematic account of their communication strategies and external influences through a thematic map.

CHAPTER 5 VIEWERS FOCUS GROUP

5.1 Introduction

As discussed in Section 2.3, from a viewer's perspective, MGs, as a communication medium, are more effective than traditional static media, as they yield better results across various communication contexts. For instance, the use of MGs contributes to improved student learning outcomes and grades, increased public awareness and engagement on specific topics, and an enhanced viewing experience. While some studies suggest that viewers use narrative structures to understand MGs (S. Barnes, 2017) and that experience and symbols play a role in comprehension (Betancourt, 2018; Brandão, 2015; Geng, 2016; Hillner, 2009; Liu, 2014; Lu, 2019; Pei et al., 2022), there are many variables and factors within this process that remain underexplored. These include signalling cues, abstraction of the visual representation, ease of understanding, attention, modality and expression (Berney & Bétrancourt, 2016; Höffler & Leutner, 2007; Noetel et al., 2022). Further exploration is needed to identify how viewers understand and experience MGs.

The second part of the Participatory Design Project, Viewers Focus Group, addresses Research Question 2: As consumers, how do viewers understand and experience MGs, and what factors influence their understanding and experience? The Viewers Focus Group aims to investigate following aspects:

- Viewers' understanding process
- Viewers' experience
- Influential Factors in viewers' understanding and experience.

This chapter is structured as follows. Section 5.2 describes an overview of the participants. Section 5.3 describes the data collection process, including the activities, tools and materials. Section 5.4 describes the data analysis. Sections 5.5 and 5.6 present and discuss the results. Section 5.7 provides a summary of the chapter.

5.2 Participants

The implementation of Viewers Focus Group was approved by the GSA Ethics Committee in June 2023. The inclusion criteria for viewers were members of the general public who are interested in the research topic and aged 18 and over. There were no particular skills or knowledge requirements. Before engaging in research activities, all participants received a participant information sheet and signed a consent form (Appendices 7 and 8).

5.2.1 Overview of the participants

The recruitment process began in June 2023. The researcher invited potential participants through direct and indirect recruitment methods. After inviting several individuals and organisations via the researcher's network, five people were recruited from the public and the researcher's institution. Figure 5.1 illustrates the recruitment process. Three participants were recruited through direct invitation by the researcher, while the remaining two were introduced to the project by two of initial participants.

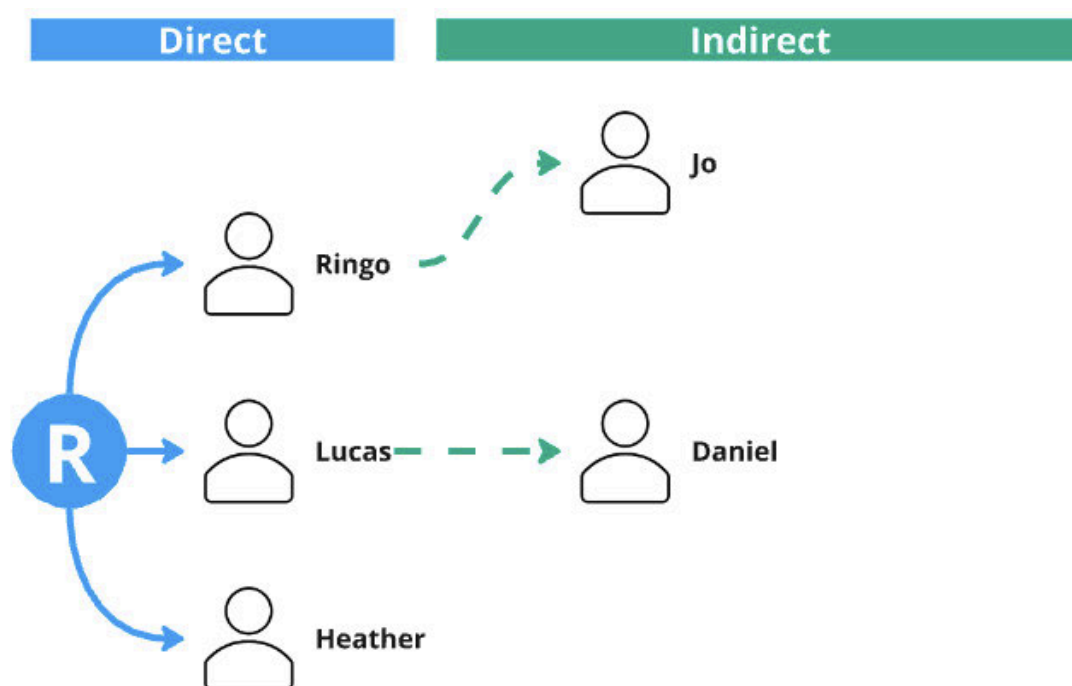


Figure 5.1 Recruitment process

The participants in the Viewers Focus Group represent different demographic backgrounds and interests in MGs. Each participant brought a unique perspective to the focus group. Table 5.1 provides an overview of the characteristics of the research sample. Participants came from different ethnicities, with ages ranging from 16 to 34, including three females and two males.

Due to participants being recruited from the researcher's network and through participant referrals, there were three participants from the researcher's institution. Thus, before conducting the focus group, the researcher emphasised to all participants the importance of their genuine opinions and experiences. Participants were encouraged

to minimise any potential influence from prior knowledge about the researcher or the institution in their contributions to this study.

Pseudonym	Lucas	Heather	Ringo	Jo	Daniel
Gender	M	F	F	F	M
Age group	25-34	25-34	25-34	16-24	16-24
Ethnic group	Asian, Asian Chinese, Asian Scottish, Asian British	White (Scottish, British, Irish, Gypsy/Traveller, Polish, another white ethnic group)	Asian, Asian Chinese, Asian Scottish, Asian British	White (Scottish, British, Irish, Gypsy/Traveller, Polish, another white ethnic group)	Caribbean or Black

Table 5.1 Participants overview

5.2.2 The schedule and ethical considerations

The study was conducted in August 2023. As noted in Section 3.3.2 Ethical Considerations, participants received the consent form and participant information sheet before the session. All five participants took part in person at the researcher's institution, and they signed the consent form on the day of the session. Figure 5.2 shows the agenda of the focus group.



Figure 5.2 The agenda of the focus group

5.3 The data collection process

5.3.1 *Materials in visual tasks*

As mentioned in Section 3.5.3, this study employs visual tasks derived from neuroscience and cognitive psychology to explore narrative in MGs. Table 5.2 summarises the three visual tasks used in the Viewers Focus Group.

Tasks	Objectives
Arrangement Task (AT)	To explore viewers' comprehension processes and how they identify event boundaries and construct narratives (Section 2.4.1)
Sequential reasoning Task (SRT)	To capture differences in the comprehension of visual narrative among viewers
Narrative comprehension task (NCT)	To explore how viewers comprehend ambiguous and abstract content in MGs

Table 5.2 Three visual tasks

These tasks were developed based on time-sequenced mediums (such as videos and GIFs), focusing on viewers' comprehension of visual content and investigating factors influencing their interpretation. There are no correct or incorrect answers for each task. Before the study, the researcher selected a video for each task and divided it

into several clips. For each task, viewers were informed that these shorter video clips were part of a single coherent video. While presenting the material in clips may affect the continuity in viewers' comprehension (Hillner, 2009), continuity is not the primary focus of this research. The following sections introduce the materials used in the three visual tasks, the rationale for selecting them, and how they were processed to suit each task.

Arrangement Task (AT). The visual material in AT is a 31-second commercial advertisement video titled “ABUS: Keep On Riding” from Ordinary Folk²².

Figure 5.3 illustrates an overview of the MG. The researcher selected this MG as material due to its smooth visual narrative. The MG does not include direct product introductions, logos, verbal or textual elements, and the researcher removed the soundtrack when presenting the work. This means that viewers can only interpret the content through visual elements. Additionally, the MG does not use common shot transitions to switch scenes but instead seamlessly links scenes through the interrelationship of elements. This type of transition is similar to the visual cues mentioned in the literature review (De Koning et al., 2009; Kosslyn, 1994). Whenever a transition to the next scene/event is needed, related elements (such as helmets, bicycles, butterflies, zooming, etc.) appear to signal the transition or connection between different scenes. This can be seen as helping to establish the boundaries of different scenes/events (Thompson & Bordwell, 2006).

Based on the concept of using visual cues to determine event boundaries (Section 2.4.1), the researcher edited the MG by separating it into five clips. Figure 5.4 illustrates the process of segmenting the MG and creating a set of referential cards—one card for each clip. Each referential card included three images: a frame from the beginning, middle, and end of the clip. Each clip and corresponding referential card was labelled with different symbols. The symbols were used to avoid possible misunderstandings when viewers articulate their results. For example, viewers arrange clips by symbols and explain the task as “I think the heart is the first, square is the second”. If clips are labelled in numbers, the explanation of the task will be, “The number 2 is the first, the number 3 is the second”.

²² <https://www.ordinaryfolk.co/project/abus-keep-on-riding>



Figure 5.3 Overview of ABUS: Keep On Riding

Separate into five clips

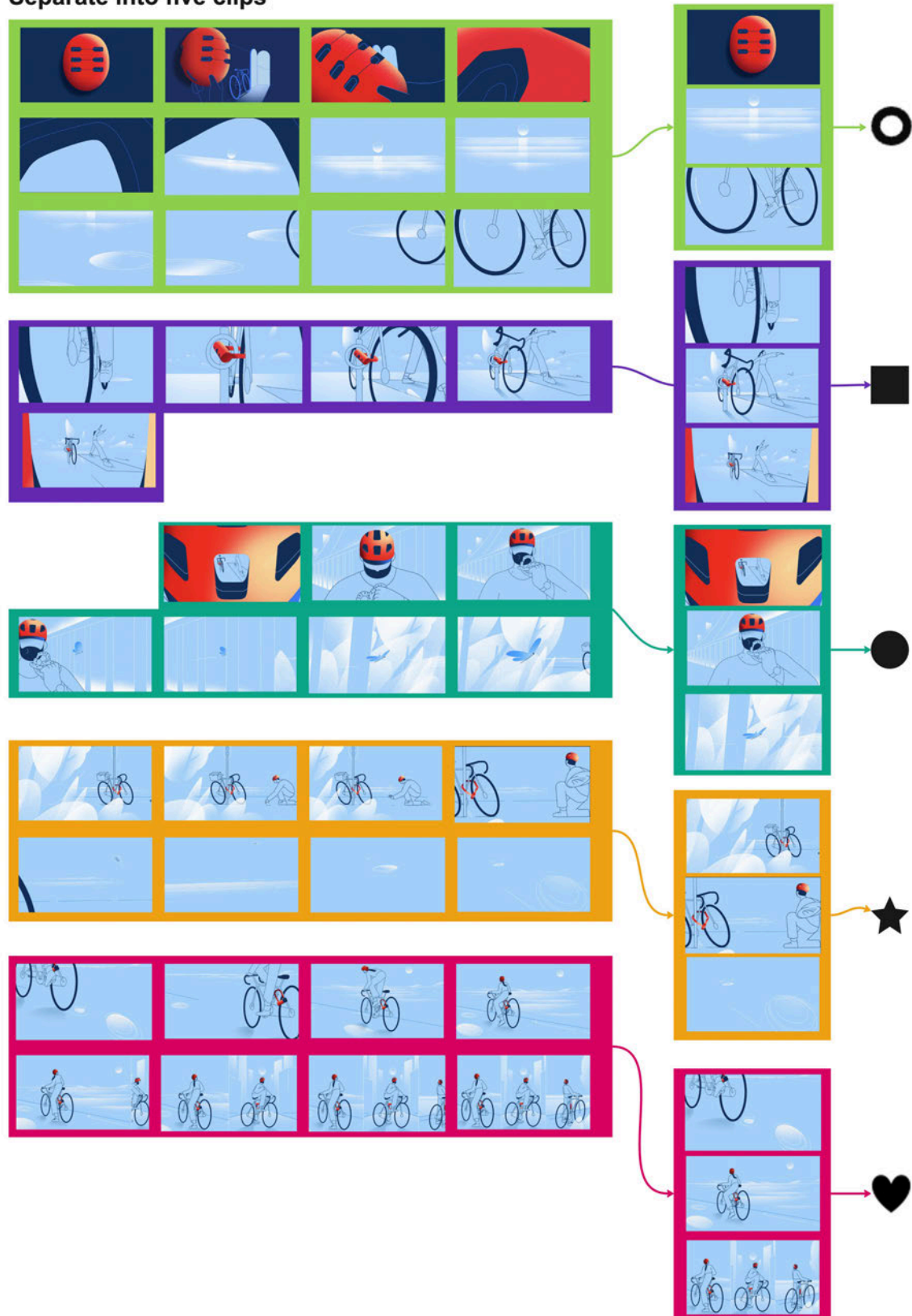


Figure 5.4 Separate video and make referential cards (labelled with different symbols)

Sequential Reasoning Task (SRT). The visual material for the SRT used the opening sequence of “Good Omens,” Season One (2019), a six-episode TV adaptation produced by Amazon Studios and the BBC. Peter Anderson Studio created the opening sequence²³. The total duration of the video is 1 minute and 30 seconds. Figure 5.5 provides an overview of the opening sequence.

The researcher chose this work because, as an opening sequence, it effectively sets the tone and worldview of the series, using metaphors to convey contexts related to the protagonists, namely a journey of angels and demons. Romao (2019) suggests that opening sequences in films and TV construct a context metaphorically to engage viewers’ expectations and interpretation of specific themes. Moreover, the unique expression and structure create a distinctive identity for the TV series. As Brandão (2020) argues, opening sequences in TV series serve as branding, semantically coordinating necessary symbols to create a coherent, multi-sensory experience that engages viewers and fosters loyalty, thereby enhancing brand value (Brandão et al., 2020, p. 139). This opening sequence combines 2D, 3D, and live-action techniques, delivering notable visual and narrative effects. Characters march towards one direction, go through various scenes, presenting a journey filled with clues and dramatic references, and bring surprises and experiences to the audience with its rich layers and details. When the Good Omens title sequence won the Design Week Award in the TV, Film, and Video Graphics category, the judges commented, “*A fascinating sequence in which you see more and more each time you watch.*” (Design Week, 2020)

The process of preparing the video materials for the task is shown in Figure 5.6. The researcher divided the MG into nine clips based on scene/event transitions. As noted in Section 3.5.3, the SRT involved selecting optional clips as the beginning and ending for a main body clip to complete a coherent sequence; there is no right or wrong answer for the task. The third clip (from 0:17 to 0:31 seconds) was selected as the main body clip for the SRT because it has explicit symbols (such as angel and ark) and a consistent transition (the scene starts with a black in and ends with a black out). The researcher further extracted four clips as optional clips for the task. These optional clips were used to make referential cards, formatted as three images (similar to those in the AT), and labelled with different symbols. Two optional clips (labelled in heart and

²³ <https://www.artofthetitle.com/title/good-omens/>

square) are matched to the main body clip in the sequence of the original video, while the other two (labelled in circle and star) are not.

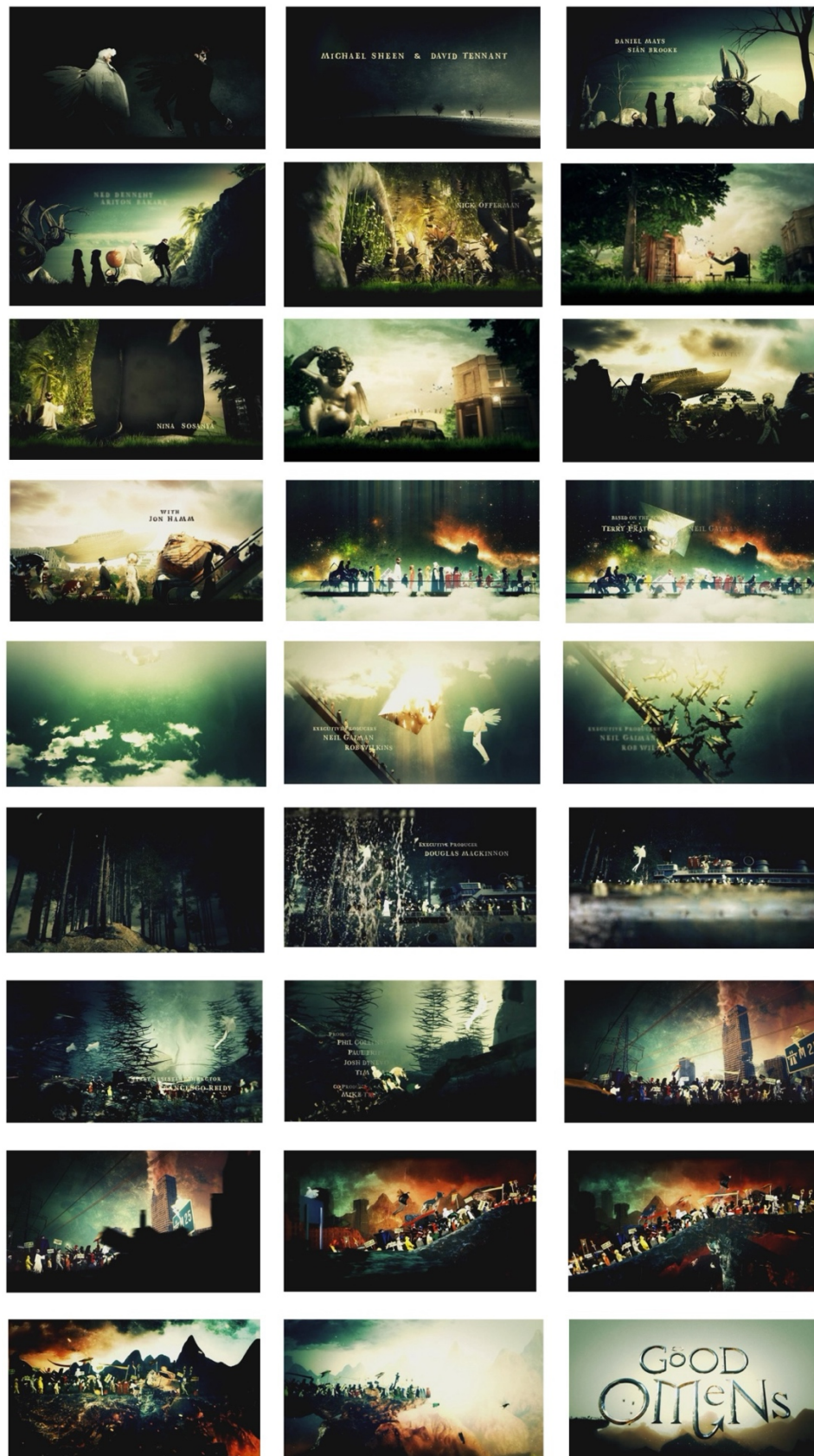


Figure 5.5 Good Omens opening sequence overview

Segmentation of the video

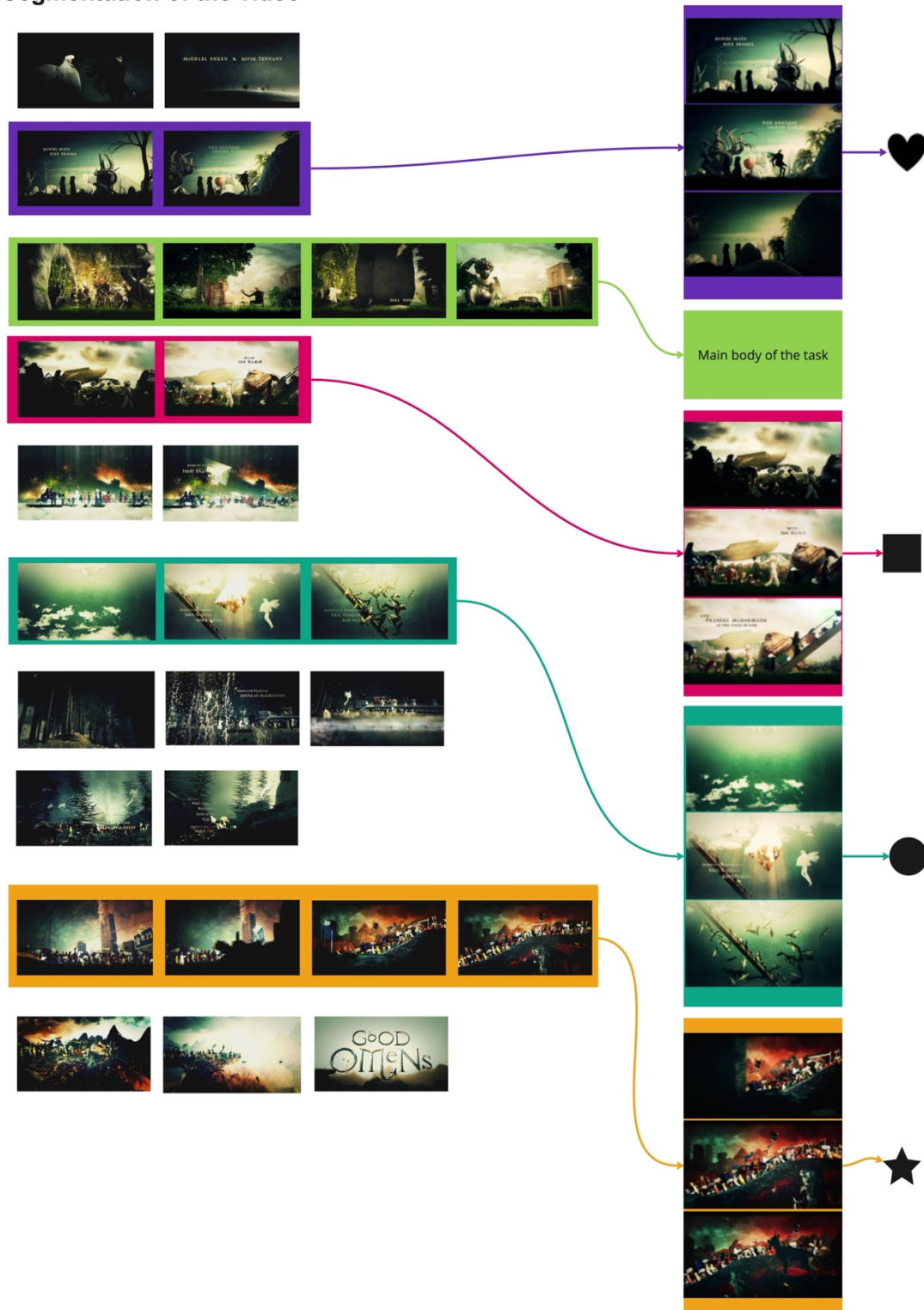


Figure 5.6 Main body and four option clips for SRT

Narrative Comprehension Tasks (NCT). For the third task, the NCT used “Tiny Story,” a work by CLIM STUDIO in 2013²⁴, a short MG lasting 48 seconds. The designer used conceptual visual language to depict eleven themes (in order): Dream, Listen, Learn, Wait, Find, Love, Respect, Trust, Pledge, Share, and Enjoy.

This MG was chosen for its abstract visual expression and clear themes. Each theme is titled in the video and conveyed using simple elements of dots, lines, and shapes. This abstract expression can evoke viewers’ emotions and influence their experiences (Cho & Yamanaka, 2011; Cho Y & Yamanaka T, 2010). Therefore, this MG for the NCT focuses on viewers’ understanding and experience of different themes and promotes discussion among them. It is suitable for discovering how viewers interpret complex concepts based on simple visual representations.

To reduce the time required of viewers for this task, the researcher randomly selected eight themes from the MG (Dream, Listen, Wait, Trust, Love, Respect, Share, and Enjoy) and extracted the corresponding clips, each approximately three seconds long. Additionally, to present the clips more clearly, the researcher removed the background from the video, retaining only the framed part of each clip. The materials for the NCT can be seen in Figure 5.8. By using dots, lines and motions, each clip illustrates one theme.

²⁴ <https://www.studioclim.com/work/tiny-story/>

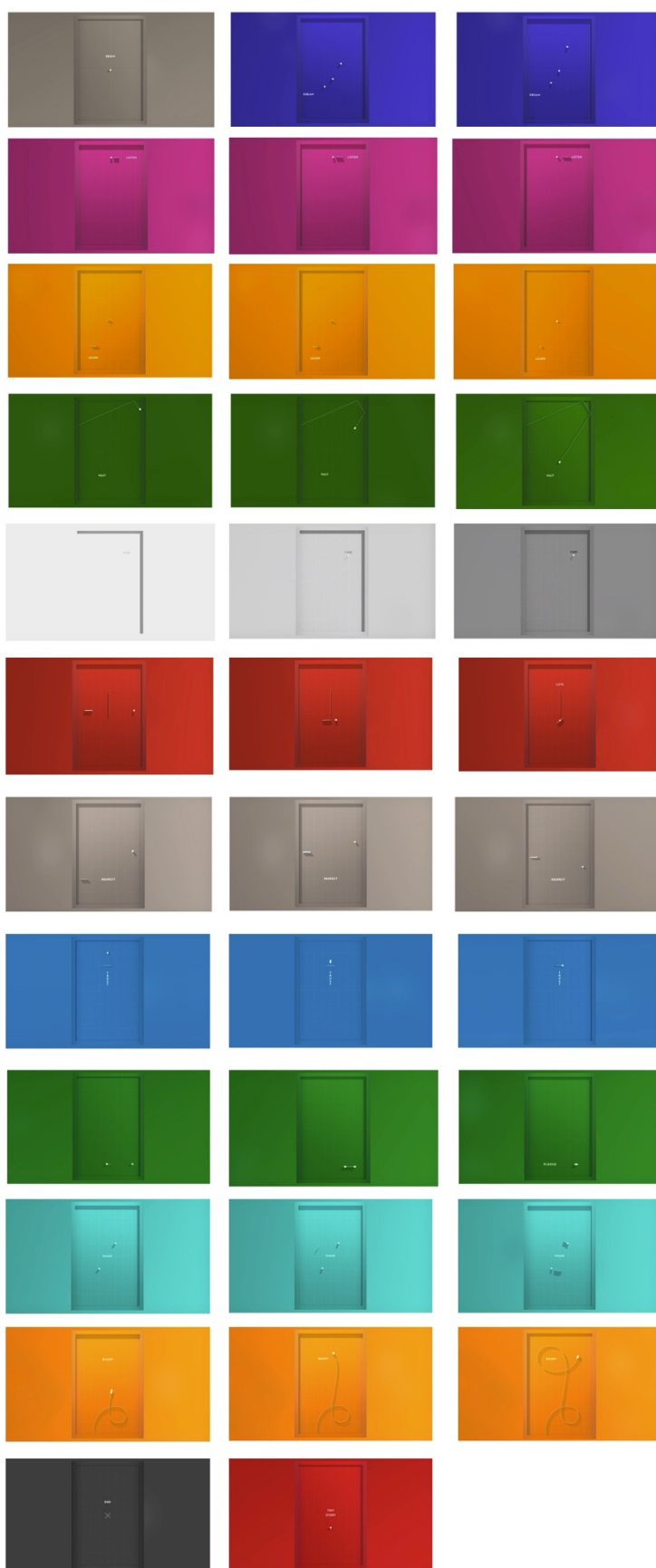


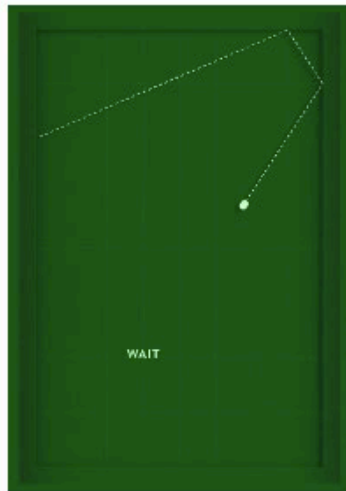
Figure 5.7 Tiny Story overview



Dream



Listen



Wait



Trust

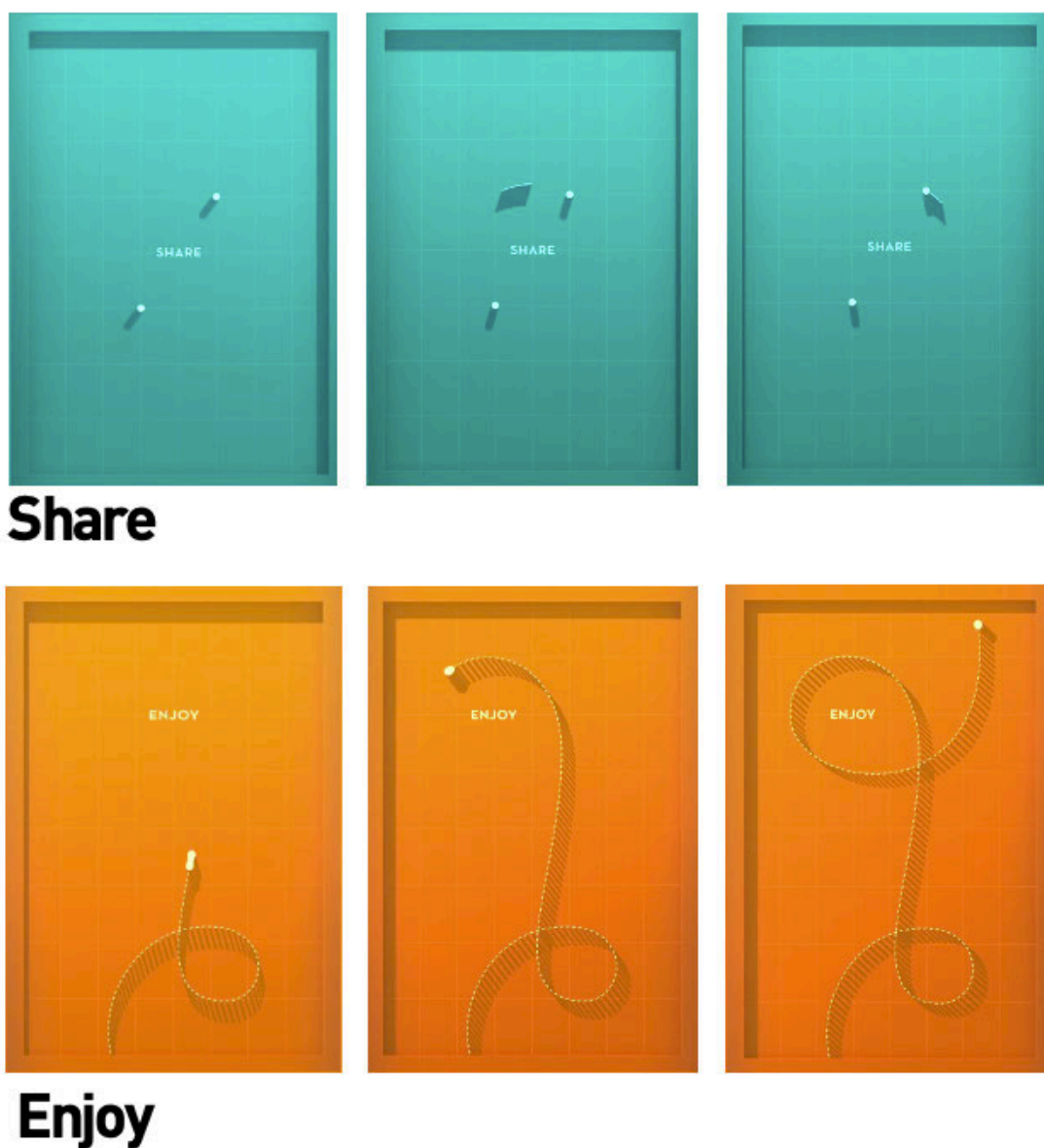


Figure 5.8 The eight clips for the NCT task

5.3.2 Data collection process

Before the research activities began, the researcher introduced the agenda (Figure 5.2) and activities of the Viewers Focus Group through a PowerPoint presentation.

Table 5.3 shows the activities and objectives in each stage of the focus group. These activities were designed to elicit in-depth responses and insights from the participants about their experiences and understanding of MGs. The focus group was

audio recorded to enable a detailed analysis. The recordings were transcribed into text using Otter.ai²⁵ to identify patterns and themes.

Stage	Activities	Objectives
At the beginning	Questionnaire	Learn about the viewers through research topic-related questions
	Group interview	Capture experiences and insights from viewers as a group
During	Visual tasks	Explore how viewers understand MGs in specific cases
	Discussion	Discussion on the task completion
At the end	Wrap-up	Gather ideas and questions/responses from viewers

Table 5.3 Activities in Viewers Focus Group

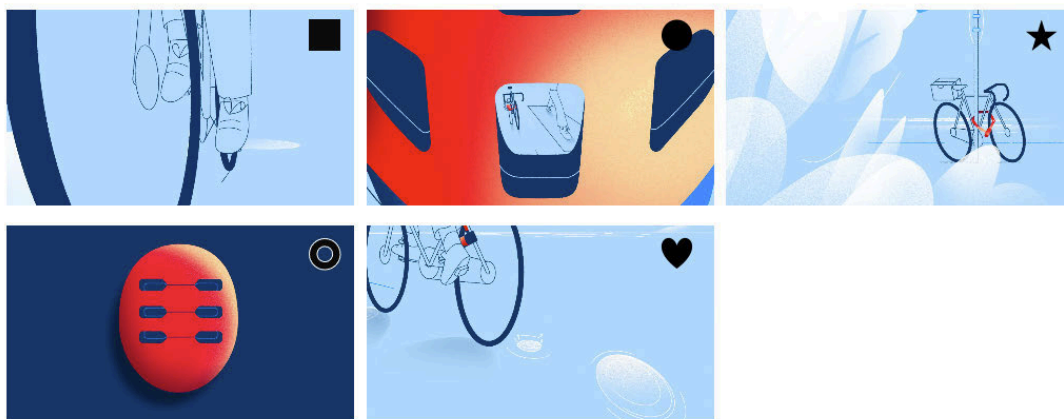
The focus group commenced with a questionnaire, where viewers answered questions about their consumption of MGs. The results of these questions are summarised in Table 5.4. Participants exhibit variations in the frequency, preferences, and devices used for consuming MGs. This implies that they regularly engage with MGs and reflect on the content they consume. After the questionnaire, the researcher conducted a group interview, encouraging discussion among viewers. The interview included questions about the viewers' general understanding and perceptions of MGs, how they understand the content, and the factors they believe are influential. The list of questions is in Appendix 10. During the interview, viewers were asked to note their thoughts on recording sheets, such as what they like and dislike about consuming MGs.

²⁵ An AI tools to transcribe audio and video files. <https://otter.ai/>

Name	Often watch... (never-always 1-7)						Devices	Usually for	Noticing on...			
	Movies	TV shows	Cartoons/ anime	Streaming videos	User generate content (UGC)	Likes			Visual style	Story	Feeling and emotion	Likes
Lucas	4	3	3	3	5	Movies	Tablet	Entertainment	5	6	7	Feeling and emotion
Heather	2	4	4	4	7	TV shows	Smartphone	Entertainment	4	6	6	Story
Ringo	4	5	3	2	6	Movies	Tablet	Entertainment	6	5	6	Visual style
Jo	3	3	2	3	4	Movies	Computer	Learning	4	5	5	Visual style
Daniel	4	4	3	2	5	UGC	Smartphone	Entertainment	6	5	6	Story

Table 5.4 Questionnaire results overview

The three visual tasks were the main activities of the focus group, conducted in the sequence of Arrangement Task (AT), Sequential Reasoning Task (SRT), and Narrative Comprehension Task (NCT). Viewers used a laptop and tablet provided by the researcher to watch the clips for each task. For the AT task, the clips introduced in the previous section were presented to viewers in a shuffled order (Figure 5.9). Viewers watched the clips several times using the provided devices (Figure 5.10) and were informed that there were no right or wrong answers for this task. After watching these clips, viewers were asked to arrange the order of these clips using the referential cards. Upon completing the task, each viewer noted their results and thoughts on a recording sheet (Figure 5.11) and took turns explaining why they arranged the clips in that order.



Arrangement Task

Arrange those clips as you like

Figure 5.9 Five clips for AT

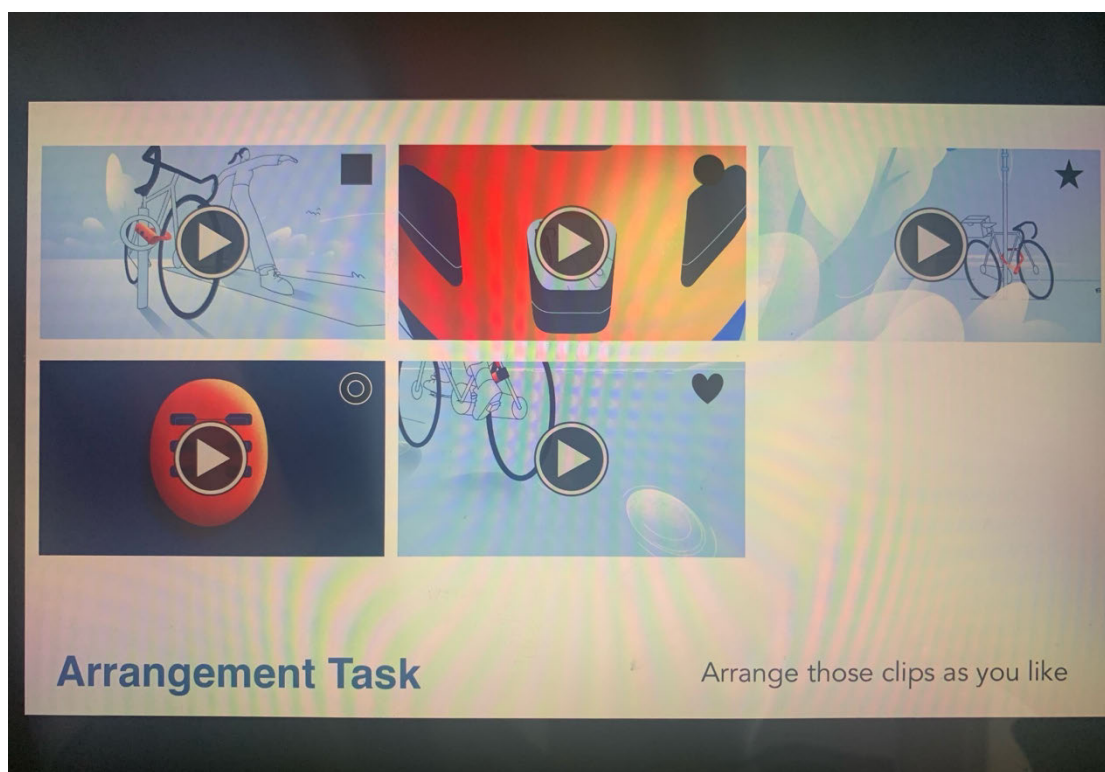


Figure 5.10 AT on the tablet and laptop, tap/click to play repeatedly

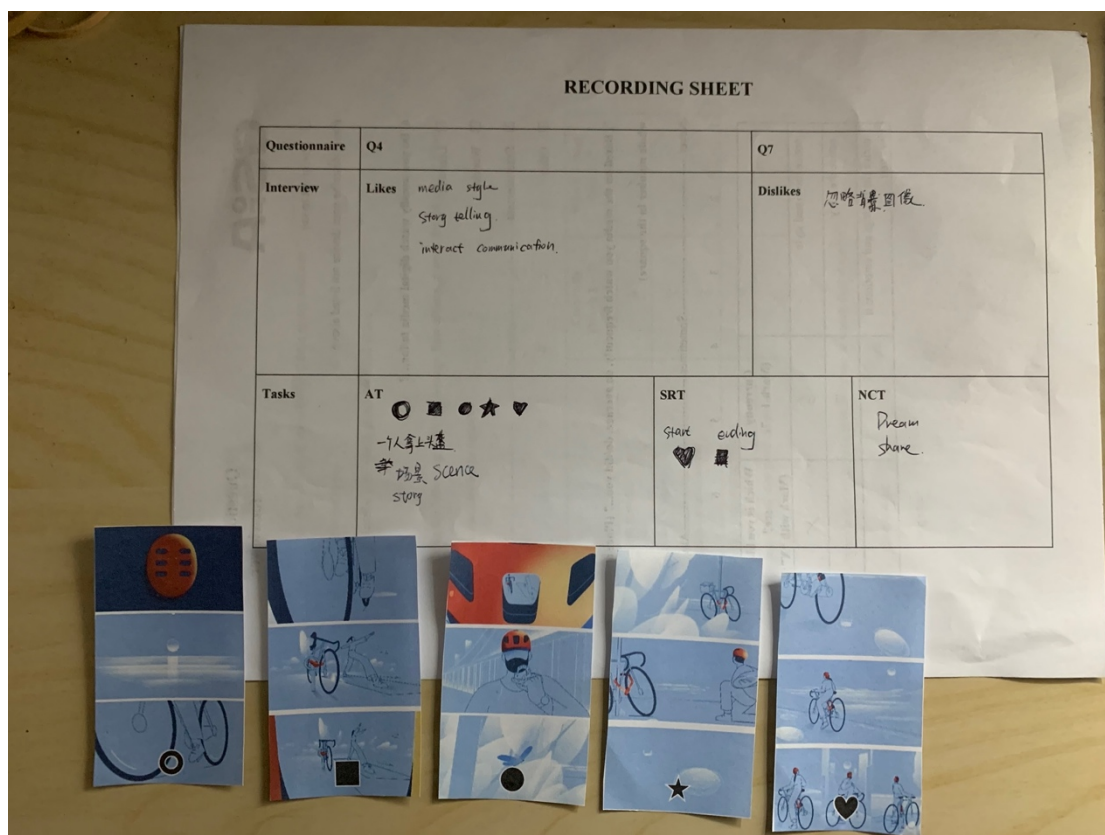
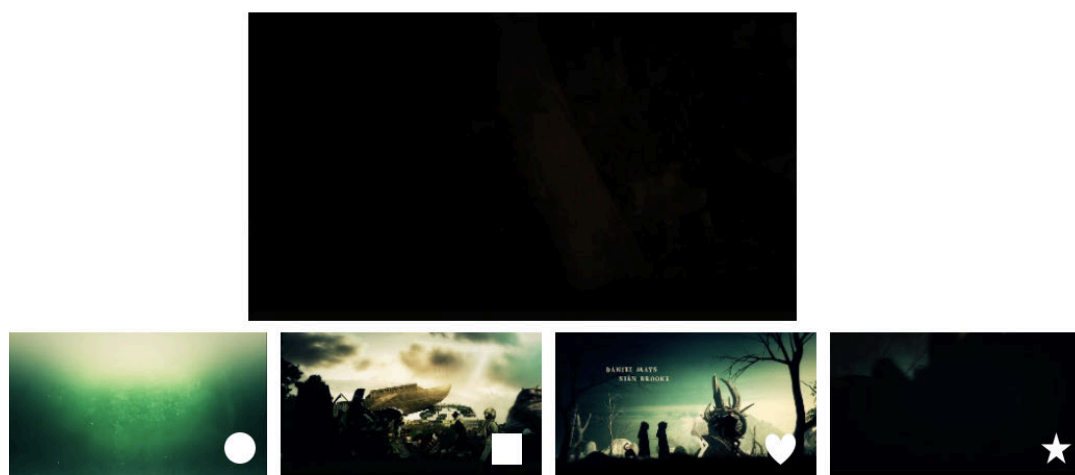


Figure 5.11 Example of a completed AT task and document the result

The SRT was the second task conducted. Viewers were asked to select a beginning and an ending from the four options provided (below) for the main body (middle) using referential cards (Figure 5.12). Viewers explained their choices when they finished the task. In addition to referential cards, the researcher offered extra references for the main body clip (Figure 5.14).



Sequential Reasoning Task

Choose a beginning and ending

Figure 5.12 Main body and four optional clips for SRT

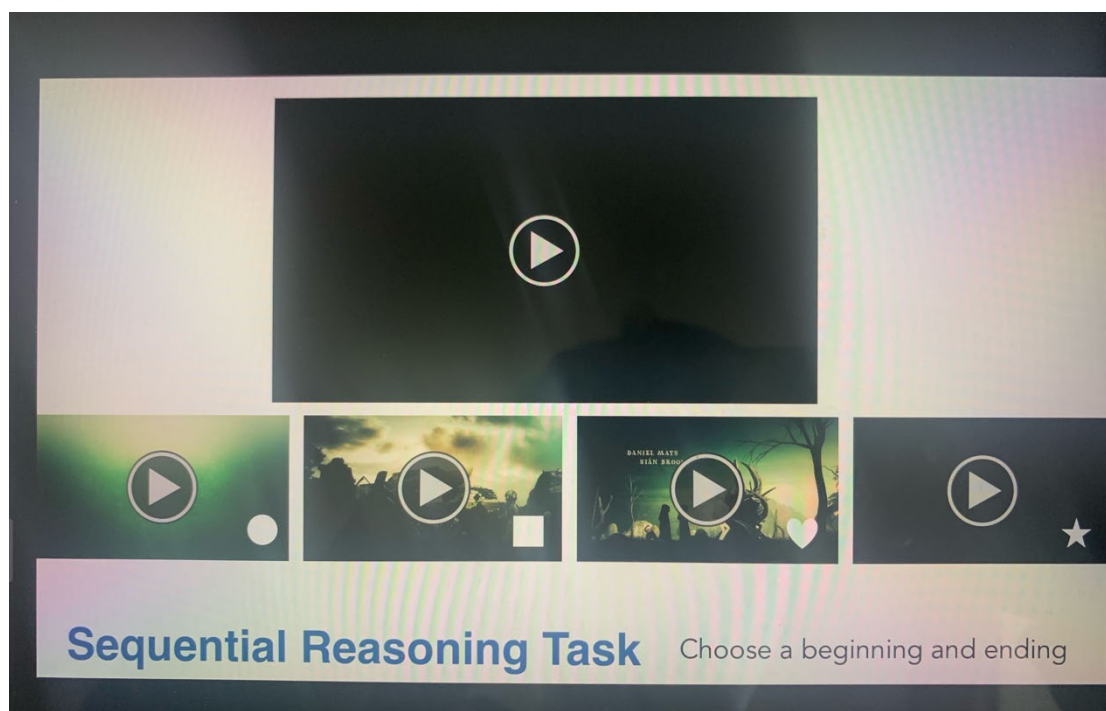


Figure 5.13 SRT on the tablet and laptop, tap/click to play repeatedly

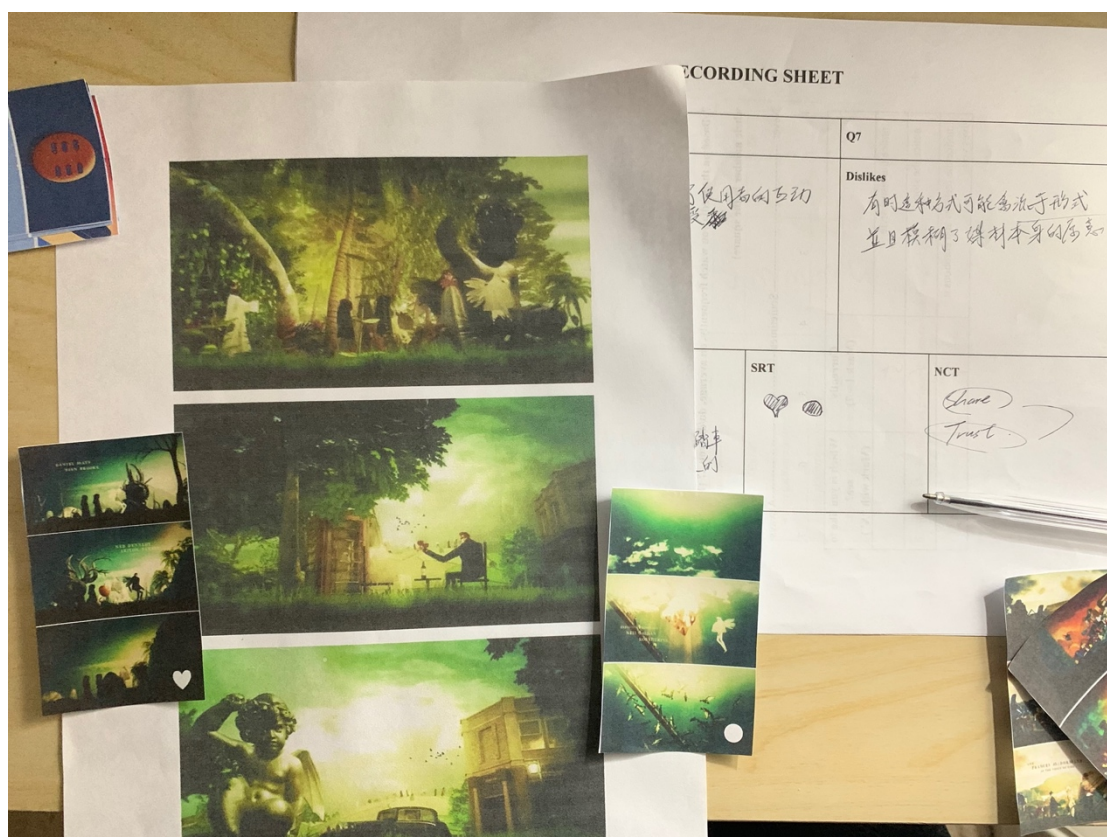


Figure 5.14 Example of a completed SRT task

The NCT was the final task (Figures 5.15-17). After watching the eight clips, viewers were asked to provide their interpretations and comments on any themes they chose, one person at a time, including their favourite ones, or offering different perspectives.



Figure 5.15 Eight clips for NCT

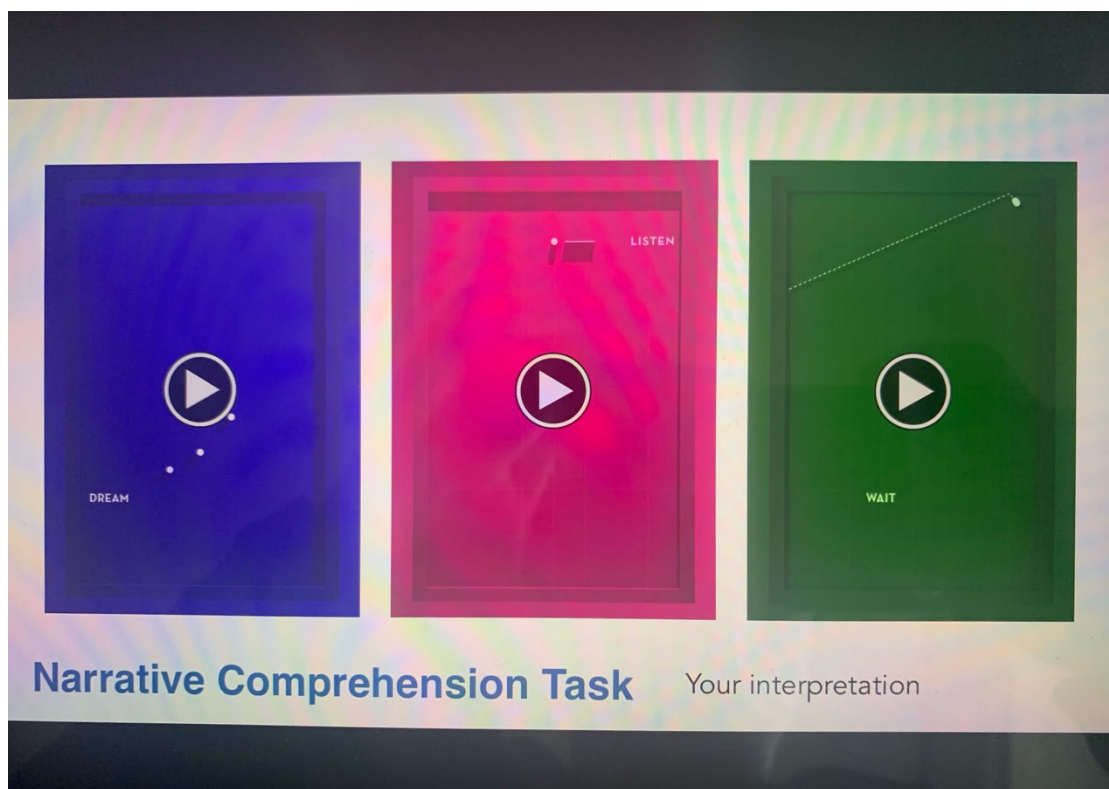


Figure 5.16 Example of NCT on the tablet and laptop, tap/click to play repeatedly

RECORDING SHEET

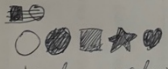
Questionnaire	Q4 TV movies		Q7
Interview	Likes slow easy to understand smooth inspiring		Dislikes too common can be boring time
Tasks	AT  bicycle outdoor explore locks?	SRT  Apple? Apple? boat	NCT Enjoy Self for trust dream? 

Figure 5.17 Example of a completed NCT task

After completing all the tasks, the viewers participated in a group discussion to reflect on the results. During the discussion, the researcher posed a series of questions about the task results to prompt further reflection from the viewers. These questions addressed the rationale behind viewers' choices and what factors they believed influenced their understanding and experience in each task. For example, the researcher asked, "Do you think the speed can affect your understanding?" and "How do you think you organise those clips?".

At the end of the discussion, the researcher collected feedback (such as their overall experience of the focus group and which activity was most engaging) from the viewers on the focus group via the Menti²⁶ platform. The viewers' feedback can be found in Appendix 12.

5.4 Data analysis

Thematic analysis and analysis on the wall were used to process the data from the Viewers Focus Group. As mentioned in Section 4.4, these two analysis methods were

²⁶ Menti is a platform that involves interactive presentations with polls and quizzes that engage meetings and classrooms. Access from <https://www.menti.com/>

applied to data collected from different activities to leverage the strengths of each method. The researcher separated the data into two datasets: the first dataset included the transcribed text from the group interview; the second dataset included the transcribed text and images from the visual tasks, the ensuing discussion and the final responses. Following the data processing steps described in Section 3.4.2, thematic analysis was used to process the first dataset, and analysis on the wall was used to analyse the second dataset.

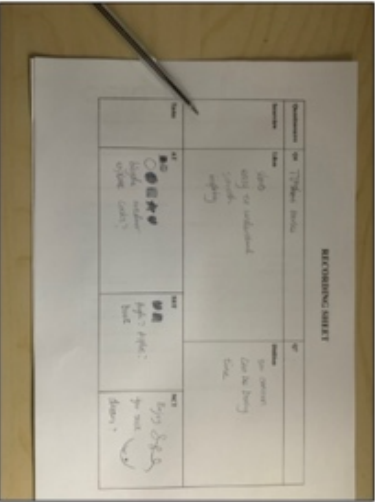
First dataset. As shown in Figure 5.18, after familiarisation with the transcribed text, the researcher extracted the points made by the five viewers during the group interview and added them to a Miro board for analysis. Key extracts were initially coded. For instance, “*I feel that after it (graphic) moves, it seems to have a story in it*” (Heather), was coded as “motion brings anticipation of a story”. The initial codes were grouped into three initial themes deductively based on the structure of the interview questions: Media, Experience, and Understanding.

In reviewing these three initial themes, similar concepts were further integrated and refined into seven new themes: Media, Imagination, Visual, Experience, Narrative, Attention and Presentation. An example of integrating initial codes is “Subjectivity in imagination” and “Complexity inspires imagination”, which were integrated into a new theme of Imagination. In response to Research Question 2, the researcher inductively clustered these seven themes into subjective and influential groups. The Subjective group refers to the viewers’ autonomy. It includes viewers actively constructing their own understanding of MGs and what factors they consider important in communication. The Influential group refers to the constraints of the viewers. It involves factors that the viewers cannot decide and are influenced by in the communication.

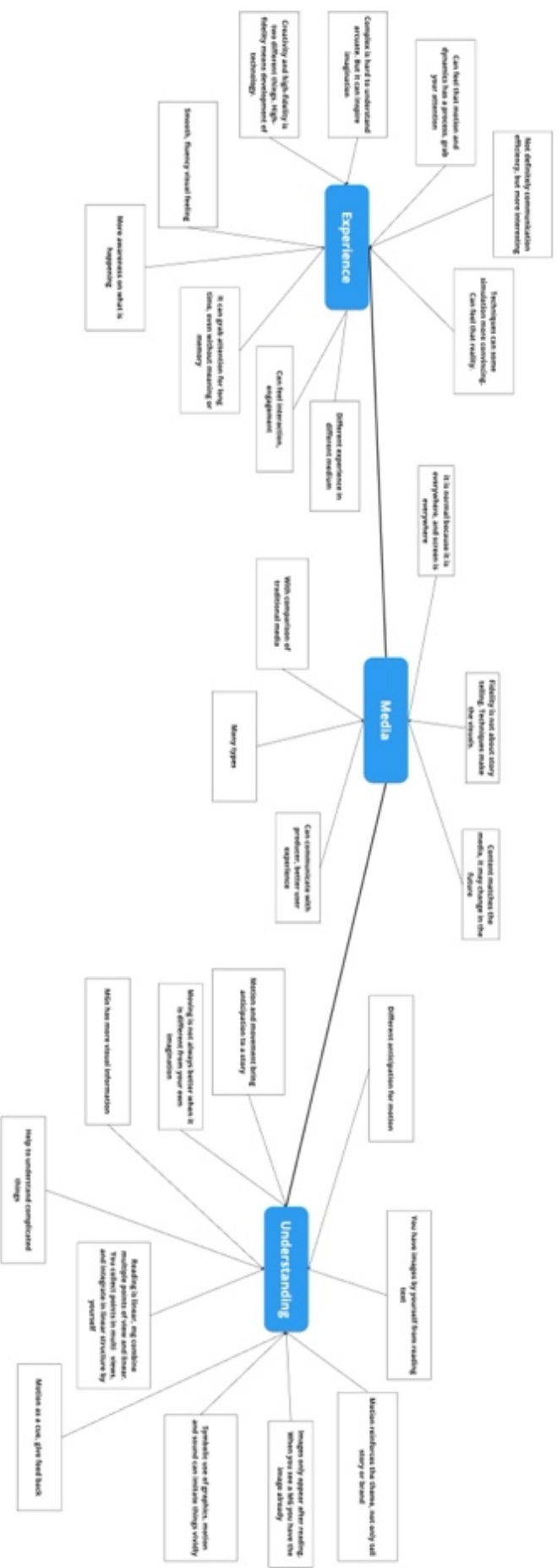
Finally, these themes were further defined and named within the Subjective and Influential groups to provide a structured understanding of how viewers experience and understand MGs, offering insights into their understanding process and influential factors. The final themes in the subjective group are Eye-catching, Common, Technology, Experience, and Transparency. The final themes in the influential group are Expression and Attention.

Transcribe and initial coding

Data extract	Initial Code
I think it's (MGA) become so common that I probably don't pay much attention to it because it's everywhere. I would see it, and I feel it related to the nature of the medium because screens are everywhere too. (Lucas)	It is normal because it is everywhere, and screen is everywhere
I do feel that many things used to be in static form because the composition is very stable, but moving things will wow me. I think there is a process that shows some things are moving. Now, some dynamic posters, and some web pages that used to be static will suddenly have an animation, which will grab your attention. (Heather)	Can feel that motion and dynamics has a process, grab your attention
I feel that after it moves, it seems to have a story in it. For example, when you look at a picture, you seem to think that you are just seeing a photo of a landscape, but since it moves, it looks like it is saying, let me tell you about more other than this photo. It can put more content into it, and it becomes very interesting. (Heather)	Motion and movement being adaptation to a story
I think this can actually deliver the designer's intention, and it can also enhance the user's experience. (Daniel)	Can understand the intentions of the design, achieve better user experience
In text reading, I feel it's a linear narrative. You only see one word at a time and read it line by line... But in MG and graphic design, I think it's a multi-point view. It first gives you an impression, then uses other points to complete your logic, or you suddenly overturn it. This kind of narrative is different. Then, more motions can give you information and let you have linear thinking. I think is very interesting. (Daniel)	Reading is linear, MGs combine multiple points of view and linear narrative. You collect information from multi viewpoints, and integrate in linear structure by yourself
I think some things must be seen in words, and some things must be seen in visuals. I think this is why I like this. I like reading books and watching movies, because I believe these two things give me completely different experiences. (Ringo)	Different experience in different medium
It can be more than these, and it can even move in other different ways, but everyone's imagination is different. (Jo)	Different anticipation for motion



Searching for themes/categories



Review the themes/categories

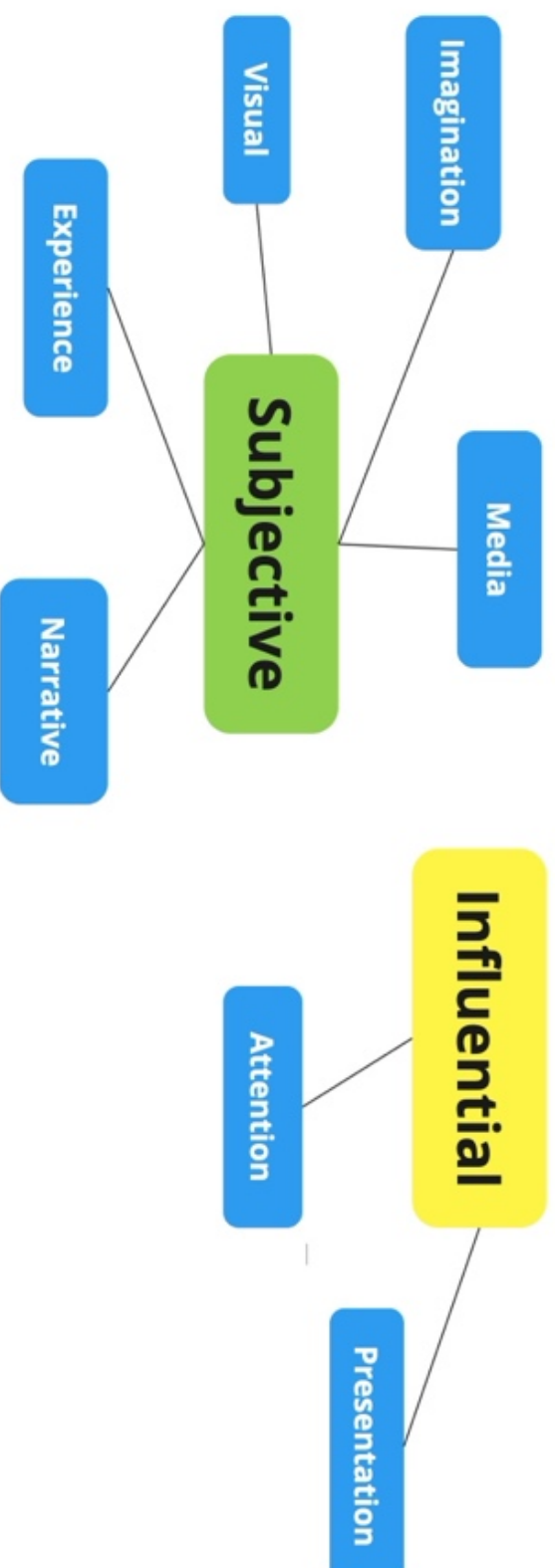
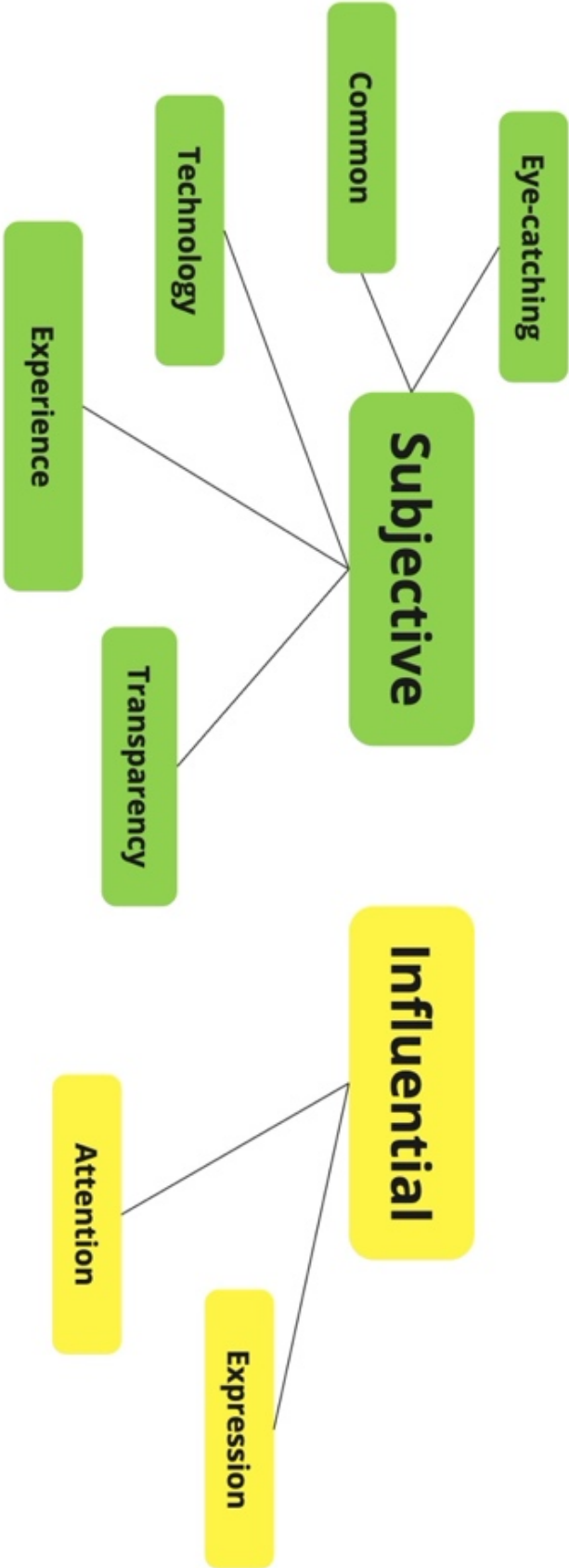


Figure 5.18 Thematic analysis for first dataset

Defining and naming themes



Second dataset. This dataset includes data from the task results of the five viewers, their discussion on these results and the final wrap-up, which were digitised and added to the Miro board for processing. Figure 5.19 illustrates the analysis steps.

In the setup and display step, the Miro board was divided into five sections, one per viewer. Each section included the viewer's task results and extracts. For instance, Lucas ordered the clips in AT as follows: ★, ○, ●, ■, ♥. The extracts included viewers' explanations of their task results and their views expressed during the group discussion. For example, "*In every clip, I can see that the main element is the bicycle*" (Lucas). The researcher used different coloured sticky notes to distinguish between the viewers.

The extracts were further grouped to identify themes through deduction. For example, the extracts "*I then arrange the clips according to the progression of the characters' actions*" (Jo) and "*I mainly sorted the events based on the timeline*" (Daniel) were grouped into a theme named Events. Eleven themes were identified: Clues, Events, Imagination, Analysis, Emotion, Intuitive, Narrative, Anticipation, Attention, Convincing, and Transparency.

Through induction, the identified themes were integrated into the subjective and influential groups in response to Research Question 2. The researcher further distinguished main themes and sub-themes by merging and grouping similar themes. The Subjective group includes two main themes: Experience (with the sub-themes of *transparency* and *engagement*) and Understanding (with the sub-themes of *imagination*, *narrative* and *reasoning*). The Influential group includes four main themes: Attention, Expression, Symbols, and Events.

Setup and display

Lucas

AT



SRT



NCT



Heather

AT



SRT



NCT



Jo

AT



SRT



NCT



Ringo

AT



SRT



NCT



Daniel

AT



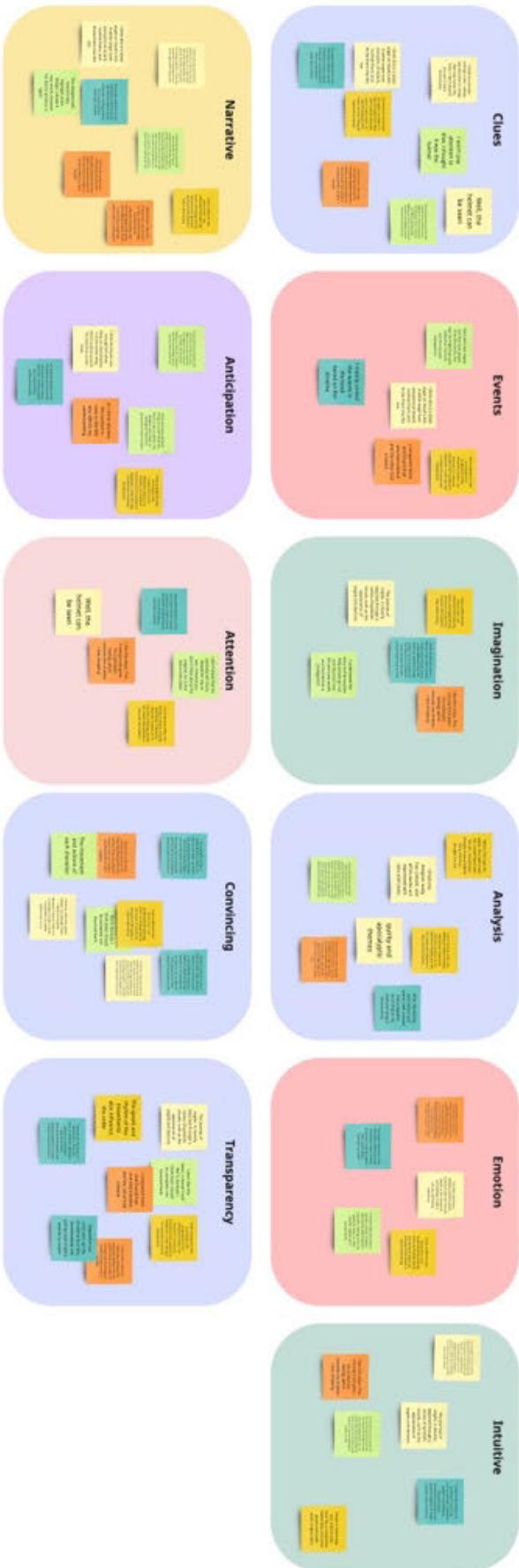
SRT



NCT



Identify patterns and themes



Grouping and interpretation

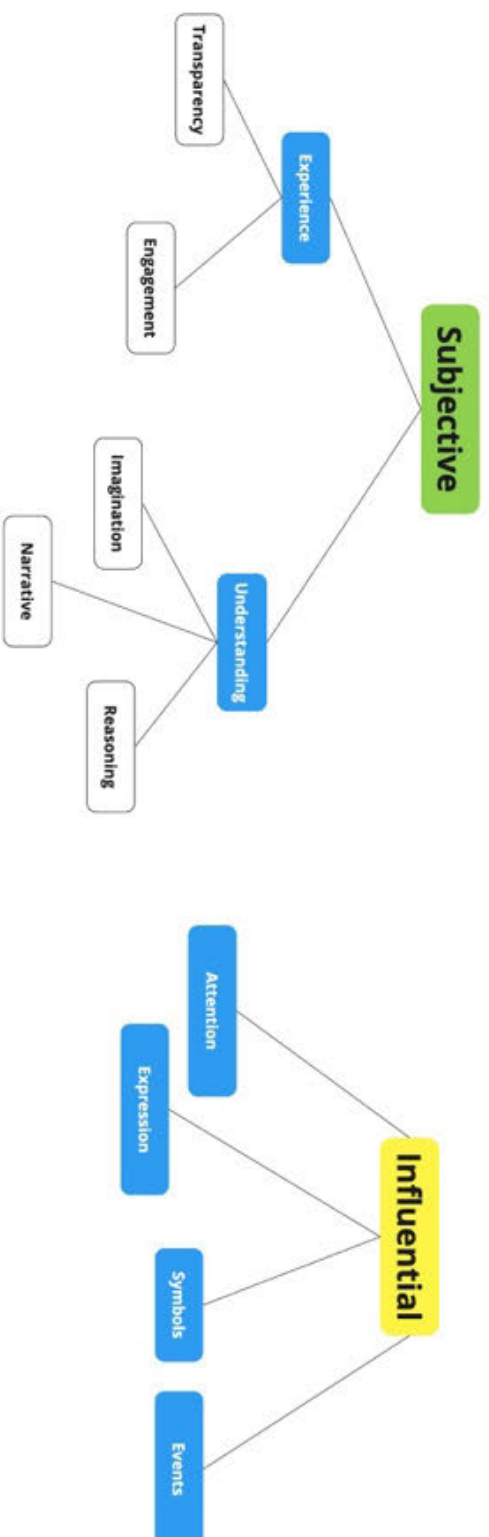


Figure 5.19 Analysis on the wall for second dataset

Synthesis
(with the results from thematic analysis)

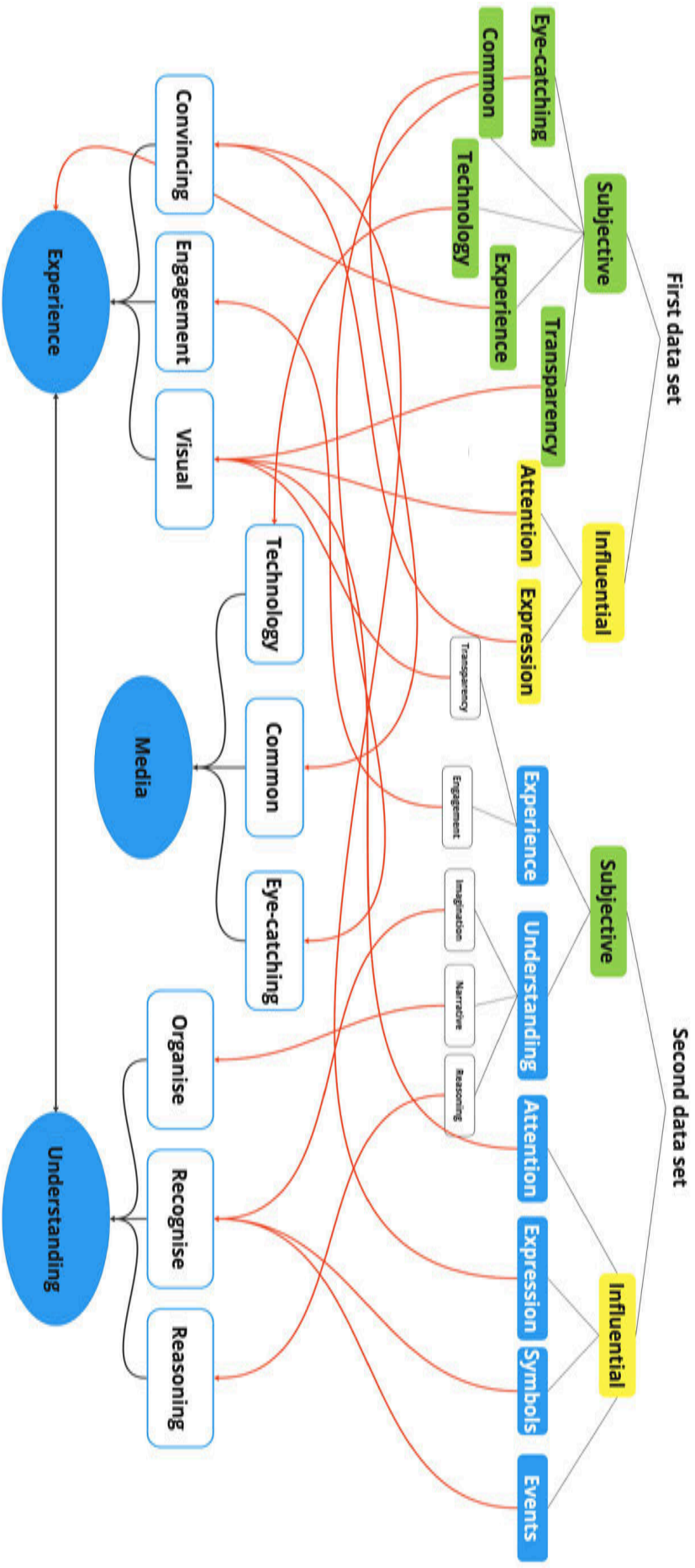


Figure 5.20 Synthesis results

As shown in Figure 5.20, the themes identified in both data sets were further synthesised and named into new main themes and sub-themes. The subjective and influential factors were identified under those themes. The following section provides a detailed description of the results.

Three main themes were identified through synthesis: Media, Experience and Understanding.

5.5 Results

Following data processing, the results of the Viewers Focus Group were presented in the form of a thematic map. Figure 5.21 illustrates three main themes and sub-themes, describing the viewers' experiences and understanding of MGs. Similar to the results of Producers Observation (Section 4.5), this thematic map comprises subjective factors and influential factors. This map further clarifies the factors that comprise viewers' personal experiences and understandings in MGs communication (subjective factors), as well as the factors that influence these experiences and understandings (influential factors). Different colours were used to indicate the main themes, sub-themes and factors.

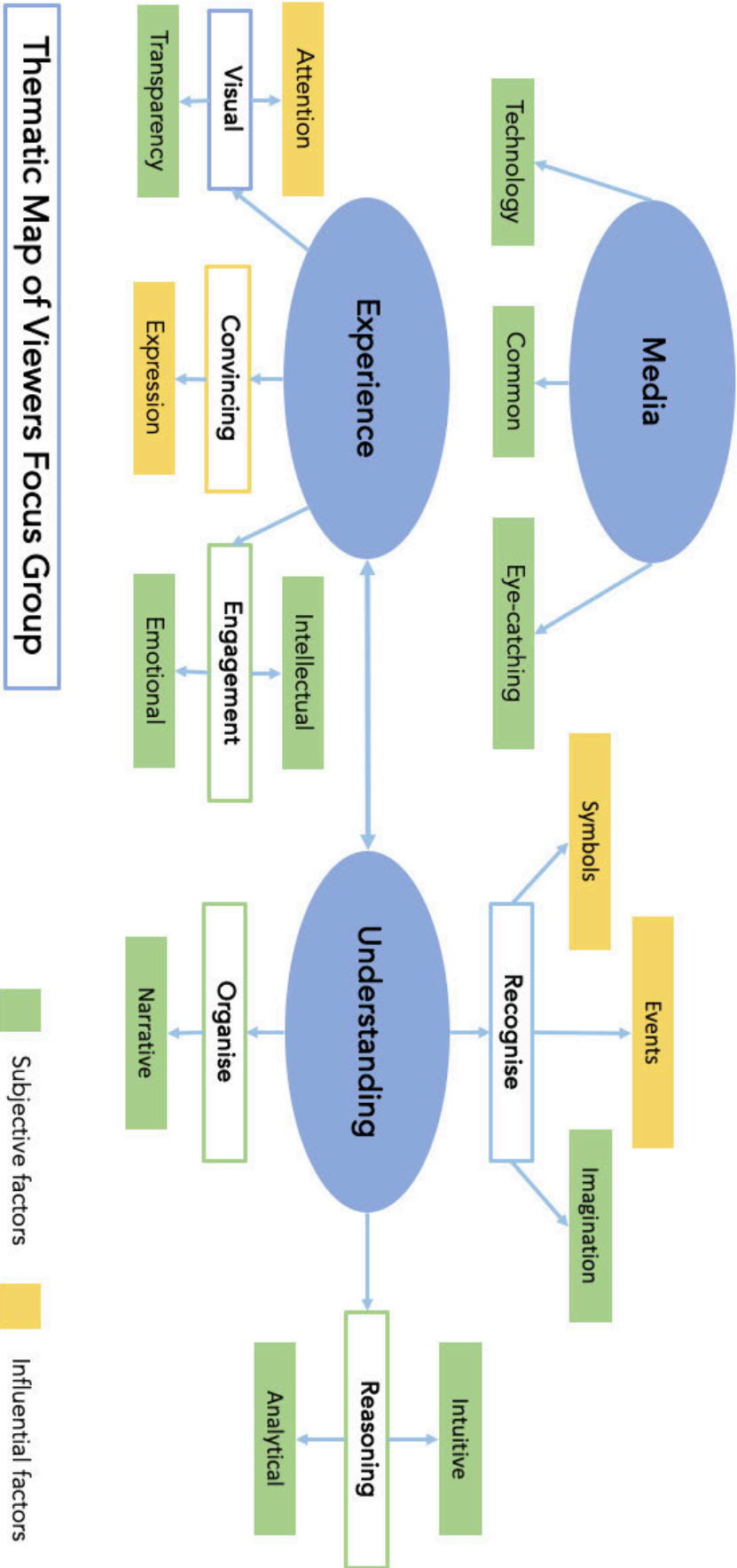
Three main themes were identified: Media, Experience, and Understanding.

Within the main theme Media, sub-themes includes Technology, Common and Eye-catching. They were all considered subjective factors because they represent the viewers' general perception of MGs as a medium.

The main theme Experience includes the following sub-themes: Visual, Convincing, and Engagement. The factors in the sub-theme Visual include *transparency* (subjective) and *attention* (influential). The factors in the sub-theme Convincing include *expression* (influential). The factors in the sub-theme Engagement include *intellectual* (subjective) and *emotional* (subjective).

The main theme Understanding includes the following sub-themes: Reasoning, Recognise and Organise. The factors in the sub-theme Reasoning include *intuitive* (subjective) and *analytical* (subjective). The factors in the sub-theme Recognise include the *imagination* (subjective), and *events* (influential) and *symbols* (influential). The factors in the sub-theme Organise include *narrative* (subjective).

Figure 5.21 Thematic map of Viewers Focus Group: subjective and influential factors



5.5.1 Media

This theme highlights how viewers perceive MGs, incorporating their personal experiences and reflections. These discussions take place within the context of the interaction and coexistence of traditional and new media. As Lucas summarised, *“We are actually standing at a cross point between the old media and the digital things of the new era, and we have witnessed all this.”*

MGs is widespread in the current digital environment, becoming a *common* visual form. As Heather commented, *“They (new generations) already think this is normal. They might not think about it or even explore what causes the digital things we have now to be like this.”* The extensive application and diversity of MGs across various fields are evident. As Ringo noted, *“I think this kind of thing [MGs] has different styles and genres as well”* (Ringo). This variety has contributed to the widespread dissemination of MGs, driven by changes in how audiences consume visual content. Lucas observed, *“I think it’s [MGs] become so common that I probably don’t think it’s special anymore, because it’s probably everywhere. I think it relates to the nature of the medium. Because screens are becoming more and more common”* (Lucas).

In this screen-based consumption, the dynamic nature of MGs stands out as an *eye-catching* element. Heather stated, *“I do feel that many things used to be in static form because the composition is very stable, but moving things will wow me. I think there is a process that shows some things are moving. Now, some dynamic posters and web pages that used to be static will suddenly have an animation, which will grab your attention.”* This ability to capture an audience’s attention may extend beyond a fleeting moment. As Jo described, *“I feel like I can look longer at something dynamic. I can stare at it forever. It’s kind of like browsing TikTok; it may not make sense, but time passes. But you’ll keep staring at it, and you probably won’t be able to remember it, but you’ll be staring at it and won’t feel bored.”*

Beyond attracting attention, dynamic content in MGs also serves to communicate and enhance user experience. As Daniel stated, *“I think this [MGs] can actually deliver the designer’s intention, and it can also enhance the user’s experience”*. However, whether this form of communication is efficient or meaningful remains ambiguous. Jo’s earlier remark, *“...it may not make sense, but time passes. But you’ll keep staring at it, and you probably won’t be able to remember it...”* reflects this ambiguity. For viewers, the focus appears to be on the experience itself. Lucas commented, *“It [MGs] is more attractive, but it doesn’t seem to be more efficient, and I don’t think it’s more efficient at delivering something. It is just fun.”*

The visual experience of MGs is shaped by computer *technology*. Ringo observed, “*Things [MGs] look better now compared to the old days. I think computer technology has pushed aesthetics forward*”. However, an improvement in visual quality does not necessarily equate to an advancement in creativity. As Lucas pointed out, “*If it’s just making high-quality visuals, then I don’t think it’s really an advancement of creativity. It’s just a result of technological improvement*”. Nonetheless, the diversity and expressiveness of visual content have undoubtedly progressed due to technological advancements. Technology not only refines visual content to enhance the user experience but also serves as a means to realise creative ideas. As Daniel explained, “*This jump in the quality of the image is related to creative ideas and techniques. You see many films and videos in nostalgic style. They’re trying to make something that looks vintage.*”

In summary, viewers integrated contemporary digital media environments within this theme with their personal experiences, offering insights into their perceptions of MGs and engaging in critical reflection. As Heather concluded, “*This form [MGs] we’re using now, is suitable to the current media environment, so it’s here. Then, it may become more and more compatible with other new media or vehicles, and new forms may come along. So, I think MGs is just a more suitable form for this time.*”

5.5.2 *Experience*

All viewers discussed the theme of Experience. This main theme aims to reflect the experience of viewers when watching MGs, which is dependent on the visual content and the sensations it brings. The theme focuses on how viewers talk about the subjective and influential factors of their experience based on what they see, understand, and engage in. The theme includes three sub-themes: Visual, Convincing and Engagement. The sub-theme Visual focuses on the visual perception of the content by viewers when watching MGs. The sub-theme Convincing focuses on how the composition of MGs is compelling or persuasive, which is related to the use of various elements and forms of *expression* in MGs. The sub-theme Engagement is about the engagement of viewers, involving their *intellectual* and *emotional* engagement.

5.5.2.1 *Visual*

In this sub-theme, all viewers mentioned their experience with MGs, encompassing their subjective feelings (subjective factor) and the factors they believe influence their experience (influential factor).

One factor influencing viewers' experience is MGs' ability to capture *attention* through their dynamic nature. This attention-grabbing effect is closely tied to another fundamental characteristic of MGs—time. Since MGs are time-based sequences, viewers' attention and focus are guided by the sequential presentation of images. As Heather described, *"Your attention is in sequential order. When it is all static, you might look at things in your order, but now it moves and grabs your attention; it gives you a focus. It's got an extra layer compared to that [static]."* Once MGs capture viewers' attention, they can also function as visual cues or feedback mechanisms, particularly in shaping interactivity and user experience. Lucas explained, *"I think the other side is including this interactive kind of stuff that we just mentioned with tablets or mobile phones. Its interface and UI design. We all say Apple has done an excellent job because it's very smooth. In this motion design, it gives you feedback. For example, if you slide down [a button] to a certain point, it will pop back up, and that's a kind of hint, so you'll know that this is the end of the line."*

Beyond serving as visual cues, MGs' ability to capture attention also helps maintain viewer engagement. As Jo shared in the previous section, *"I can stare at it forever."* By continuously directing focus in an ordered manner, MGs sustain engagement. Daniel reinforced this point: *"In this [MGs] sequence, you can always spot the focus in the scene and then keep attention on it."* This control over attention directly impacts the viewers' visual experience.

The quality of the viewers' experience also depends on the *transparency* of the visual content, which shapes viewers' perception and the level of understanding. A transparent visualisation can present clear and comprehensible imagery. As Jo noted, *"The visual will give me a strong impression; it's very specific."* Compared to textual descriptions, Lucas explained, *"After reading the text, you will have an image in your mind. The text is the author's very subjective description. But you don't have a concrete image until the visual or movement appears."* The transparency of the visual experience depends on whether the visualised content aligns with viewers' expectations. However, whether graphics or images truly meet these expectations remains a complex issue. As Lucas pointed out, *"I think it's pretty contradictory because the images we see may be different from what we think."*

Nevertheless, the motion that aligns with expectations can enhance transparency, creating a more coherent and seamless experience. Daniel provided an example: *"I will think of Netflix, for example, its logo, which has a very smooth animation, the motions fit the N shape and the sound effects."* This coherent and smooth experience lifts the

visual experience and the level of understanding. As Heather mentioned in the previous section, *“I think there is a process that shows some things are moving.”* This procedural display of the process helps viewers understand what they see.

5.5.2.2 *Convincing*

The sub-theme Convincing builds on the discussion of *transparency* from the previous section, specifically examining the relationship between what viewers see and their expectations. This sub-theme explores how viewers’ understanding is shaped by the *expression* (composition of visual elements, information, stories, concepts, etc.) of MGs. When what viewers see aligns with their experiences and expectations, they tend to accept the elements and content of MGs; otherwise, they may experience doubt or confusion. As Jo summarised, *“This kind of authenticity directly shows the communication between the producer and the audience or user.”*

Viewers agreed that convincing content does not necessarily mimic the real world but rather follows internal logic, conceptual consistency, or causal relations within the content. A clear and straightforward visual expression is the most direct and intuitively convincing approach. As Daniel shared in the previous section, *“I will think of Netflix, for example, its logo, which has a very smooth animation, the motions fit the N shape and the sound effects.”* The combination and unity of all elements in the logo—shape, motion, speed, sound, etc.—create a sense of fluency and coherence. In 3D content, materials and textures can also contribute to a sense of realism. As Ringo observed, *“...I think this [an example animation she gave] is different from what I know in daily life, but it has the real material texture, and that seems to leave a space for me to feel its authenticity.”*

Another compelling mode of expression involves linking visual elements to the information or concepts conveyed by MGs. However, viewers often hold different opinions on whether the same MGs are convincing, as their interpretations are influenced by their own experiences and understanding. For instance, in the NCT “Wait” visual task (Figure 5.21), viewers expressed differing views:

“I think it’s more like ‘Wait’ because it reflects a lot of mental activity when a person is waiting, and the fact that it’s a long path means that it goes through many processes in between. It’s reflecting this mood” (Lucas).

“I wonder why there is moving in ‘Wait’. You shouldn’t move when you are waiting” (Heather).

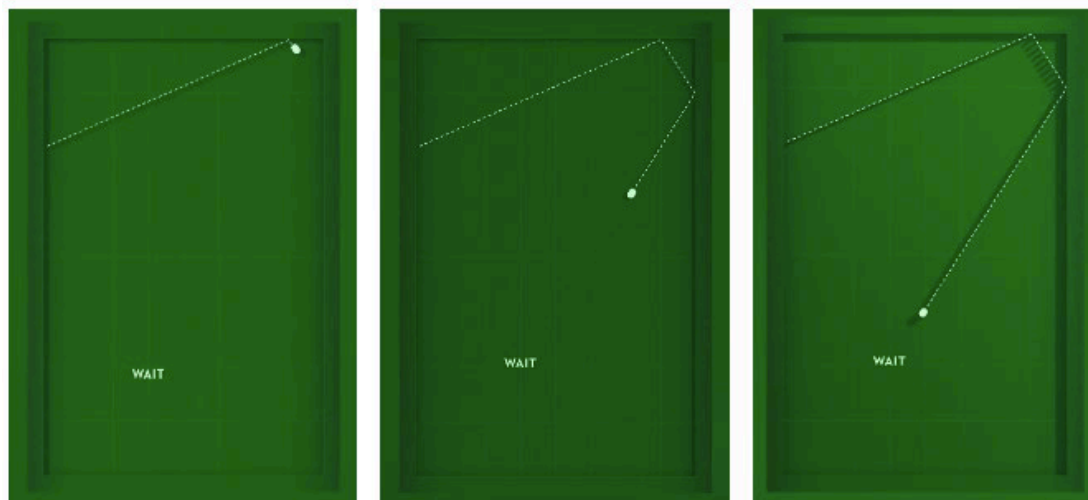


Figure 5.22 Wait in NCT

The abstract expressions often led to confusion among viewers. Here are some opinions on the NCT “Dream” task (Figure 5.23):

“I think the Dream makes me a bit confused. It feels like a competitive relationship to me, so I don’t get it” (Daniel).

“It has a slowly rising motion, making me feel that this speed and shape really make me think it floats from the ground. It gives me a feeling of a dream” (Heather).

“My first thought, this was a daydream, and then he (Lucas) thought it was a dream. Then, our imagination of dimensions is also different...I feel like this is in a box” (Ringo).

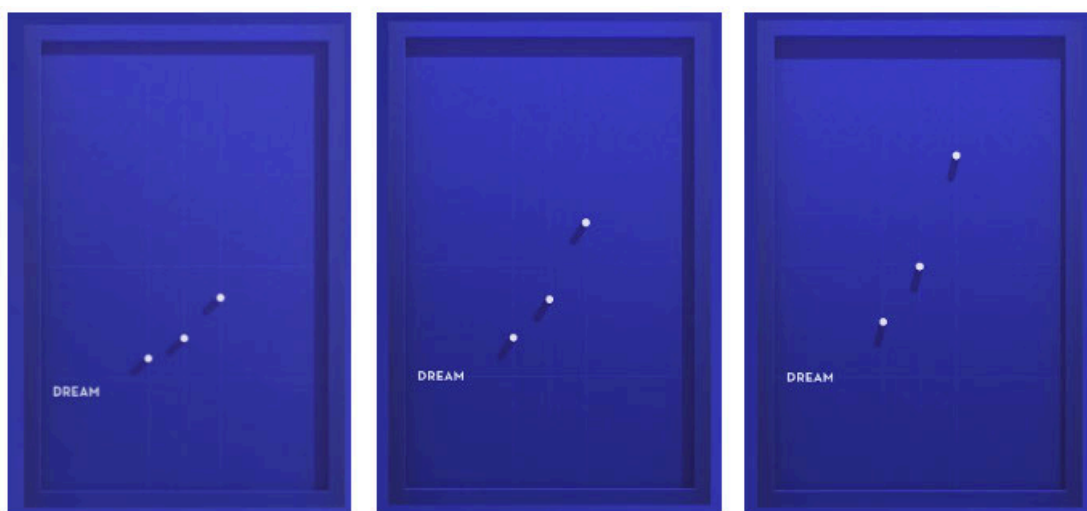


Figure 5.23 Dream in NCT

These varying opinions prompted viewers to reflect on their judgments and understanding. For example, Heather explained, *“Its [the visual element] trail and*

speed will affect our understanding". The ambiguity of visual language—such as movement, speed, and trajectory—impacts the comprehension of content and influences viewers' judgments. Section 5.5.3 further describes how this judgment and understanding process occurs among viewers.

5.5.2.3 Engagement

All viewers discussed the sub-theme Engagement, focusing on their engagement with MGs. This sub-theme highlights two types of engagement: *intellectual* and *emotional* engagement. Both are subjective factors that shape viewers' experiences.

Viewers expressed that they engage in thinking and analysis based on the content of certain MGs. For instance, as Lucas mentioned in Section 5.5.2.1 regarding visual feedback and cues, *"...For example, if you slide down a button to a certain point, it will pop back up, and that's a kind of hint, so you'll know that this is the end of the line."* In addition to direct engagement, intellectual engagement includes understanding and speculating about the story within MGs. For example, Heather in the SRT task described, *"I think the story is related to the Bible... And then I think they were walking and they were supposed to get on the boat, although I didn't see it."*

Viewers' interpretations often change depending on how many times they watch a MG. Jo observed in the SRT task, *"It seems to relate to how many times the audience views it, whether just once or multiple times."* Daniel responded, *"So, after watching this twice, I found it more interesting than last time, and I found more details. I feel it is more and more interesting."* This discovery of new content or subtle details enhances the depth of viewers' observation and engagement.

The insights above highlight viewers' intellectual engagement with MGs. They gather information and cues from MGs, attempting to interpret and think critically about the story. This engagement can evoke feelings of confusion, curiosity, or conviction, depending on the content. However, this engagement is not about solving a puzzle or finding a single correct interpretation; rather, it encourages viewers to reflect and imagine. As Heather explained, *"The thing is that there are many interpretations of this [MGs]. I think the beauty of it is that its dynamic nature makes it more complex and more likely misunderstood, which can inspire people and imagination."* While intellectual engagement involves analysis and interpretation, emotional engagement also plays a crucial role in shaping viewers' experiences.

The emotional engagement emphasises the emotions and feelings triggered by MGs. This engagement is often linked to viewers' personal experiences, with the content evoking specific memories or emotions. For example, Heather shared in the

NCT task, *“I don’t like ‘Listen.’... it reminds me of talking to my husband. It feels like I’m talking to a tree, and all the words are bouncing back to me, and I end up talking to myself. That’s what it feels like.”*

By drawing from their own experiences and emotions, viewers engage more deeply with MGs, enabling them to better empathise with the feelings or values being conveyed. This personal connection determines the intensity of their emotional response and the depth of their engagement with specific content, ultimately enhancing communication. As Daniel explained, *“The more it [content] connected to me, the more I find a similar feeling of identification. Then, I feel something great about what the work is trying to deliver.”*

5.5.3 Understanding

All viewers spoke on the theme of Understanding, which includes three sub-themes. The sub-theme Recognise is about how viewers identify elements in MGs. The sub-theme Organise emphasises how viewers use narrative to organise the stories they understand. The sub-theme Reasoning highlights the two modes of thinking that viewers adopt in the process of understanding.

5.5.3.1 Recognise

All viewers discussed the sub-theme of Recognise, which concerns how they identify and perceive what they see. This sub-theme highlights two factors influencing viewers’ recognition: *symbols* and *events*.

As noted in Section 5.5.2.1, moving elements can capture attention. This focus on movement leads viewers to interpret graphics and motions in MGs as symbolic expressions. Whether through graphics or motion, symbolic expression shapes viewers’ understanding, as they compare the symbols they see with the concepts stored in their minds. When graphics are sufficiently detailed, viewers search their mental frameworks for related concepts and impressions, allowing them to assign meaning to these symbols. As Jo shared in the NCT task *“Actually, I didn’t see the apple at first. I didn’t know that this story was related to the Bible. But when he [Lucas] mentioned the apple, I thought that if this was Eden, there might be a snake in it. Then I was looking for a snake, and I found it.”* When graphics lack detail, and their meaning becomes ambiguous, viewers rely on motion to aid interpretation. As Lucas explained, *“I think motion is also a type of expression to represent something. For example, I’ve seen someone turn an NBA player’s shooting motion into a stick man shooting before, but you can recognise who it is just by its move.”*

When motions complete a sequence of actions, they can form a relatively coherent description, which can be interpreted as an event. By retrieving contextual information within MGs, viewers integrate symbolic graphics and motions into these events. As Lucas described in the AT task, *“I combine parts of the story through clues in the scene, and then I think about what the story is.”* However, as discussed in Section 5.5.2.3 on engagement, viewers’ interpretations of events differ due to the influence of both intellectual and emotional engagement. Because viewers bring their experiences and perspectives into their understanding, MGs often evoke multiple meanings. Heather commented, *“I think everyone’s imagination and understanding will be different.”*

Imagination is a subjective factor in viewers’ understanding. It refers to how viewers relate what they see to their prior experiences or expectations. As discussed in Section 5.5.2.3, viewers emotionally engage with MGs through empathy. The content viewers observe can evoke specific behaviours, feelings, or emotions. Symbols, colours, motion trajectories, and speeds all serve as cues that help viewers recognise graphics or events in MGs. As Ringo described in the NCT task, *“I quite like ‘Enjoy.’ It reminds me of myself when I was shopping, happy and strolling on the street.”*

Additionally, viewers’ imagination is based on cause-and-effect relationships. It is related to the spatial relationships between visual elements. Such spatial relationships influence viewers’ interpretations, though their expectations may not always align with what they see. Heather explained in the AT task, *“For example, if there is a stone skimming, the stone goes in this direction, turning into the trail left by a bicycle riding across the water.”* However, recognising symbols and events in MGs depends on their visual transparency—such as how transformations and movements are presented (Section 5.5.2.1)—as well as the depth of viewers’ engagement and their emotional connection to the content (Section 5.5.2.3). Another imagination relates to the development of events. Based on viewers’ intellectual and emotional engagement, viewers retrieve contextual clues and establish their own interpretations. Through imagination, viewers actively recognise symbols and events, and are open to being inspired by what they see. As Heather put it, *“[MGs] Give you room for imagination.”*

5.5.3.2 Organise

Viewers discussed how they organise the stories they understand subjectively. As Heather described, viewers tend to understand the content of MGs from a narrative perspective, which appears to enhance their engagement and experience: *“I think motion brings a story. For example, looking at a photo of a landscape, but when*

something moves, I feel like it tries to tell a story or something beyond the photo. The more space you can put things in, the more interesting it becomes.”

Viewers structure their understanding of MGs through *narrative* and describe it as a story. When narrating the stories they perceive, they focus on the plot and its development, reflecting both their intellectual and emotional engagement (Section 5.5.2.3) as well as the relationships between elements in MGs (Section 5.5.3.1). This narrative process involves forming an overall impression, identifying event units, and integrating them into a story. Viewers’ first impressions of content are shaped by their experiences (Section 5.5.2) and recognition of content (Section 5.5.3.1), involving initial and rapid information processing. As Ringo shared in the SRT task, *“I find this stuff very fantasy and surreal, so I’m doing this task with simple impressions and being very subjective.”* When viewers first engage with content, its transparency (Section 5.5.2.1) plays a crucial role in helping them quickly conceptualise the context. Jo compared reading to MGs, stating, *“When I see MGs, I get an immediate impression through concrete images and straightforward structure.”* This ability to quickly establish understanding helps viewers further identify and process the symbols and events they see, as they already assume these elements belong to the same context. Daniel described this point in the AT task, *“In each clip, I can see the main element is the bicycle, as it appears in every scene, so I think the story is based on the bicycle as a theme.”* Once viewers link each event unit, a story emerges based on their understanding, incorporating narrative description, personal experiences, and the way they organise the sequence.

However, recognition of *symbols* and *events* varies depending on viewers’ levels of engagement and interpretation. For example, while Daniel believed there were three people in the AT task, Ringo thought there were only two: *“I thought it was two people before you said there were three. Then I compared it and realised, oh, one with a moustache, and the other without. And I’m not sure if it’s a moustache or a mask.”* This difference in understanding directly affects their interpretation of the story, yet all viewers agreed on the overarching theme in the AT task. Differences in understanding extended to viewers’ interpretation of the designer’s intent. Heather explained, *“This video I thought was commercial because of some of the things that the designer would intentionally highlight, like the helmet and the lock. So, I assumed it had something to do with bike accessories.”* Meanwhile, Ringo shared, *“I guess the story is trying to say ride your bike safely, and you’ll get a happy life.”*

5.5.3.3 Reasoning

All viewers discussed their reasoning approaches, considering them subjective factors. They found that narrating the stories they interpret can vary depending on different reasoning approaches. When engaging with MGs, viewers generally adopt two reasoning approaches—*intuitive* or *analytical*—depending on their emotional or intellectual engagement.

Intuitive reasoning is based on viewers' immediate impressions and emotions. It allows for quick interpretation of MGs, though often at the expense of in-depth understanding. This approach aligns with emotional engagement, making it easier for viewers to sense the atmosphere and mood of MGs through sensory experience. As Daniel explained, "*Because it's very straightforward, and you can feel it with a glimpse. I don't have to think much, I can feel it with the first impression.*" When engaging intuitively, viewers focus less on logical consistency or deeper meanings and more on visual aesthetics. Lucas described this experience as "*My interpretation is based on how I feel*", highlighting the role of first impressions in emotional engagement. This also connects to the quality of visual expression, as Heather noted, "*I'm not sure I will be interested in watching not-so-good-looking and boring things.*"

Intuitive reasoning is particularly useful when navigating large volumes of dynamic content, serving as a filter for quick information processing. As Lucas observed, "*It's not a lack of information these days, it's too much information, and many of them might not mean anything. You go with your feelings in many circumstances, and that's enough.*" Heather further argued that intuition is a key strength of MGs: "*In general speaking, I think a lot of good design is intuitive. It doesn't need to make sense or follow logic, but you can use it pretty well.*"

Analytical reasoning, by contrast, involves deeper reasoning and structured analysis. Viewers who adopt this approach seek to uncover the underlying meanings and logical structures within MGs. They examine elements in detail, exploring how they interconnect to form a cohesive narrative. Lucas explained, "*When I'm interested in it, I'll try to understand what it is saying.*" As Jo noted in the SRT task, this analytical process facilitates a more profound understanding: "*Think about it thoroughly, and this story could be different.*" Viewers engage with MGs by critically examining each element, assessing how they relate, and constructing their interpretation accordingly. While individual perspectives may differ due to personal experiences and knowledge, the analytical process itself remains consistent.

As discussed in Section 5.5.3.1, viewers recognise elements in MGs from cause-and-effect relations within MGs. Their analytical reasoning is guided by these relations. For instance, when talking about the NCT “Respect” task, Lucas commented, *“It’s because I saw the line following the dot, and then I would think about why use a line and a dot, because they are not the same thing? Then I think about whether this action fits the concept of respect.”* Viewers also look for additional clues to refine their understanding. Ringo shared in the SRT task, *“I watched it at least two or three times to believe this is a Bible-related story. I only saw the apple and the ship, and after she (Jo) said she saw the snake, I started to think the ship was the ark, and everything added up.”* This process illustrates how analytical reasoning allows viewers to revise their interpretations based on new information. As viewers delve deeper into analysis, their understanding evolves, incorporating new explanations and perspectives. Heather commented, *“I find it much more complicated than it looks, but it is interesting to think about the story and the clues in the scene because designers can add tons of detail to it, and the more you recognise, the better understanding and experience you can get.”*

5.6 Discussion

The Viewers Focus Group examined how viewers understand and experience MGs, focusing on their understanding process, engagement, and the influential factors influencing their understanding and experience. The results indicate that understanding is a subjective and dynamic process, shaped by both immediate sensory impressions and deeper analytical reasoning. While MGs provide rich, multi-layered experiences, its communication efficacy in conveying meaning depends on how viewers engage with the content, how they construct narratives, and how external factors shape their perception. The results highlight both the potential and the limitations of MGs as a form of communication to viewers.

5.6.1 Viewers’ understanding process

The Viewers Focus Group reveals that viewers actively construct narratives when understanding MGs, integrating symbolic elements, motion cues, and contextual information to form coherent stories. This process aligns with previous research on visual narrative (Cohen, 2013) and multimedia learning (Mayer, 2005), and further suggests that dynamic content facilitates meaning-making through sequential organisation.

As John Berger (1972) argues, the meaning of an image does not exist objectively but is shaped by the viewer’s cultural background, expectations, and social context. Thus, understanding is not a passive reception of visual content, but a process

of viewing–interpreting that is grounded in life experience and cultural frameworks. The Viewers Focus Group identifies that understanding MGs is often a process of Recognise - Organise. Unlike static images or explicit textual descriptions, MGs present information in a time sequence, requiring viewers to piece together information across time. The viewers use narrative to organise that information (symbols to events) to understand MGs, their understanding and interpretations are story-like. The sequence of events in the story is organised based on spatial and causal relationships. Viewers place events within the same context, describing their understanding in a narrative with a plot. Their experience becomes part of the story, for instance, what occurred at the beginning and what concluded the story. Some viewers relied on motion cues to interpret meaning, while others focused on the interaction between different elements. This suggests that viewers actively build narratives through a combination of perception and reasoning. This process of forming narrative through visual cues and inferred causality echoes Eisenstein's (1949) view that meaning emerges through montage; the juxtaposition or conflict between shots that facilitates the viewer's reasoning, prompting them to construct narrative in their minds. Similarly, the sequencing and causal structure of events in MGs engages the viewer's cognitive processing, encouraging them to narrate and reconstruct meaning in their own way.

However, the understanding process is not always linear or consistent between viewers. Differences in how viewers recognised and assigned meaning to the same MG content illustrate the fluidity of interpretation. For example, while some viewers immediately identified the theme in visual tasks, others only arrived at similar conclusions after discussing and rewatching the content. This variation underscores how meaning in MGs is not fixed but contingent on individual perspectives and levels of engagement.

Another finding is that viewers' understanding is based on *intuitive* and *analytical* reasoning. This dual approach suggests that the process of understanding MGs is not a straightforward decoding of visual symbols but rather an active cognitive process shaped by personal experience, prior knowledge, and expectations. The first impression of MGs often relies on intuitive reasoning, where viewers associate visual elements with familiar concepts or emotions. However, deeper engagement occurs when viewers begin to analyse relationships between elements, identify symbolic cues, and reconstruct narratives. The different understanding also reflects the meaning-making in multimodal communication (see Section 2.2.2). As Kress (2020, p.151) notes, "*modality is interpersonal rather than ideational.*" According to Kress (2001), in

multimodal communication, meaning is not constructed from any single element, but from the interplay between modalities, their composition, and the social context in which they are interpreted. Therefore, understanding MGs depends on the viewer's cultural positioning, reading path, and interpretive strategies—what Hall (1973) referred to as different decoding positions (also discussed in Section 2.2.2).

Moreover, the Viewers Focus Group revealed the challenges of ambiguity in MGs. Viewers rely on personal experience, expectation and imagination-driven reasoning to understand MGs. Some viewers described feeling unsure about the intended message, while others attempted to resolve ambiguities by relying on external references, such as cultural associations or previous experiences. This finding suggests that the understanding process is shaped by both internal cognition and external frameworks, which may enhance or complicate meaning-making since viewers may operate within distinct structures of meaning (Hall, 1973). While open-ended or abstract MGs can be engaging, they also lead to moments of confusion when viewers struggle to align visual elements with coherent meaning. This may raise questions about the clarity and validity of MGs as a communication medium, particularly in contexts where accuracy and shared understanding are essential, such as advertising and education. In contemporary digital environments in particular, the effectiveness and validity of MGs in communication may depend on the specific context, including how modalities are encoded and how reality is defined within that setting (Kress, 2020). The findings of this chapter suggest that communication may become more credible or better aligned with the intended meaning when the viewer's interpretation, the content of MGs, and their mode of expression are aligned within the same context. For instance, in a scientific context, simple graphics and symbols may effectively represent a concept, while in a realistic context and expression, the same representation may have lower validity.

5.6.2 Viewers' experience

The Viewers Focus Group found that the viewer's experience involved subjective factors within the sub-themes Engagement and Visual.

Engagement plays a crucial role in shaping viewers' experience with MGs. The engagement operates on both intellectual and emotional levels, deciding how viewers actively process and respond to MGs.

As noted in 5.5.2.3, *intuitive* engagement allows for immediate emotional reactions, where viewers react to colour, motion, and composition to form quick impressions. Emotional engagement was particularly evident when viewers associated

MGs with personal memories or subjective experiences. This finding suggests that meaning can be shaped by individual perspectives rather than objective interpretation and highlights the connections between viewers and MGs.

Intellectual engagement fosters a deeper, more analytical understanding related to experience. Viewers who engaged intellectually with MGs sought to understand the underlying logic, relationships between elements, and potential narrative structures. This deeper engagement may require repeated viewing, as some viewers reported their understanding was updated after multiple exposures. The ability to discover new details with each viewing suggests that MGs might encourage layered engagement, where initial impressions may be superficial, but further reflection leads to a richer understanding. However, this also raises the question of accessibility—if richer understanding requires multiple exposures, first-time viewers may struggle to grasp the intended meaning or form a different understanding.

Furthermore, the results highlight how viewers balance emotional and intellectual engagement. Some viewers preferred intuitive engagement, where they prioritised aesthetic and sensory appeal over structured reasoning. Others sought to analyse meaning systematically, breaking down visual elements to understand their meaning or function within a larger narrative structure. The distinction between these two approaches is not rigid. Viewers shift between them depending on their level of interest, prior knowledge, and exposure to the content. Different engagement styles influence how viewers interact with MGs, leading to diverse experiences even when encountering the same content. The coexistence of these two engagement styles suggests that MGs offer multiple entry points for viewers but also raises the challenge of whether all viewers ultimately reach similar levels of understanding or experiences.

The Viewers Focus Group also finds that the viewers' experience is intertwined with *transparency*, which determines how easily viewers can access and understand MGs. Transparency refers to the clarity and coherence of MGs in conveying information, including how well visual elements, motions, and compositions align with viewers' expectations and understanding process. When MGs provide clear visual cues and maintain a logical flow (such as coherent spatial changes or reasonable causal relations), viewers are more likely to form a sense of coherence that enhances both emotional and intellectual engagement. In contrast, when MGs are highly abstract or ambiguous, the experience becomes more fragmented, requiring viewers to actively construct meaning, often through repeated exposure or external references and shift engagement styles. This suggests that transparency dictates the viewers understanding

and shapes the depth of engagement—high transparency may facilitate quick comprehension, while lower transparency may encourage a more reflective experience. However, the findings indicate that a lack of transparency can also lead to confusion, disrupting the viewers' experience and potentially limiting their ability to engage with MGs.

5.6.3 *Influential factors*

The previous discussions support and further clarify the argument in Section 2.4.1: viewers organise events through narrative to understand MGs. Building on this, the findings from the Viewers Focus Group indicate that understanding and experience in communication are related. This is particularly evident in the visual tasks results. For instance, viewers interpreted the materials based on their personal experiences, thinking patterns, or preferences. In other words, viewers' prior knowledge (existing cultural, historical, or personal references) determines how they engage with and understand MGs, thereby defining their understanding and experience.

As noted, viewers' engagement includes intellectual and emotional engagement. Their reasoning processes during understanding can be intuitive or analytical. These different modes of engagement and reasoning preferences lead to varying understandings and experiences among viewers. Viewers generate different imaginings when they recognise symbols and events, and their judgments about the transparency of the content also vary. The findings highlight the interplay between understanding and experience. As mentioned in Section 2.4.1, when understanding and experiencing events and integrating them into a narrative, viewers generate narrative empathy through embodied simulation, achieving emotional communication (Freedberg & Gallese, 2007; Power, 2008; Yang & Hsu, 2017b). However, evidence suggests that balancing experience and understanding can be challenging. For instance, Mayer (Mayer et al., 2005, 2008; Mayer & Jackson, 2005) found that adding irrelevant details and higher graphic quality can increase learners' interest in the content but does not significantly improve comprehension and may even reduce effective understanding. Barnes (2019) found that although participants preferred higher-quality and detailed graphics, their communication and effective understanding were lower compared to less detailed, more straightforward low-fidelity graphics. These studies suggest that high-quality, detailed visual presentations can enhance the viewing experience but do not necessarily improve communication efficacy. During the research activities, some viewers also said that they liked creative, inspiring and imaginative content, as some studies indicate that viewers enjoy understanding MGs through thinking and

imagination, which gives them a sense of engagement (L. Liu, 2020; Y. Liu, 2014). This might mean that viewers' preferences for MGs are not only based on communication efficacy, but enjoyment and experience as well. For example, *Avatar* (2009) created a vivid alien world with realistic visuals (Figure 5.24). The combination of highly detailed computer-generated imagery and live action resulted in an immersive sensory experience and visual spectacle (especially with 3D glasses). In contrast, Studio Ghibli's animated films often combined abstract symbolism with delicate aesthetics. *The Boy and the Heron* (2023), which combines hand-drawn animation with digital techniques (Figure 5.25), evokes viewers' emotional resonance and interpretive engagement. These different visual presentations illustrate how visual detail and aesthetic appeal can support communication by guiding sensory and emotional perception and regulating viewer engagement. While such works are widely praised and deeply engaging, they also show that visual complexity and fidelity may not only focus on clarity or accuracy of communication but also on sensory and emotional immersion.

Furthermore, as mentioned in Section 5.6.1, the function of motion can help to establish event boundaries so viewers can easily notice them, which suggests that viewers pay more attention to recognising events (what happens) than recognising the details of symbols in a scene (what is exactly in it). This may be why MGs is considered easy to understand in communication efficacy because it allows less effort from the viewers to get and organise information, as motion already packs everything together.



Figure 5.24 *Avatar*, 2009, directed by James Cameron



Figure 5.25 Boy and Heron, 2023, directed by Hayao Miyazaki

The Viewers Focus Group also found that how viewers understand MGs depends on the design itself. The qualities and expression of the design play a crucial role in shaping viewers' perceptions and understanding of the content. Regardless of the differences in individual understanding and experience, viewers do not have the ability to directly intervene in the content while consuming MGs. Thus, their understanding and experience are entirely dependent on what they see. Several factors influence this process. For instance, whether viewers can notice or follow the information structure within the content depends on the design's ability to capture their *attention* visually, which involves both the initial visual impact and the capacity to maintain interest over time. It highlights how producers make visual and organisational decisions to manage the flow of information. These findings raise important questions about the relationship between attention, engagement, and understanding. Although MGs is often designed to be dynamic and eye-catching, some works challenge the assumption that fast-paced, high-stimulus visuals are always effective. For instance, Douglas Gordon's *24 Hour Psycho* (1993) slows time to an extreme degree with two frames per second (Figure 5. 26), prompting a reflective viewing experience. This example shows that attention is not always tied to short visual stimulation, and it underlines the significance of information structure and viewer response.



Figure 5.26 24 Hour Psycho, 1993, installation art by Douglas Gordon

Convincing *expression* is another influential factor; viewers will only resonate with content they believe to be authentic, as they seek to see their identity and values reflected in the creative work and information (Horowitz, 2024; Ipsos, 2019). *Symbols* and *events* also influential to viewers' understanding, determined by the designer's composition. All these factors are based on the producers' design practices. Although dynamic content still holds visual appeal, it may lack a lasting impact on memory and understanding. The viewers can notice the transparency of the content and be convinced by it because the composition and the information presentation are aligned with their prior exposure to visual media, narrative conventions, or real-world experiences. This suggests that besides visual stimulation and guidance in MGs, focus should be given to the transparency of the information, as well as the content organisation and information structure during production to promote understanding by reducing cognitive load (Mayer & Moreno, 2003).

Overall, these discussions show how MGs, like other contemporary media, is shaped by sensory and emotional orientations, aiming to create experiences supporting understanding and engagement where they strategically employ many parameters of visual effectiveness to manage attention and expression (Kress, 2020). Moreover, the findings echo Baudrillard's (1994) concept of simulacra, where media representations become increasingly detached from the real, creating immersive "hyperrealities" that blur perception and meaning. Symbols and events represent conceptual truths, presenting content in a convincing expression while potentially obscuring its authenticity or transparency. As Kress (2020, p.151) noted, "*It does not express absolute truths or falsehoods: it produces shared truths, aligning readers or listeners*

with some statements and distancing them from others. It serves to create an imaginary 'we'. It says, as it were, these are the things 'we' consider true, and these are the things 'we' distance ourselves from."

5.7 Summary

The results of the Viewers Focus Group indicate that viewers engage in MGs communication as receivers and experiencers. They perceive MGs as a common medium mass-produced by computer graphics, capturing viewers' attention through the dynamic form. Viewers use intuitive and analytical reasoning to interpret the content they see, combining their imagination to recognise symbols and events, and organise events through narrative to form a complete story. This understanding process is connected to viewers' experience. Viewers gain experience through intellectual and emotional engagement. Convincing expressions and visual attention in MGs as the factors that viewers cannot control is influential in shaping experience. This connection between viewers' experience and understanding helps form emotional connections and identification (Cho & Yamanaka, 2011a; Turgut, 2012; Zhou, 2017), a strategy often used in commercial promotions (J. Brandão et al., 2020; Hanna & Coman, 2021; Q. Li, 2016; Si-ya & Yi, 2023).

However, while MGs provide dynamic experiences, it also introduces challenges. Viewers' understanding is not static but evolves through exposure, recognition, and the understanding process. The variation in reasoning and engagement styles highlights the diversity of understanding approaches, suggesting that meaning-making in MGs may depend on the subjectivity of the individuals.

Furthermore, the discussion revealed viewers' understanding and thinking patterns when consuming MGs. It underscores the subjective nature of understanding MGs, where viewers' prior knowledge, expectations, and viewing context contribute to how viewers construct meaning actively. While MGs offer rich opportunities for engagement, they also present challenges in ensuring transparency, shared understanding and experience. Combining the thematic map of Producers Observation, both thematic maps identified the subjective and influential factors in MGs communication. These factors laid a foundation to explore how meaning is negotiated and constructed between producers and viewers in digital media environments, which leads to design workshops described in the next chapter.

CHAPTER 6 DESIGN WORKSHOPS

6.1 Introduction

The two thematic maps (Figures 4.7 and 5.21) from the previous chapters identified subjective and influential factors in how producers convey information and how viewers understand it. In this chapter, these factors are further evaluated and incorporated as design elements in design workshops, where participants created prototypes in response to the research topic.

As the final stage of the Participatory Design Project, the Design Workshops consisted of three workshops involving two participant groups. During these workshops, participants utilised design tools (Section 6.3.1) and followed a structured design process (Section 6.3.2) to create two concept prototypes that reflected and interpreted MGs communication based on their experiences (Section 6.5.1). By engaging with and evaluating the factors identified in the thematic maps, participants provided new interpretations that contributed to prototype development. Through iterative discussions and reflections, they refined their prototypes. The findings from the Design Workshops address Research Question 3: How do producers and viewers communicate through MGs to make meaning? Furthermore, the study synthesises insights from the two prototypes into a Communication Model of Motion Graphics (Section 6.5.2).

This chapter is structured as follows: Section 6.2 introduces the participants and discusses the ethical considerations of the Design Workshops. Section 6.3 outlines the data collection procedures, including the materials, design tools, and the design process developed by the researcher. Section 6.4 describes the data analysis process. Based on the prototypes created by the participant groups, Section 6.5 presents the study's findings. Section 6.6 discusses these findings, and Section 6.7 concludes the chapter.

6.2 Participants

This part of the research was approved by the GSA Ethics Committee in November 2023. The consent form and participant information sheet for the Design Workshops can be found in Appendices 13 and 14. The Design Workshops consisted of three in-person sessions involving a total of seven participants. The invited participants contributed to the research through their experiences, expertise, and insights in producing and consuming MGs.

6.2.1 *Overview of the participants*

Recruitment began in November 2023. Potential participants were identified through both direct and indirect recruitment methods, including outreach via the researcher's

institution and personal networks. Once the initial participants were selected, the researcher employed a snowball sampling method to reach the target number, asking participants to recommend potential candidates from their networks. Figure 6.1 illustrates the recruitment process. All participants took part in the research under pseudonyms.

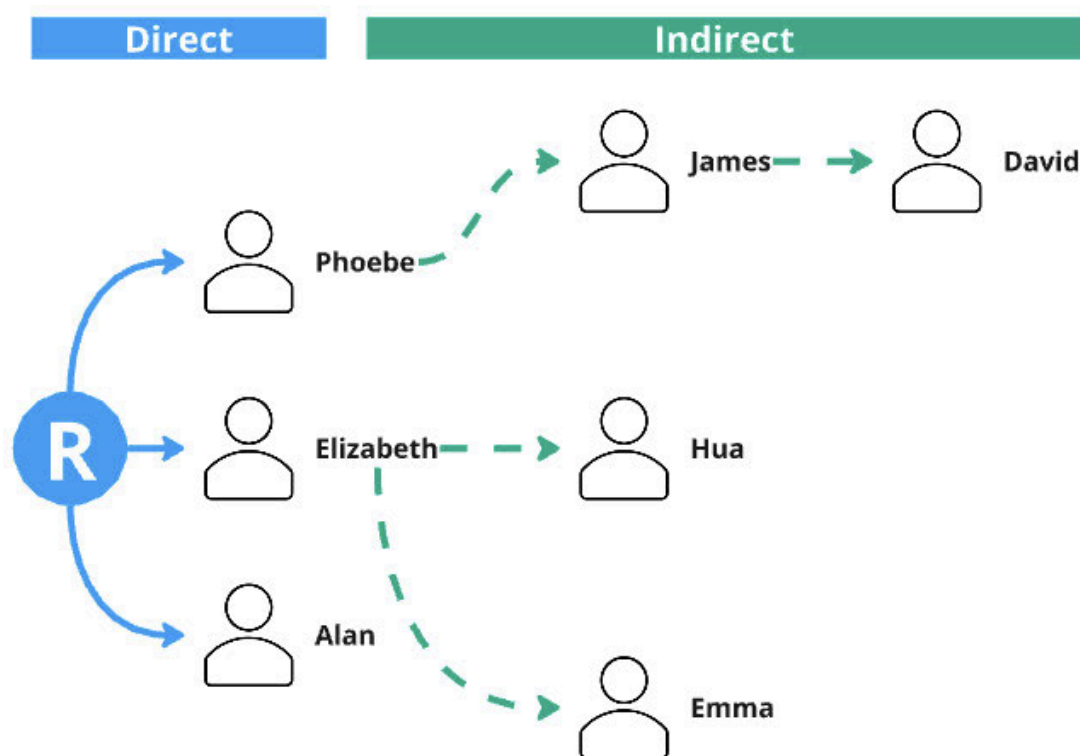


Figure 6.1 Recruitment process

Pseudonym	Gender	Age group	Ethnic group	Participated as
Phoebe	F	25-34	Asian Chinese	Producer
Alan	M	25-34	White	Producer
Elizabeth	F	25-34	Asian Chinese	Viewer
Emma	F	16-24	White	Viewer
James	M	16-24	White	Viewer
Hua	F	16-24	Asian Chinese	Viewer
David	M	16-24	Caribbean or Black	Viewer

Table 6.1 Participants overview

The target sample size for the study was eight participants: four producers and four viewers. However, due to the tight research schedule, achieving an equal balance between producers and viewers proved challenging. Ultimately, seven participants were recruited, comprising four females and three males, aged 16 to 34, from different

ethnic backgrounds. This included two producers and five viewers (Table 6.1). There were six participants from the researcher's institution, an art school; it provided an ideal setting and a convenient sample for finding participants with skills and knowledge related to the research topic. To minimise potential bias from participants' prior knowledge of the researcher or institution, the researcher emphasised the importance of providing genuine opinions and experiences throughout the research activities.

6.2.2 *The schedule and ethical considerations*

6.2.3 *Schedule*

Three in-person workshops were conducted at the researcher's institution between January and February 2024. To accommodate participants' availability while ensuring that each group included at least one producer, the seven participants were divided into two separate groups. Table 6.2 summarises the group composition and schedule.

Group	Member	Workshop date	Duration
Group 1	Phoebe, Elizabeth, Hua, James	29 th January 2024	3.5 hours
Group 2	Emma, Alan, David	5 th February 2024	2 hours
		9 th February 2024	1.5 hours

Table 6.2 The participant groups and schedules

The agenda of the Design Workshops, including all activities, is presented in Figure 6.2. It consists of an introduction, design activities, and a concluding session. At the beginning of each workshop, the researcher introduced the research topic, previous findings, and the tools for the design activities. A detailed description of these activities is provided in Section 6.3. The design activities followed the BEPI process developed by the researcher, comprising four stages: Brainstorming, Emerge, Prototyping, and Iteration (Section 6.3). The workshop concluded with a discussion and wrap-up.

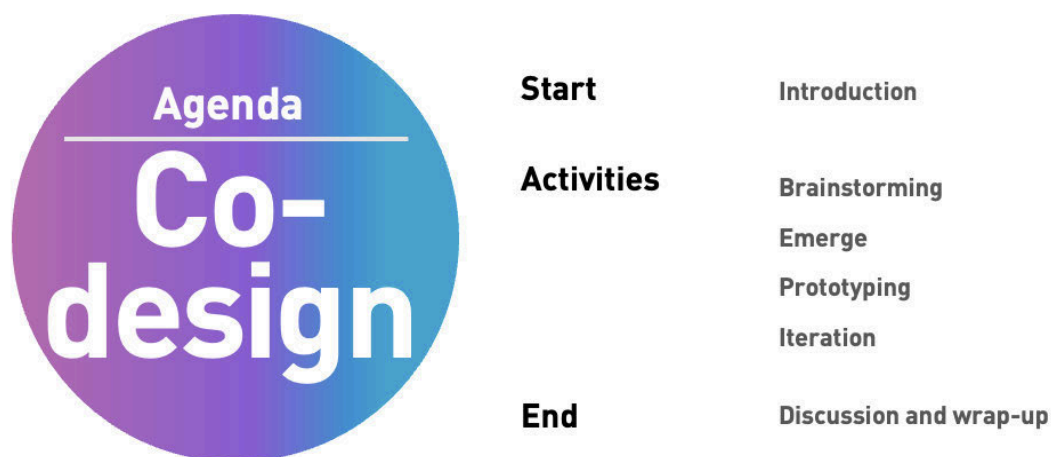


Figure 6.2 The overall agenda of the Design Workshops

Workshop 1- Group 1	Workshop 2 - Group 2	Workshop 3 - Group 2
Introduction (Start)	Introduction (Start)	Recap
BEPI	Brainstorming, Emerge	Prototyping, Iteration
Discussion and wrap-up (End)		Discussion and wrap-up (End)

Table 6.3 Activities in each workshop

Table 6.3 outlines the activities conducted in the three workshops. In the first workshop, Group 1 completed all activities outlined in the agenda. This session lasted three and a half hours, allowing sufficient time for all exercises without requiring a full-day commitment from participants. Refreshments were provided. However, based on feedback from Group 1 and the availability of Group 2 participants, the researcher determined that the full agenda was too lengthy for a single session. As a result, the researcher divided the agenda into two workshops to suit the schedules of the Group 2 participants. Group 2 participated in the second and third workshops, which lasted two hours and one and a half hours respectively. The second workshop covered the introduction, Brainstorming, and Emerge activities. Following a brief recap of the second workshop, the third workshop focused on Prototyping and Iteration activities.

6.2.4 Ethical considerations

Before engaging in any activities, participants were provided with the participant information sheet and consent form. All participants signed the consent form on the day of their participation. They were informed that the workshop would be audio-recorded, (all participants consented), that their participation was entirely voluntary and they

could withdraw at any time without consequence, and that all information they provided would remain confidential.

To maintain anonymity, pseudonyms were used during the workshops and in the thesis presentation. Additionally, the Design Workshops aimed to engage participants in designing prototypes using their creativity. The researcher informed participants that their contributions and creations would be acknowledged; however, for confidentiality reasons, their contributions would be anonymised.

6.3 Data collection process

As described in Section 3.4.1.3, design workshops are a form of participatory design that consolidates creative co-design activities into structured sessions (E. Sanders & Stappers, 2012), enabling contributions to research through collaboration and collective creativity (Steen et al., 2011; Stickdorn et al., 2018). During the workshops, the researcher acted as a facilitator, guiding discussions and fostering participants' creativity and reflection (Steen, 2011).

The design workshops emphasised the importance of participants reflecting on their experiences and knowledge, focusing on their ideas, and collaborating with group members. Therefore, implementing the workshops required a collaborative design process and tools to facilitate creativity and generate insights. As Visser (2005, p. 122) states, *“What people experience is often determined by tacit knowledge or latent needs and is often difficult to express in words. With generative techniques, participants are guided in small steps to constructing and expressing deeper levels of knowledge about their experiences.”*

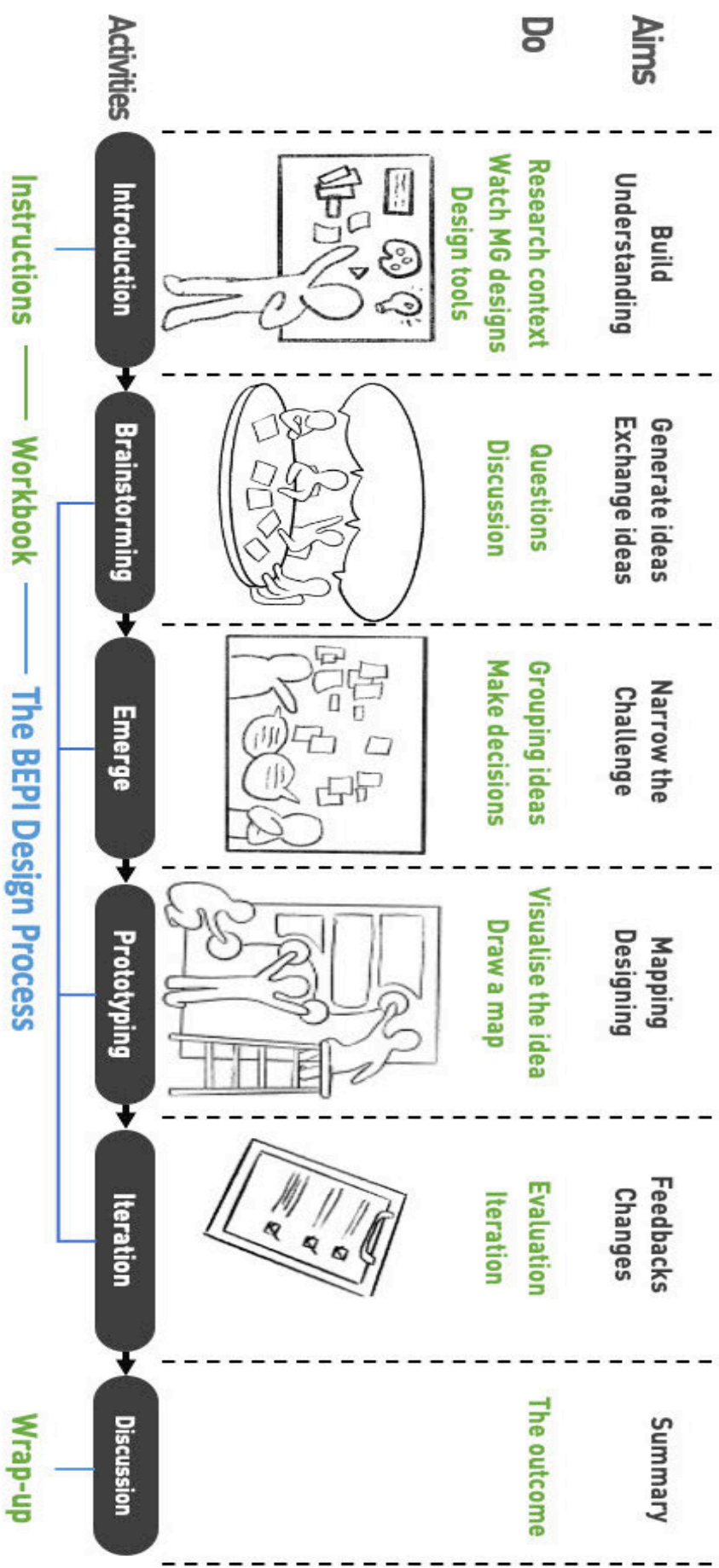
Context mapping is a method that helps designers and researchers gain deeper insights into the needs and aspirations of prospective users (Visser et al., 2005). It consists of five stages: preparation, sensitisation, sessions, analysis, and communication. The data collection followed the context mapping process. Figure 6.3 outlines the activities and objectives within the data collection process. At the start, an introduction was provided, presenting the agenda, planned activities, findings from the previous studies, and introducing the design tools. This introduction set the stage for the activities, facilitating participant interaction and establishing a shared understanding of the research context. For example, it increased participants' awareness of the topic and provided initial guidance on using the design tools.

In addition to context mapping, the researcher developed a design process called BEPI based on Design Dash (Wilson, 2018) and the Rapid Design Challenge from Design for Business (V&A Dundee). This structured design process emphasises

visualisation and co-design. Visualisation allows participants' ideas to be recorded in the workbook with sticky notes for sharing and further development. Co-design involves inviting others into the dialogue of idea generation and testing. The introduction of prototyping aims to improve the accuracy of these dialogues. Furthermore, the structured meaning-making and brainstorming tools support the researcher in drawing insights from the data (Liedtka, 2018).

Each participant was provided with a BEPI workbook (Section 6.3.1). The final discussion and wrap-up at the end of each workshop involved a collective statement from the participant group and a summary of the prototypes they created.

Figure 6.3 Data collection process



6.3.1 *Materials and creative toolkit*

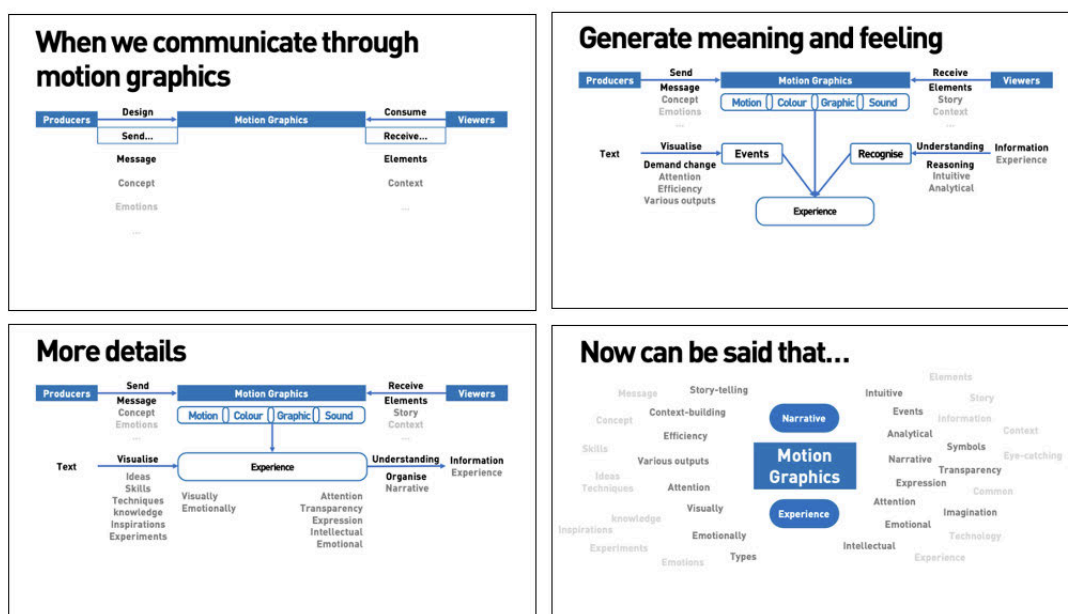
Table 6.4 summarises the materials and creative toolkit used in the Design Workshops and their objectives, including the MG design showcase, design tools, and the BEPI workbook. All materials and tools were introduced to participants at the start of the workshop. Examples of these materials and tools are presented in Figures 6.4 to 6.6.

Materials and creative toolkit	Objectives
MG design showcase	To facilitate a shared understanding of the research topic among participants, and serve as visual references.
Design tools	To help participants better express their ideas and engage in the design process visually and interactively. These tools facilitate interaction between participants and the iteration of prototypes.
BEPI workbook	To guide participants through specific tasks or activities, helping them engage in the design process in a structured way. It enables participants to record their thoughts and feedback, facilitating the generation of ideas and the collection of their creations.

Table 6.4 Materials and tools in the Design Workshops

Figure 6.4 presents examples from the MG design showcase in the researcher's presentation, categorised into three groups: (1) iconic elements of branding, (2) content carriers for digital media, and (3) User Interaction (UI)/User Experience (UX) design for digital media. The first category, iconic elements of branding, includes title sequences from films and TV series as well as brand identities. Content carriers for digital media encompass videos and GIFs with various types of content. UI/UX design examples include mobile applications and websites.

These concrete examples helped participants familiarise themselves with the research topic. To further enhance their understanding of the design tools, the researcher also presented key findings and concepts from the Producers Observation and Viewers Focus Group (Figure 6.5).



The design tools used by participants included sticky notes, blank paper, pens, and a card set, which facilitated interactive and visual prototype creation during the prototyping activities. The researcher developed the card set (Figure 6.6) based on the

two thematic maps (Figures 4.7 and 5.21). It comprised 33 cards, each representing a factor from the thematic maps. The theme associated with each factor was indicated using distinct initials and colours. Each participant received a card set.

For example, as shown in Figure 6.6, cards with deep blue frames represent themes from the Producers Observation, while cards with brown frames correspond to themes from the Viewers Focus Group. Each card featured initials in its four corners, denoting the main themes, while the sub-themes were displayed in smaller text at the centre. For instance, the ‘Hybrid’ card has an ‘M’ on its corners, indicating its association with the main theme ‘Message Delivery’, while the sub-theme ‘Types’ is noted in smaller text. Similarly, the ‘Attention’ card features an ‘E’ in the corners, representing the main theme ‘Experience’, with the sub-theme ‘Visual’ noted in the centre.



Figure 6.6 The card set



DESIGN
BOOK
Brainstorming
Emerge
Prototyping
Iteration

A team for Quest...

BEPI

TEAM MEMBERS

TEAM NUMBER BETWEEN 1-4

NAME	NAME	NAME	NAME
------	------	------	------

YOU'RE READY

Tell us how you think...

B E P I

Circle the topics that you might have something to say.

1. How do you consider the balance between aesthetic appeal and conveying a clear message?
2. Can you recall a specific motion graphics piece that left a lasting impression on you? What aspects made it memorable?
3. How do you feel about MGs that you make/see?
4. How do you think motion graphics impact people's understanding or retention of information compared to static graphics or text?
5. In your opinion, how has the role of motion graphics evolved in enhancing audience engagement over the years?
6. What strategies do you think can engage the audience emotionally or intellectually?
7. How do you think advancements in technology, such as augmented reality or virtual reality, will influence the future of motion graphics in communication and engagement?
8. Can you provide insights into the ethical considerations in using motion graphics for communication, particularly in terms of influencing opinions or emotions?
9. In your opinion, what role do motion graphics play in holding your attention in a digital environment with dynamic visual content?
10. In your experience, how does the choice of music or sound affect the overall impact of motion graphics in conveying a message or story?

Get to know your team...

B E P I

Each member shares ideas about 3 topics. Our topics are...

TOPIC	TOPIC	TOPIC
-------	-------	-------

From your perspective...

B E P I

What do I like?

What I think is important?

I will be influenced by?

What is the rationale behind my ideas?

Gather your ideas...

B E P I

Main Ideas	Subjective
Influential	Other

About communication

Shaping a way...

B E P I

What do you expect to produce/see?	What do you like to gain?
How do you define a good communication?	Other (your experience/ideas...)

Share with your team...

B E P I

Share your ideas to each other. Group similar ideas together.	New insights? What did your teammates see that you didn't see? How might you build on the ideas of others?
---	--

The figure shows a 3x2 grid of worksheet sections for the BEPI design process. Each section has a title, a BEPI progress indicator (B, E, P, I in circles), and a designated area for participant input.

- Top Left: Refine into one...** (Progress: B, E, P, I). Sub-headers: "Your main idea" and "Based on".
- Top Right: Turn it into a map...** (Progress: B, E, P, I). Sub-header: "Build a map to connect all your ideas."
- Middle Left: A bit of Pros & Cons...** (Progress: B, E, P, I). Sub-headers: "Pros" and "Cons".
- Middle Right: We agree that...** (Progress: B, E, P, I). Sub-headers: "What works", "What doesn't", "Questions we have", and "New ideas".
- Bottom Left: Iterate prototype...** (Progress: B, E, P, I). Sub-header: "Based on the feedback you got."
- Bottom Right: Tell us about...** (Progress: B, E, P, I). Sub-headers: "What is the main idea about this way of communication?", "What do you think the underlying potential of this way of communication?", "What rationale behind my ideas?", and "Do you have any reflections on the design?".

Figure 6.7 BEPI workbook overview

At the end of the introduction, each participant received a BEPI workbook. Figure 6.7 provides an overview of the workbook, which is included in Appendix 16. The workbook was divided into four sections: Brainstorming, Emerge, Prototyping, and Iteration. It offered a structured framework to guide participants in documenting their ideas. Each page outlined the current stage of the design process and corresponding exercises, with designated blank areas for participants to utilise design tools for creation and feedback.

6.3.2 Implementation of BEPI

The BEPI design process, as the main activities of the Design Workshops, unfolds across four phases: Brainstorming, Emerge, Prototyping, and Iteration (Figure 6.3). Participants used the workbook to document their ideas. In addition, as noted in Section 3.5.4, the researcher provided step-by-step examples for each exercise in the presentation to help participants familiarise themselves with the design process and the use of tools.

The Brainstorming phase aimed to explore participants' goals and needs in MGs communication. This phase began by establishing a shared understanding of the research topic within the group, which was achieved through a series of questions. The workbook provided ten questions (Figure 6.8), from which participants selected three to answer and discuss with other group members. As shown in Figure 6.9, participants could write down their thoughts or use cards from the card set to express their ideas. Participants were further encouraged to reflect on these questions based on their roles as producers or viewers: What do I like? What do I think is important? I will be influenced by? And what is the rationale behind my ideas? The participants recorded their responses (Figure 6.10), which helped viewers to articulate their communication needs, and producers to reflect on their goals when creating MGs.

Tell us how you think...



Circle the topics that you might have something to say.

1. How do you consider the balance between aesthetic appeal and conveying a clear message?	5. In your opinion, how has the role of motion graphics evolved in enhancing audience engagement over the years?	8. Can you provide insights into the ethical considerations in using motion graphics for communication, particularly in terms of influencing opinions or emotions?
2. Can you recall a specific motion graphics piece that left a lasting impression on you? What aspects made it memorable?	6. What strategies do you think can engage the audience emotionally or intellectually?	9. In your opinion, what role do motion graphics play in holding your attention in a digital environment with dynamic visual content?
3. How do you feel about MGs that you make/see?	7. How do you think advancements in technology, such as augmented reality or virtual reality, will influence the future of motion graphics in communication and engagement?	10. In your experience, how does the choice of music or sound affect the overall impact of motion graphics in conveying a message or story?
4. How do you think motion graphics impact people's understanding or retention of information compared to static graphics or text?		

Figure 6.8 Questions in Brainstorming

Get to know your team... **B** → **E** → **P** → **I**

Each member shares ideas about 3 topics.

Our topics are...

3

I saw it
everywhere,
very normal
medium

TOPIC

example

1. Think about the topics
 2. Giving your idea
 3. You can say it, stick it, sort it
- All open questions, no right or wrong.

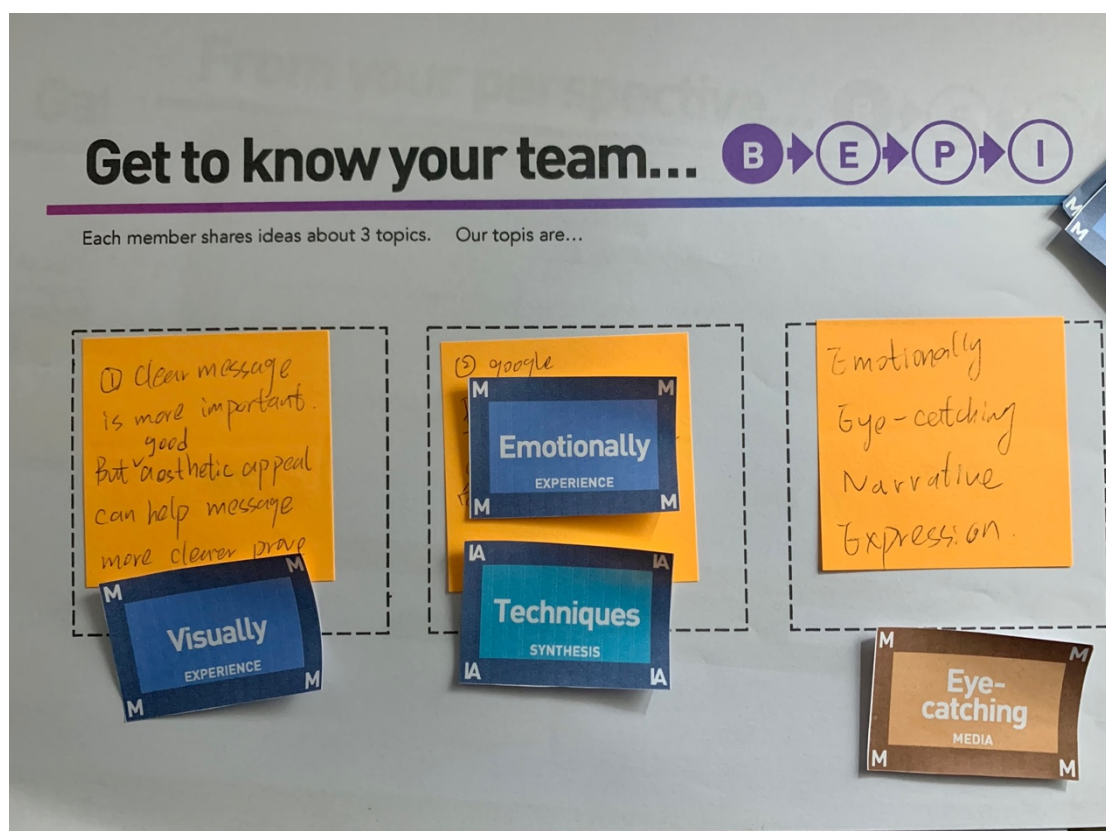
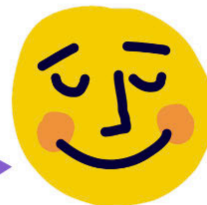


Figure 6.9 Example and responses to the questions

From your perspective... B → E → P → I

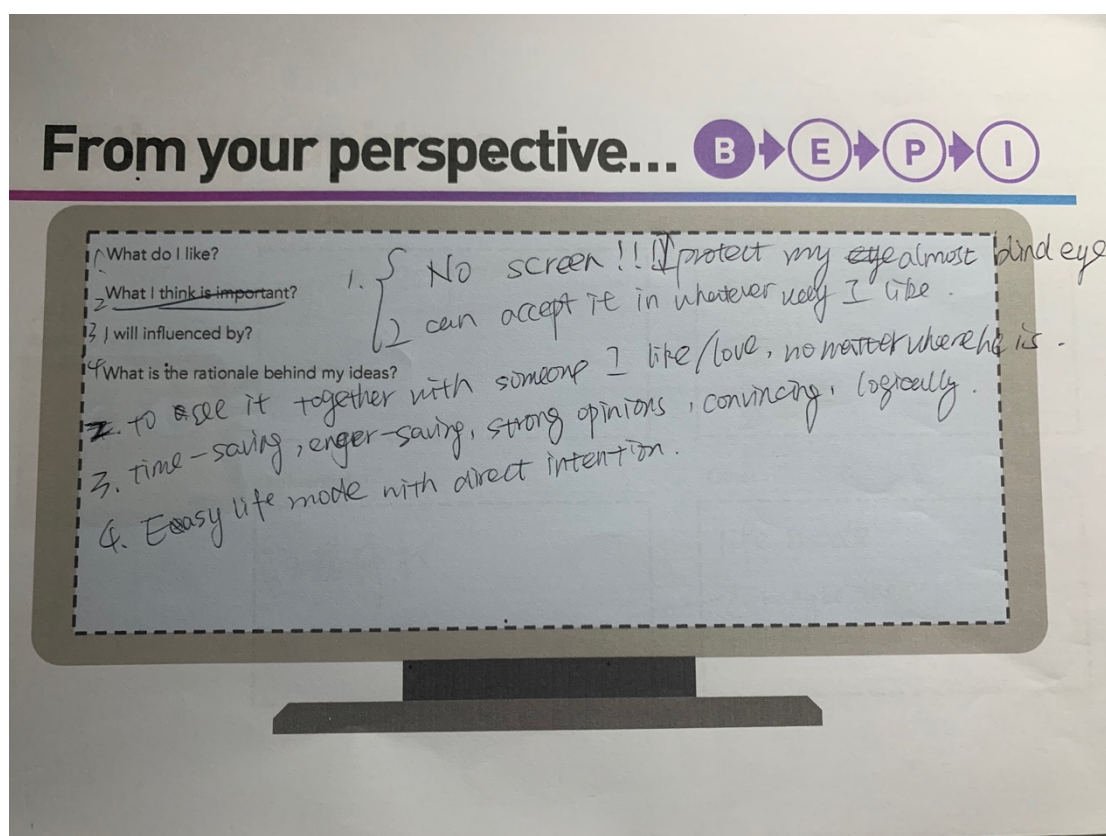
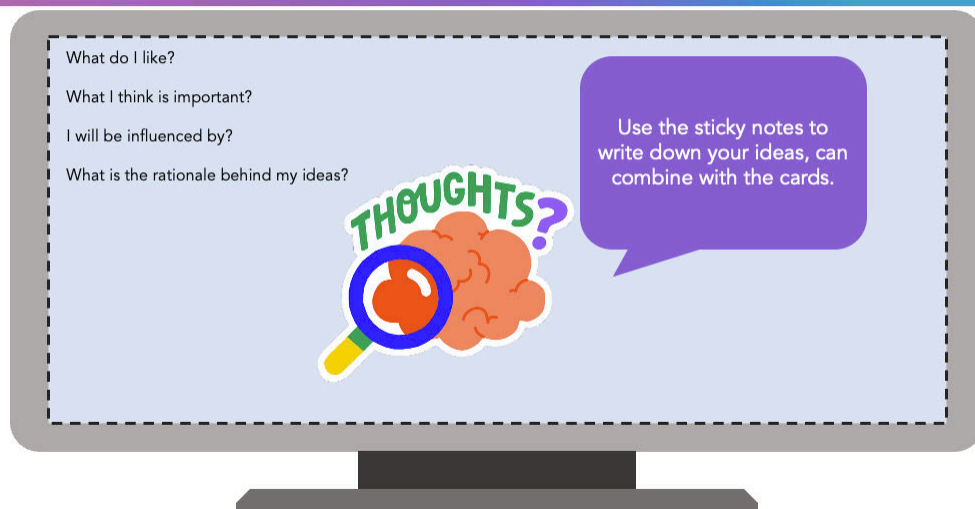


Figure 6.10 Example and response in Brainstorming

The Emerge phase aimed to help participants synthesise the ideas generated during Brainstorming. First, they individually categorised their ideas in the workbook according to four aspects: Main Ideas, Subjective, Influential, and Other (Figures 6.11 and 6.12). They then clustered their ideas further to identify their communication needs

and goals, as well as strategies to enhance communication. As illustrated in Figure 6.13, this process involved considering four aspects: What do you expect to produce/see? What do you like to gain? How do you define good communication? and Other (your experience/ideas...). Finally, participants shared their ideas with the group (Figure 6.14). Similar ideas were clustered verbally, and new insights emerged from the discussion. The discussion results from both groups were documented in the Prototyping phase (Figure 6.15).

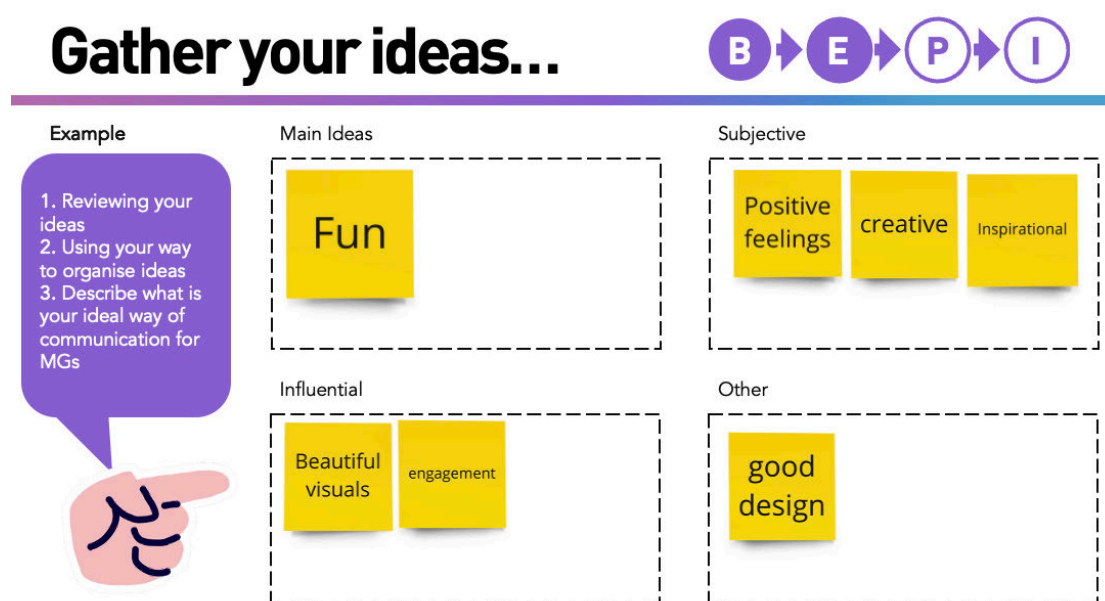


Figure 6.11 Organise ideas in four aspects (example)



Figure 6.12 Organise ideas in four aspects

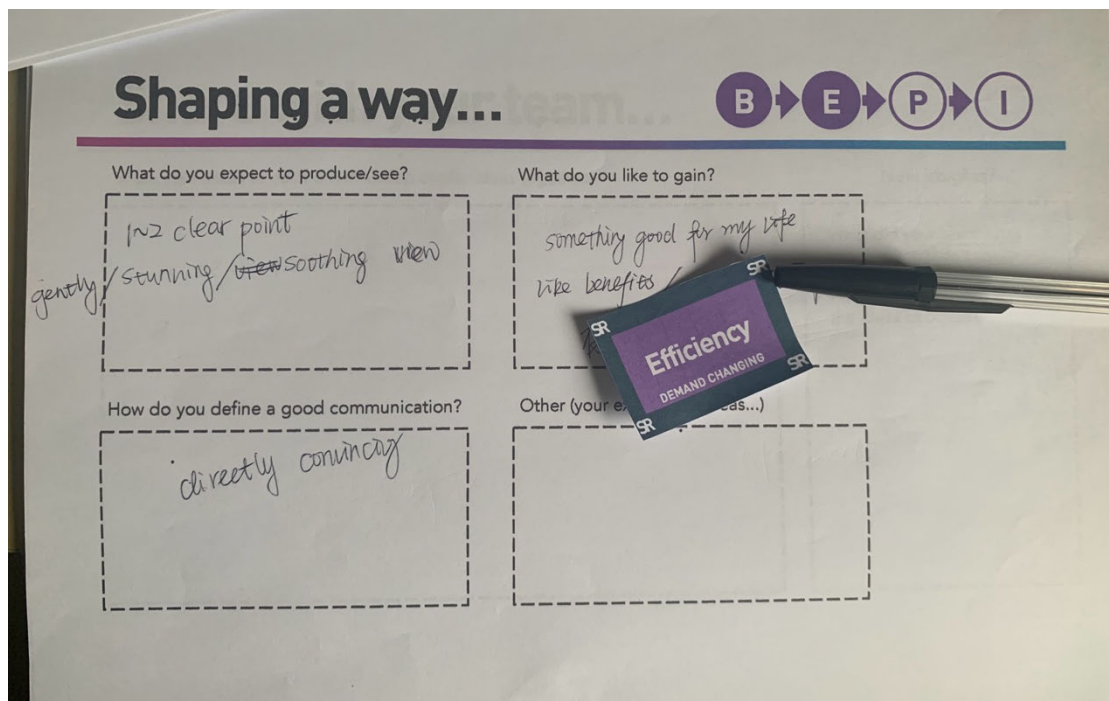


Figure 6.13 Further synthesise the ideas to identify goals/needs

Share with your team...



Share your ideas to each other. Group similar ideas together.

New insights?

	What did your teammates see that you didn't see? How might you build on the ideas of others?
--	--

Figure 6.14 Share and cluster ideas

Refine into one...

Your main idea	Based on
Context - building Connection Experiments value	Emotional transparency M M Context-building EVENTS M M

Figure 6.15 Develop main ideas for the prototype, Group 1

The Prototyping phase followed the Emerge phase. At this phase, participants transitioned from individual documentation to collaborative co-design. Thereby, a shared record in a single workbook was maintained. For example, Group 1's Prototyping phase was documented in Hua's workbook.

To begin, participants collectively refined their ideas based on the key concepts discussed within the group. Figures 6.15 and 6.16 illustrate the main ideas generated

by the two participant groups before developing their concept prototypes of MGs communication. For example, through discussion, Group 1 identified ‘Context-building’, ‘Connection’ and ‘Value’ as the main ideas for their prototype. To achieve those main ideas, Group 1 considered that the elements of ‘Emotional’ and ‘Transparency’ are crucial. Participants then used paper, sticky notes, and card sets to create initial concept prototypes, visually mapping their ideas and allowing for quick adjustments (Figure 6.17).

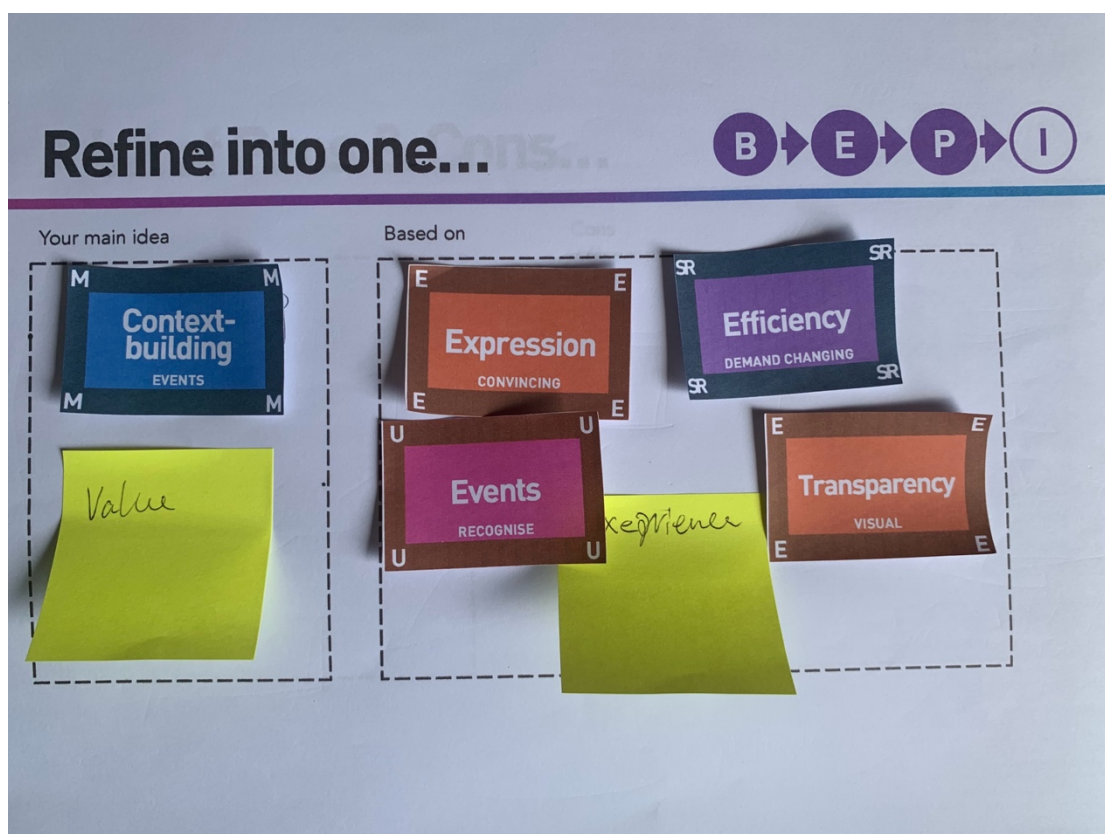


Figure 6.16 Develop main ideas for the prototype, Group 2

Turn it into a map...



Example

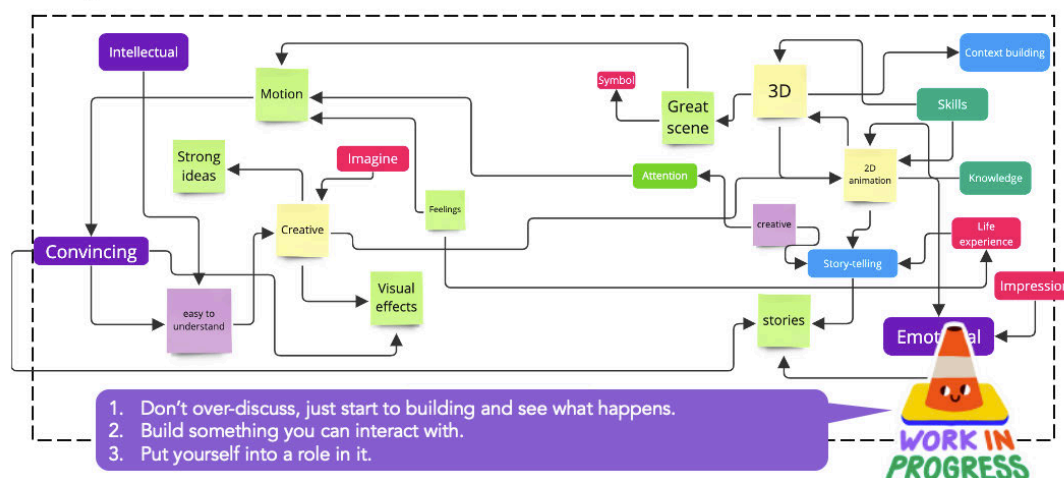


Figure 6.17 Prototyping phase: example (above), designing and mapping (below)

The final phase, Iteration, followed the Prototyping phase and involved evaluating and refining the initial concept prototypes of MGs communication. Through discussion, participants assessed their prototypes based on four aspects: what they thought worked and didn't work, any questions they had, and any new ideas (Figure 6.18). They then made further refinements based on these evaluations. For example, Group 1 thought that the idea of 'Transparency' referred to convincing and clarity, which can support the expression of a design to facilitate connection in MGs communication. However, in addition to the expression, they thought that the main idea of 'Connection' also comes from engagement in communication. Therefore, the idea of

‘Transparency’ was not efficient enough to support Group 1’s main idea of ‘Connection’, so they added ‘Experience’ to their concept prototype.

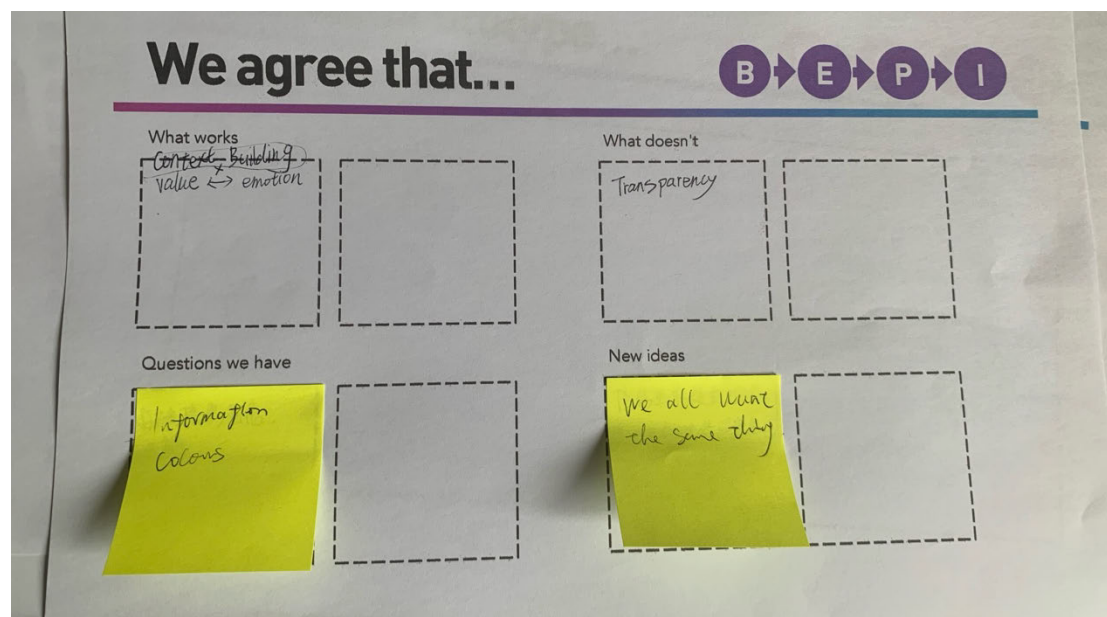


Figure 6.18 Evaluation of the prototype, Group 1

In the wrap-up session at the end of the workshops, the participant groups were asked to present their final prototypes to the researcher, summarise the ideas they had generated, and discuss their reflections on the research topic. Throughout the three workshops, the two participant groups each developed a concept prototype. As noted in Section 1.3.2, these concept prototypes aim to explore and reflect on the possible futures through the construction of meaning. The prototypes offer participants a tangible form to express their decisions and collaboratively developed ideas, rather than serving as design artefacts to address research questions. Figures 6.19 and 6.20 illustrate the prototypes created by Groups 1 and 2. In addition to using the card set to represent ideas, both groups used different coloured sticky notes to distinguish between main and secondary ideas within their prototypes.

According to participants’ explanations, both prototypes followed a structure: main ideas, secondary ideas, and supporting elements. This structure reflects how participants developed their ideas into prototypes based on the BEPI process. The main ideas represent participants’ goals and needs, the secondary ideas outline strategies for achieving those goals, and the supporting elements clarify their ideas and the conditions that link one idea to another.

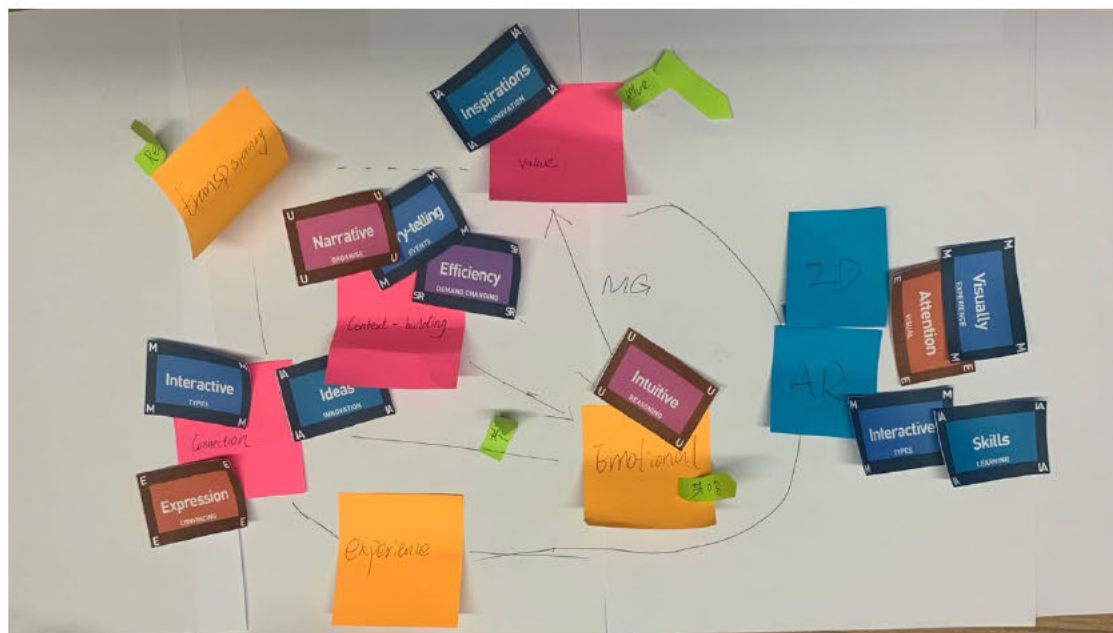


Figure 6.19 The prototype 1, by Group 1

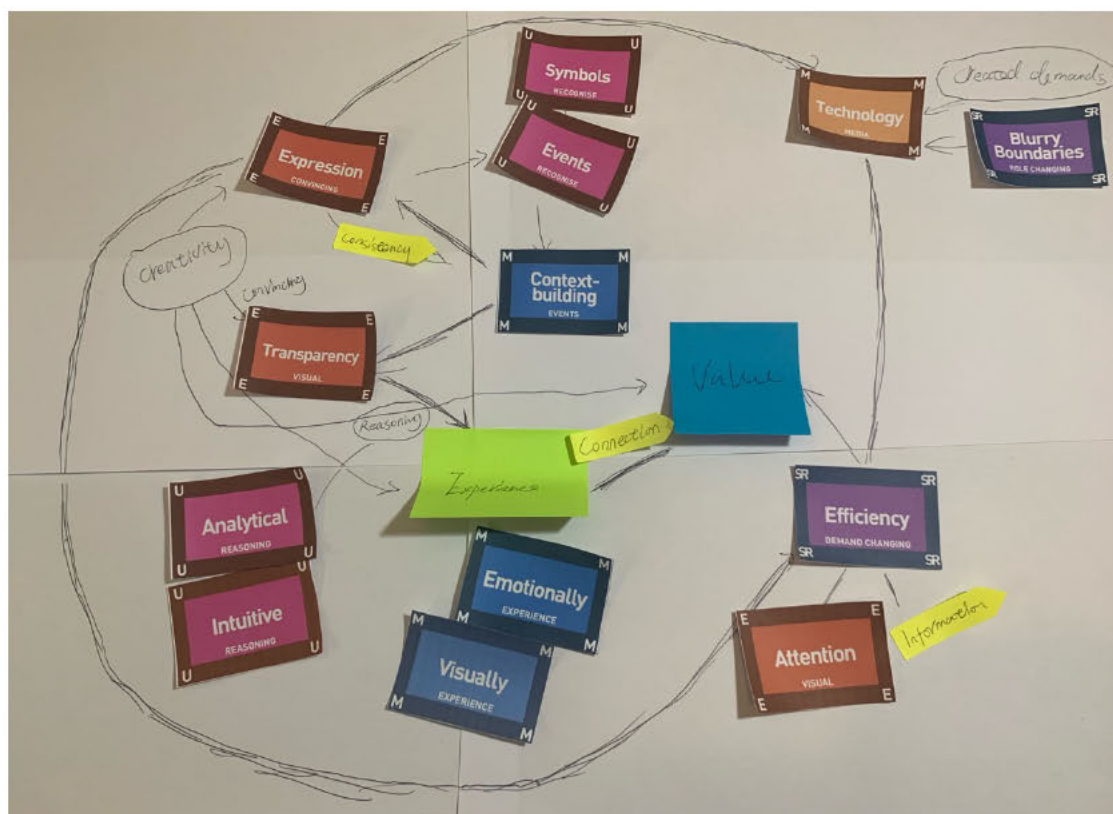


Figure 6.20 The prototype 2, by Group 2

6.4 Data Analysis

Data from the Design Workshops was collected through participants' workbooks and the prototypes they created. The workbooks documented the outcomes of each exercise in the BEPI process, providing structured data.

In addition to the workbooks, the workshops were audio-recorded, and photos were taken to capture key moments during the BEPI process. These recordings and photos provided a detailed record of insights, comments, and reflections that were not documented in the workbooks. For example, during the Prototyping and Iteration phases, participants focused on discussing and modifying their designs rather than recording their thoughts in the workbooks. This approach contributed to the continuity of design activities and encouraged deeper engagement. Referring to recordings and photos was essential for data analysis, as the participants' focus and ideas evolved throughout the design process. As the facilitator, the researcher needed to maintain continuous attention on participants, particularly when they were using the card sets. Participants frequently sought clarification regarding the content and meaning of the cards, which helped deepen their understanding of the design elements.

The two concept prototypes and the participants' design processes were the primary focus of the data analysis. The analysis examined how participants deliberated and collaborated to develop their ideas through prototyping. By analysing participants' prototypes and interpretations, the researcher identified a set of concepts that addressed Research Question 3: "How do producers and viewers communicate through MGs to make meaning?"

The data from the Design Workshops was analysed using the analysis on the wall method. The audio recordings were transcribed through Otter for analysis. The digitisation of the prototypes preserved and emphasised the colour-coded distinction between primary and secondary ideas, which made the digital prototypes clearer and easier to analyse (Figure 6.21). For example, in digitised Prototype 1, the main ideas were marked in red, and the secondary ideas were marked in yellow. The main ideas in digitised Prototype 2 were marked in blue, and green represents the secondary ideas.

The researcher followed the steps outlined in Section 3.4.2 placing data on a Miro whiteboard for analysis. The analysis process is illustrated in Figures 6.22-6.25. The researcher organised the digitised prototypes and participants' excerpts on the Miro whiteboard for further examination in the setup and display stage (Figure 6.22). The excerpts originated from the Prototyping and Iteration phases of the BEPI process. Transcriptions from audio recordings served as references, enabling the researcher to

trace how participants' ideas evolved over time. To facilitate analysis, different coloured sticky notes were used to distinguish each participant's contributions.

In the second step (Figure 6.23), based on the structure that participants used to explain their prototypes (main and secondary ideas, and supporting elements), the researcher identified themes and used extracts to build explanations inductively. The main themes are as follows: Context Building, Connection, Value, Expression, and Technology. Secondary themes also emerged from the prototypes, as follows: Transparency, Emotional, Experience, and Efficiency. Additionally, the researcher identified various supporting elements from the prototypes, as follows: Types, Convincing, Pace, Consistency, Reasoning, and Creativity.

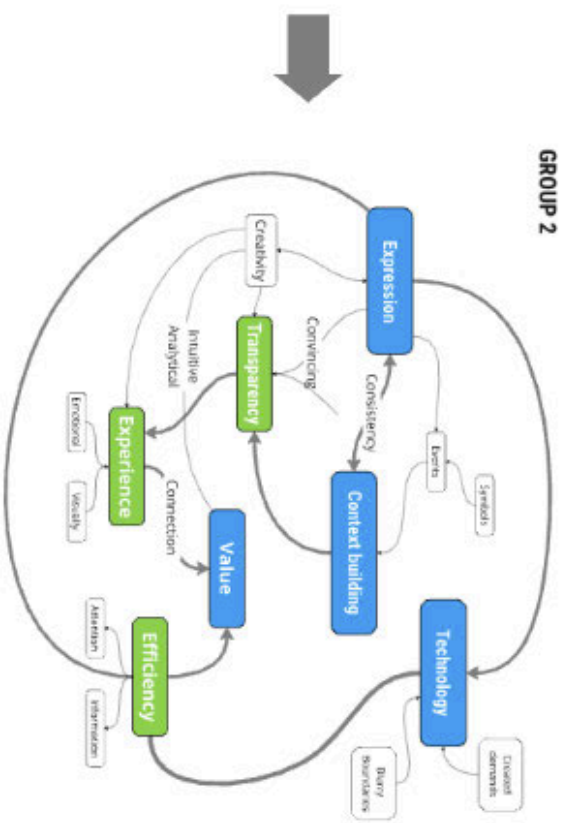
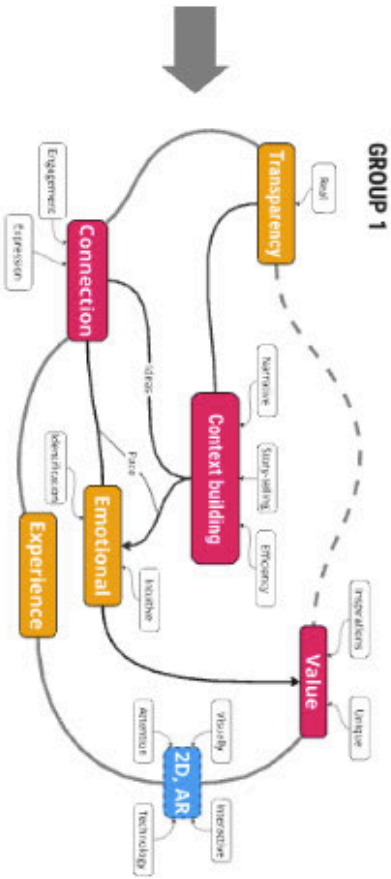
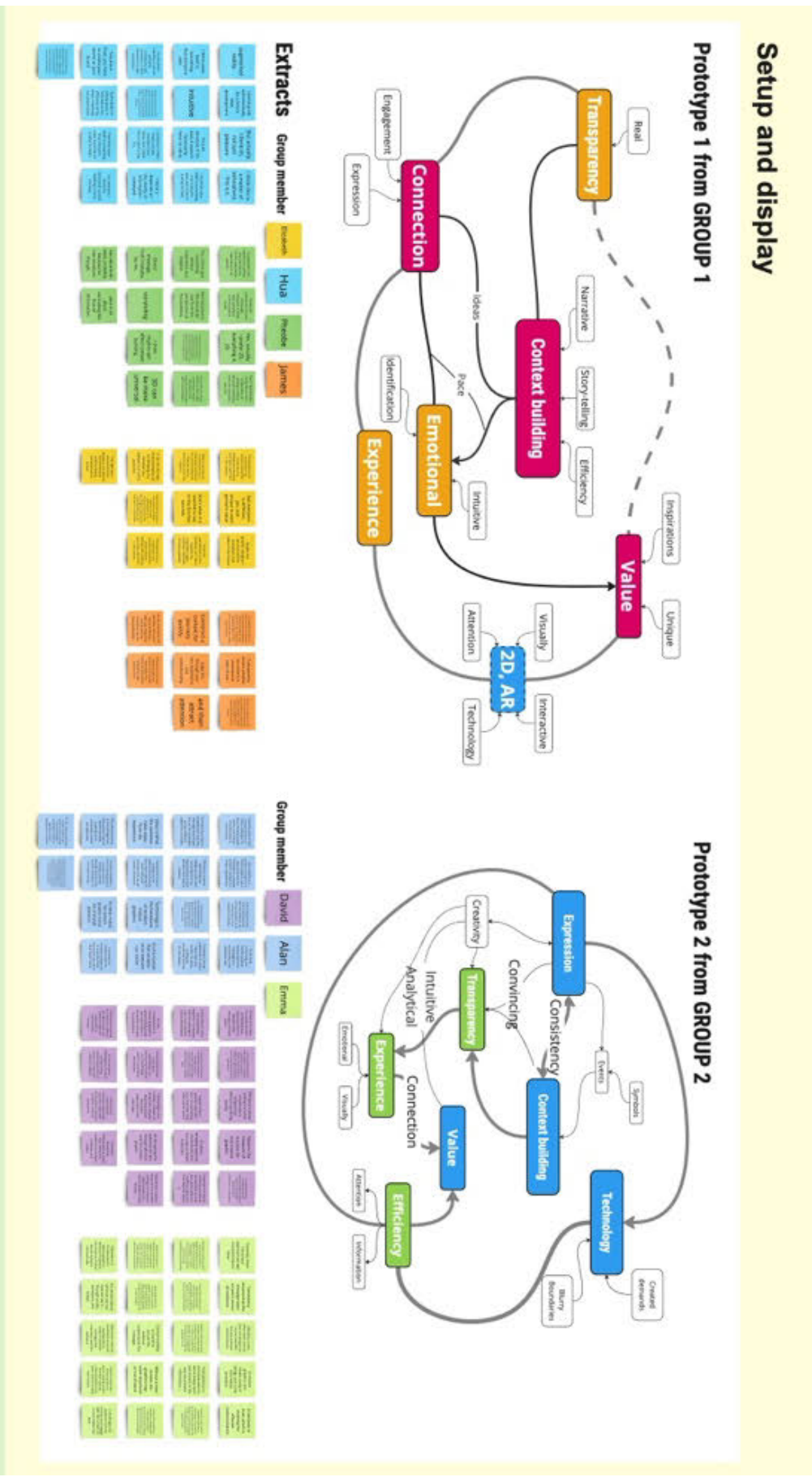


Figure 6.21 The digitisation of the prototypes

Figure 6.22 Data analysis, step 1: Setup and display



In the third step, Grouping and Interpretation (Figure 6.24), the researcher further merged similar themes and concepts throughout the main theme, secondary theme and supporting elements, renaming them where necessary. These changes included integrating Types into the Technology theme, Emotional into Experience, and combining Pace and Consistency into a new theme called Attention. The Technology theme incorporated Types because participants tended to focus on technical aspects when describing MG types. For example, in Prototype 1, 2D and AR MGs were mentioned as technology-driven elements. Emotional was integrated into the Experience theme, as emotional understanding and resonance in Prototype 1 fostered connection, enhancing the overall experience. Similarly, in Prototype 2, the concept of Emotional aligns with the findings from Section 5.5 and corresponds to the Experience theme. Pace and Consistency were merged into a new theme named Attention. In Prototype 1, Pace relates to context-building, emphasising control over the organisation and presentation of information, which enhances attention regulation (Section 5.5.2.1). This idea is also reflected in the concept of Consistency found in Prototype 2.

The researcher then classified these themes into three categories, naming and defining each based on its content. As noted, both Prototypes 1 and 2 exhibited a three-layer structure representing participants' goals and needs, the means of achieving them, and the supporting and driving elements. Consequently, the categories were renamed to align with this three-layer structure, and the themes identified in Step 2 were grouped accordingly. The identified categories are as follows:

- Goals and Needs: Context Building, Value, Expression
- Strategies and Approaches: Transparency, Connection, Attention, Creativity, Efficiency
- Drivers and Conditions: Experience, Reasoning, Symbols, Events, Narrative, Visuality, Convincing, Technology.

These categories were used to organise and interpret the data, providing a structured understanding of participants' insights and their relevance to Research Question 3.

By examining the relationships among these three categories, the researcher synthesised the results from previous steps (Figure 6.25), creating a visual summary and establishing a coherent narrative to describe the findings. A more detailed explanation of the visual summary is provided in Section 6.5.

Figure 6.24 Data analysis, step 3: Grouping and interpretation

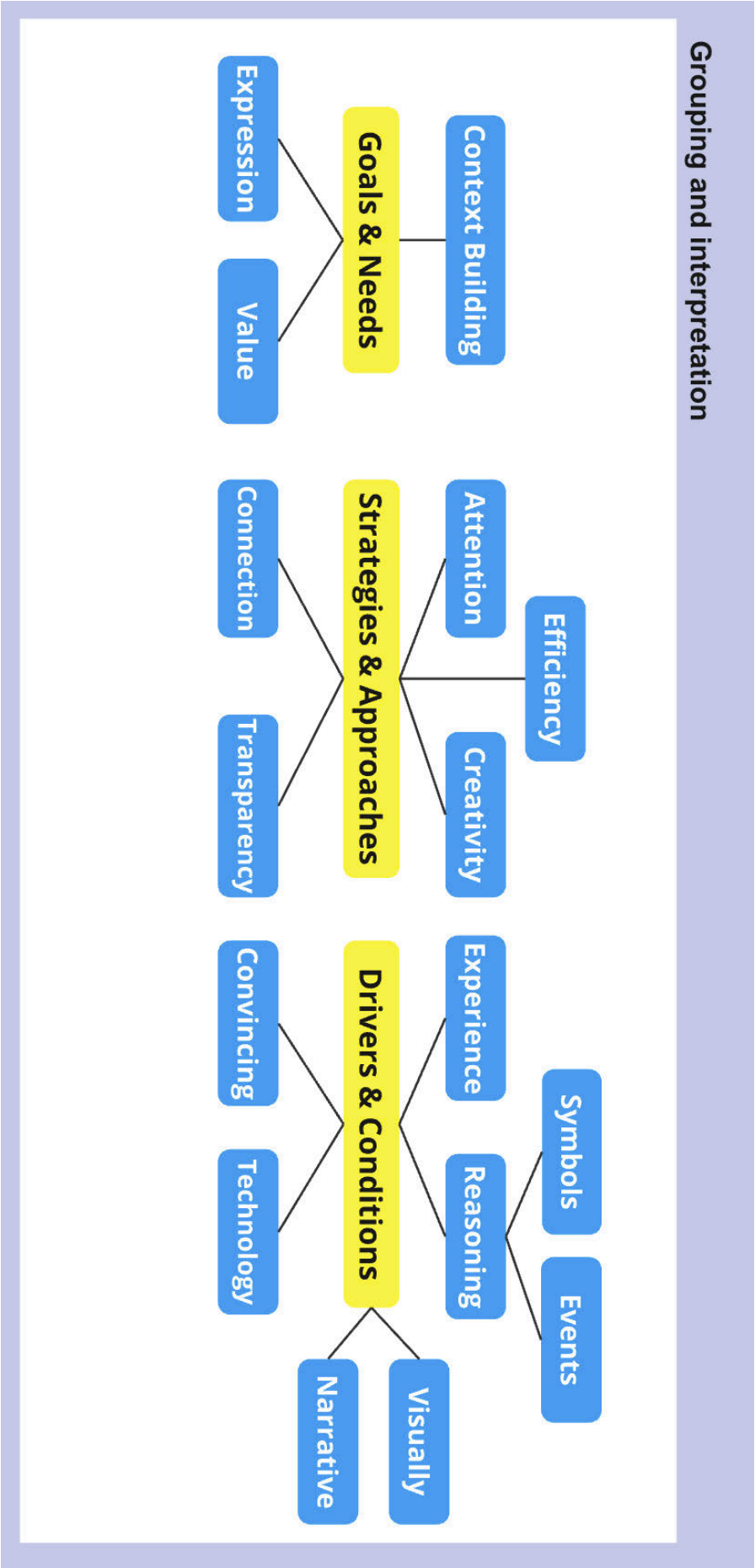
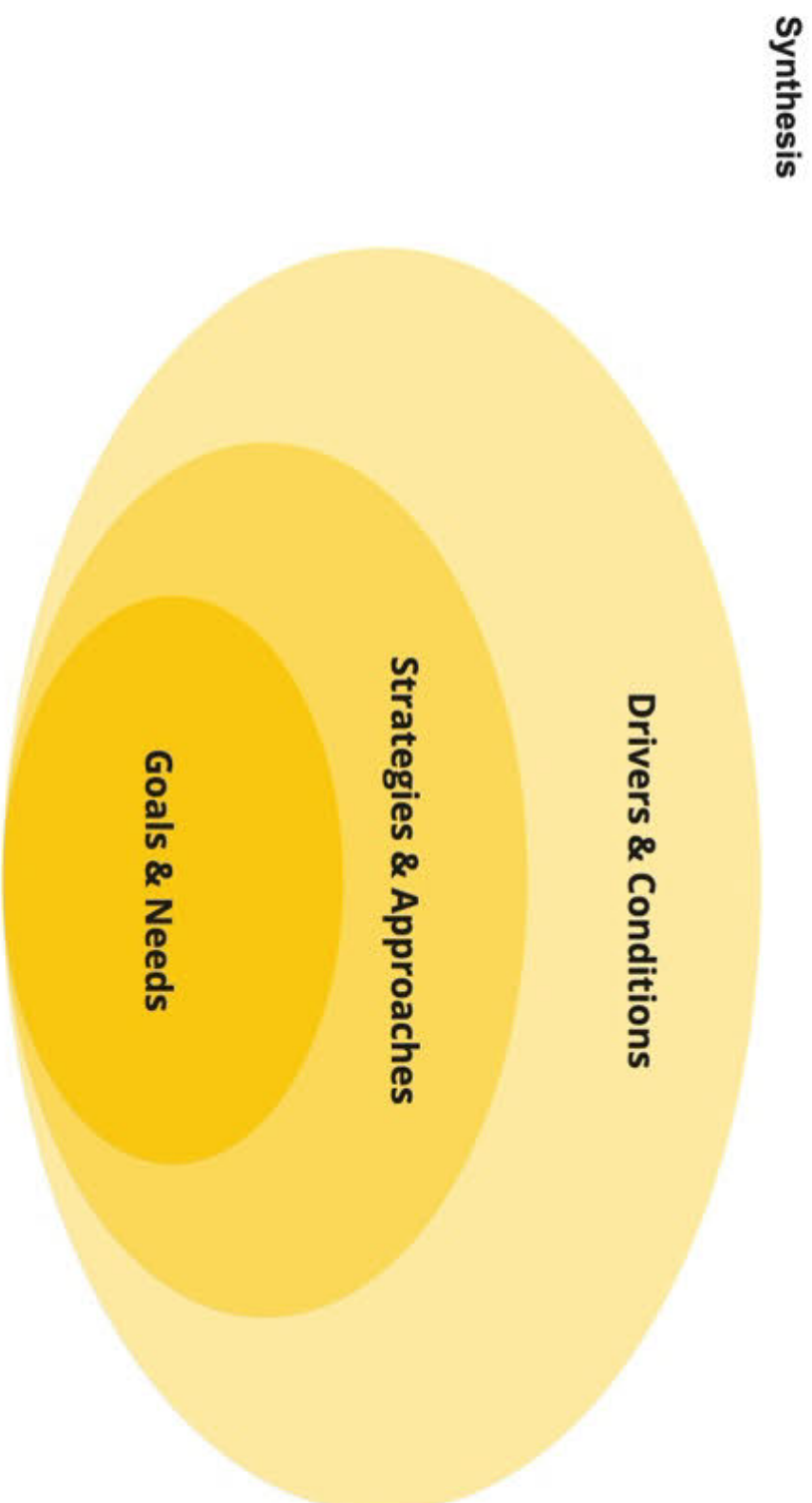


Figure 6.25 Data analysis, step 4: Synthesis



6.5 Results

6.5.1 Design outcomes

This section presents the final concept prototypes developed by Groups 1 and 2, and the ideas within. These prototypes offer insights into how the groups conceptualise MGs communication and highlight their goals and needs. While the prototypes exhibit a clear structure—main ideas, secondary ideas, and supporting elements—the interrelationships among these components are complex. Therefore, this section respects participants' contributions by describing each prototype as a holistic system rather than isolating and analysing individual ideas.

6.5.1.1 Prototype 1

The digitised Prototype 1 is shown in Figure 6.26. Prototype 1 represents Group 1's interpretation and expression of MGs communication, with **Context Building**, **Connection**, and **Value** as its main ideas. Secondary ideas include **Transparency**, **Emotional**, and **Experience**, each of which encompassed elements that help to clarify those ideas. For instance, Group 1 thought that **Connection** in communication is facilitated by *Engagement* and *Expression*. The other supporting elements, including *Ideas* and *Pace*, helped to establish links between different ideas within the prototype.

Overall, Prototype 1 emphasises **Context Building** in MGs. The *Expression* and **Transparency** of context influence participants' connection to and understanding of MGs. Group 1 believed that MGs establish connections between people and content by constructing context, thereby facilitating the delivery of emotion, identification, and experience—ultimately embodying inspirational and unique values. Group 1 also expressed a preference for **2D** and **VR** formats; they believed that these forms best exemplify MGs communication, as MGs is a medium which highlights elements of *Visually*, *Attention*, *Interactive*, and *Technology*.

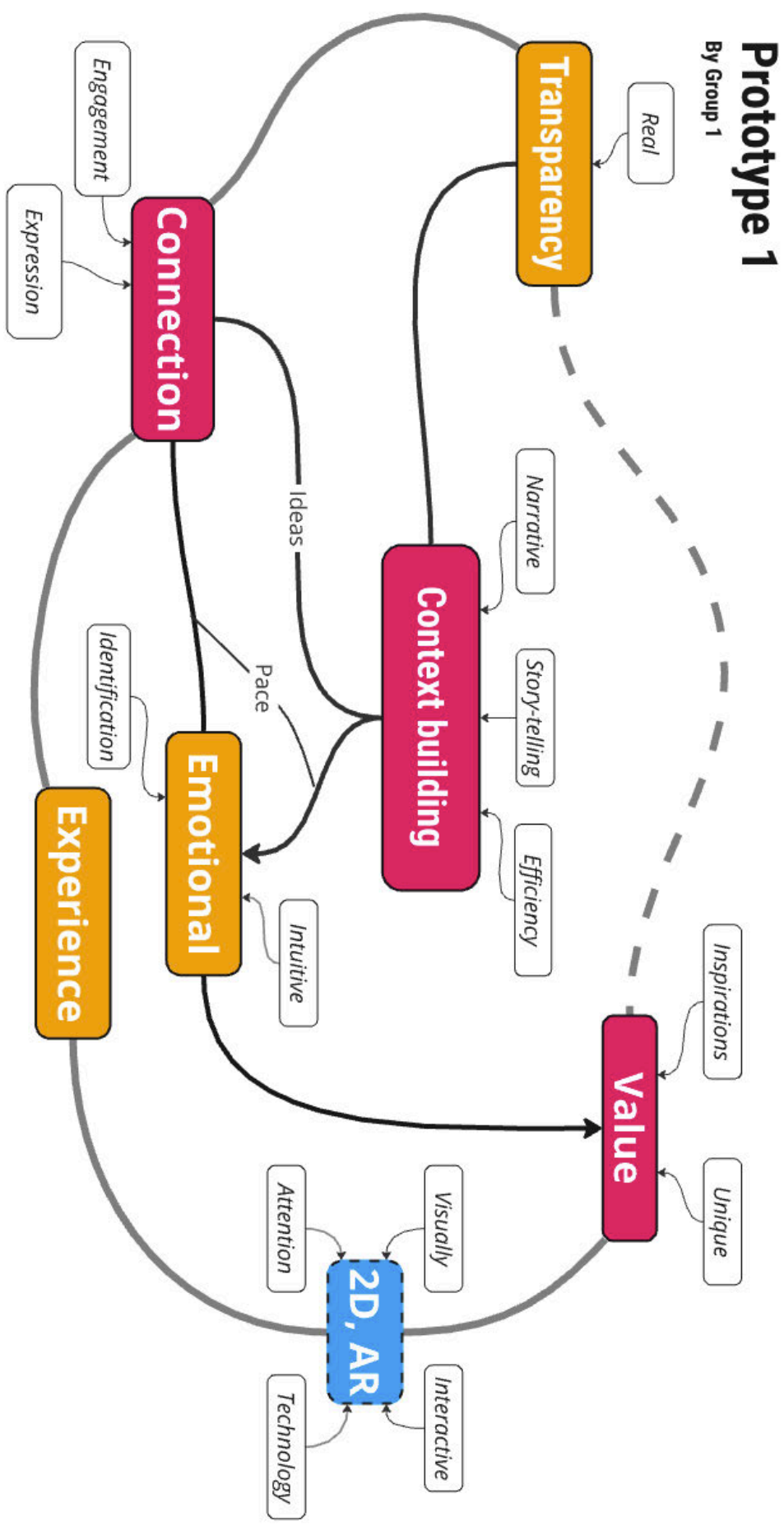


Figure 6.26 Prototype 1, by Group 1

Context Building is the pivotal idea in Prototype 1, regarded by participants as a core idea within MGs communication. Group 1 agreed that the prototype was designed to facilitate communication. For example, Pheobe stated, *“Obviously, what we have in common is the direct message and clear communication,”* highlighting that MGs communication encompasses both information transmission and emotional expression. Phoebe further explained, *“Deliver emotion and convey information are the same language [in MGs].”* Group 1 believed that establishing context in MGs enhances both information and emotional delivery. As Hua noted, *“For example, a movie will show its world view or story or atmosphere at the beginning...or establish a brand image through motions...I think [it is] establish a context.”* Under this shared understanding, Group 1 considered the ability to construct context essential for effective communication, incorporating elements of *Storytelling* and *Narrative*, as well as the *Efficiency* of context construction and delivery. Building on *Efficiency*, Group 1 emphasised the *Pace* in Context Building. Hua explained, *“Pace means telling me what happened in a short time when I engage with the content, and it should let me know what it is about. This reflects the clarity of information.”* The group considered a fast-paced presentation a key characteristic of MGs, as it facilitates context construction.

Transparency interlinks with **Context Building**, extending Group 1’s discussion on communication **efficacy** and reflection. The *Pace* of establishing the context and thematic clarity directly influenced content transparency. As James described, *“Construct a context for you very quickly [impacts the transparency].”* Similarly, Hua noted, *“It helps me understand. For example, if I struggle to understand something, I have to think hard... If you use this [MGs], I may only have to put in 50% of the effort to understand.”* For Group 1, the ease of understanding and expression was important, aligning with their demand for efficiency. Elizabeth further articulated this point, stating, *“...No thinking. I don’t want to have to think hard about what happened and try to understand.”* She clarified, *“When I say ‘no thinking,’ I mean the expression—something that can be easily understood. But whether I believe it or not is up to me.”* James also remarked, *“Transparency is about the clarity of the theme in an MG design,”* while Elizabeth added, *“It doesn’t have to be reality. It is transparent when I hope or feel it is real.”* These insights suggest that transparency in MGs is tied to clarity and credibility—the extent to which the content appears convincing and easy to understand.

Another idea related to **Context Building** is **Emotional**, which focuses on how emotions and feelings are conveyed through context construction. Hua noted, *“Pace*

impacts the emotional delivery.” Group 1 believed that such emotions are experienced through intuitive *Engagement*. Additionally, within the idea of Emotional, the element of *Identification* interrelates with the themes of **Connection**, and **Value**, which will be discussed further.

Another main idea is **Connection**, which relates to **Context Building** and the secondary ideas of **Emotional** and **Transparency**. After reviewing findings from the Producers Observation and Viewers Focus Group, Group 1 concluded that producers and viewers create and interpret content based on their experiences and conceptual frameworks. This is reflected in the elements of *Engagement* and *Expression*. Connection in MGs is achieved by structuring information into context and delivering concepts and emotions. As Phoebe noted, “[In MGs] ideas do not just come from the composition of the content, and it’s about the delivery, too.” This highlights the element *Ideas*, which is multi-faceted in MGs communication—both in terms of how producers construct and deliver messages and how viewers understand them. Viewers engage with content through their empathy, forming emotional connections and *Identification*. The level of Connection is also tied to *Expression*, relating to the content’s transparency. As Elizabeth explained “*The intention and the message producers want to convey are one thing, because producers want you to get their point [in MGs]. But how to understand is another matter. It depends on how it’s expressed and whether it’s genuine and convincing to me.*”

Experience as another secondary idea, primarily associated with **Connection** and the *technology* used to present MGs. It represents a comprehensive outcome of MGs communication, encompassing engagement, interaction, and perception.

The third main idea is **Value**, which encompasses both practical utility (e.g., economic or functional value) and philosophical or ethical principles. Group 1 believed that within MGs communication, Value is primarily formed through emotional connections, which are established through *Identification* and **Experience**. This process involves *Ideas* shaped by producers through *Creativity* and reflections and *Inspirations* derived by viewers from the communication. However, individual understandings of Value differ due to unique experiences and identification. For instance, Elizabeth noted, “*From the viewer’s perspective, [a MG design] can be very inspirational, so it feels valuable. [But as a producer,] you cannot define what inspiration your work brings, this is more towards the viewer’s side*”. Hua also suggested that Transparency impacts Value, “*What [viewers] see influences what they understand. Then, it affects their judgment of value.*”

Group 1 discussed the types of MG designs that could realise the concept prototype they designed to achieve effective communication, including **2D** and **VR**. Phoebe shared, *“I prefer 2D [MGs], I hope everything is 2D because there are no limits, you can have infinite ideas... But 3D should be more adaptable to other fields and easier to accept [by viewers].”* Hua added a perspective on future trends, stating, *“I feel that AR, VR, or MR will eventually be a future.”* These perspectives align with Group 1’s view that MGs, as a visual and dynamic medium, will continue to prioritise visual appeal. With advancements in computer technology, MGs will become more interactive and accessible, enabling a broader audience to engage in MGs.

6.5.1.2 Prototype 2

The digitised Prototype 2 is shown in Figure 6.27. The main ideas in Prototype 2 are **Context Building**, **Expression**, **Technology**, and **Value**, and the secondary ideas are **Transparency**, **Experience**, and **Efficiency**. In addition to the elements explaining the main and secondary ideas, the supporting elements connecting these ideas are *Consistency*, *Convincing*, *Creativity*, *Connection*, *Intuitive*, and *Analytical*.

Overall, Group 2 emphasised **Context Building** in developing Prototype 2, believing that consistent Expression plays a crucial role in establishing context within MG design. They suggested that convincing Expression and a coherent Context enhance content transparency, making MGs easier to understand. This Transparency directly influences Experience, as viewers engage with MGs and ascribe Value to them. Additionally, effective communication affects how Value is delivered, as it determines how effectively these values are conveyed. Group 2 also considered that communication will continue to evolve alongside technological advancements, leading to new demands. They anticipated that, in the future, the distinctions between different types of MGs and the identities of producers and viewers will become increasingly blurred due to technological development.

It is worth noting that, due to the sequence in which the workshops were conducted, the development of Prototype 2 significantly benefited from referencing the design of Prototype 1. During Group 2’s design workshops, Prototype 1 was introduced as an example, which was particularly useful for Group 2, as it comprised only three members. By referencing Prototype 1, Group 2 was able to engage in prototyping more efficiently, grasp the content of the card set more quickly, and focus on their ideas and prototype development. However, this also suggests that the ideas in Prototype 2 may have been influenced by Prototype 1. As Group 2 reported, they drew inspiration from Prototype 1 during their design process.

Prototype 2

By Group 2

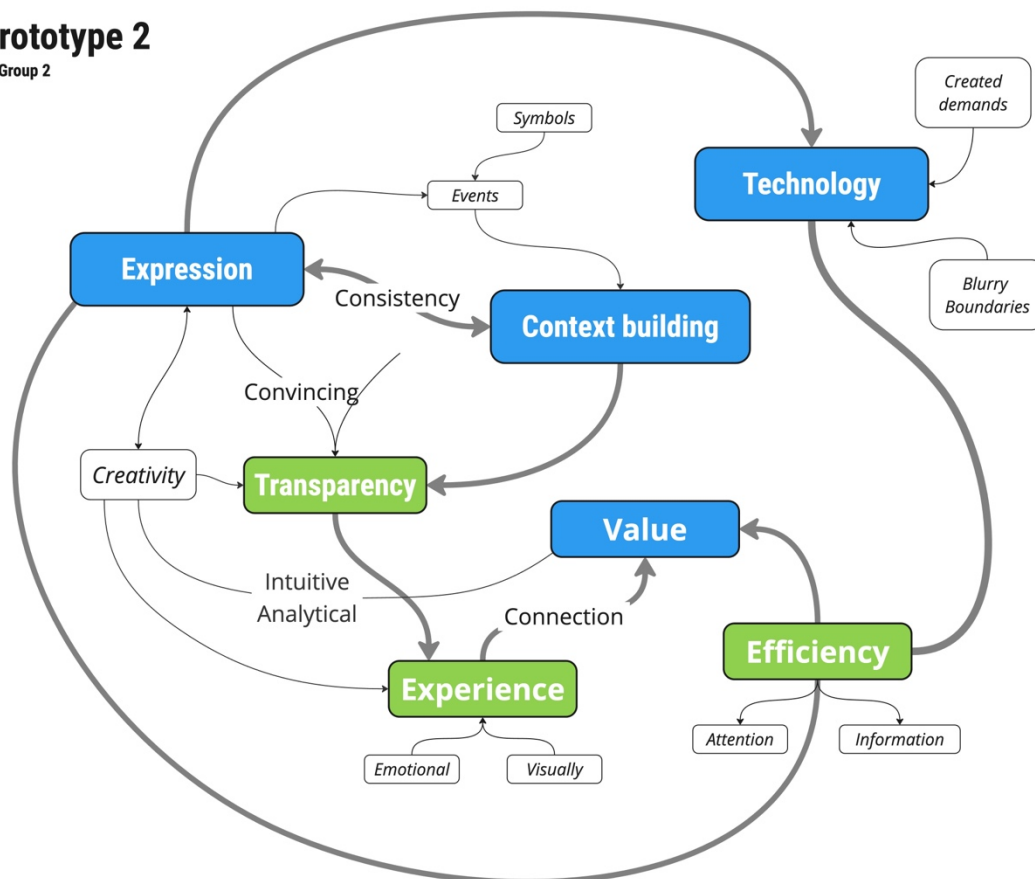


Figure 6.27 Prototype 2, by group 2

Group 2 identified **Context Building** as one of the core aspects of MGs communication. As Alan stated, “It [building a context] provides the audience with the necessary background to understand why they should care about what they’re seeing.” Context Building in MGs is directly linked to **Expression**; as David explained, “Context [in MGs] gives meaning to expression. Without the right context, we might not understand or appreciate the message.” Expression is reflected in *Events* composed of *Symbols*. A sequence of events constructs the context, and consistent Expression directly influences the development of meaningful context.

Transparency, identified as a secondary idea, was described by Emma: “This [transparency] means clarity in design and the information provided.” She further explained, “It ties back to trust, which is essential for effective communication.” Therefore, credibility is crucial in context expression and influences the **effectiveness** of communication. As David noted, “Transparency in motion graphics is about making sure the information is accessible and easy to understand.”

Transparency is also connected to **Experience**. As David explained, “[it] is about creating something memorable. It’s not just about what the audience sees but

how they feel about it.” Alan added, *“Creating experience is about more than just visuals; it’s about crafting an emotional journey for the viewer.”* Thus, *Emotional* and *Visually* elements are vital in shaping an engaging experience.

Value is another main idea in Prototype 2. Group 2 referenced Prototype 1 and expanded on the importance of Value in their own design. As Emma shared, *“...every piece of motion graphics adds value to the viewer. It’s not just about looking good—it has to serve a purpose, whether educating, entertaining, or persuading.”* Through Experience, the audience connects with the value conveyed by the MG design; as Alan stated, *“Value is what the audience takes away from the experience.”*

Creativity is an essential supporting element connected to Value, Expression, Transparency, and Experience. Speaking from a producer’s perspective, Alan explained, *“I see creativity as a problem-solving tool... we’re often faced with the challenge of conveying complex messages in a simple, engaging way.”* Through creative expression, producers can effectively convey their ideas, allowing viewers to have a better experience; as David added, *“Creativity is what allows us to emotionally connect.”* Another crucial role of creativity is in conveying value through both intuitive and analytical approaches in communication.

Efficiency is a secondary idea closely linked to Expression and Technology. Alan explained from a producers’ perspective, *“Efficiency is about optimising the design process and ensuring that the final design is both effective and easy to produce.”* This includes leveraging technology to enhance Expression while maintaining a clear information structure to capture viewers’ attention. From a viewer’s perspective, Efficiency is also related to the need for quick and clear information. As Emma noted, *“I often think that a clear and straightforward message is what I need.”*

Group 2 agreed that **Technology** plays a crucial role in MGs communication. As Alan observed, *“The advancements in technology have blurred the lines of what’s possible, pushing us to constantly evolve our approach.”* As tools become more widespread and easier to use, technology progressively blurs the boundary between producers and viewers. Moreover, technological progress introduces new communication approaches, leading to the creation of new demands. However, as Emma reflected, *“It [technology] also creates demands and blurry boundaries—how far can we push before we lose the human touch?”* This highlights the importance of balancing human-computer interaction and maintaining a human touch in technology-driven communication.

6.5.2 *Synthesis of prototypes 1 and 2*

In the data analysis, the visual summary (Figure 6.25) represents a synthesis of the two prototypes. This visual summary follows the three-layer structure established in the participant-created prototypes, comprising Goals and Needs, Strategies and Approaches, and Drivers and Conditions. Concepts derived from the data analysis were integrated into the visual summary, enabling it to serve as a theoretical model for systematically explaining the communication mechanisms of MGs. As a finding from the Design Workshops, Figure 6.28 presents the Communication Model of Motion Graphics, developed by the researcher.

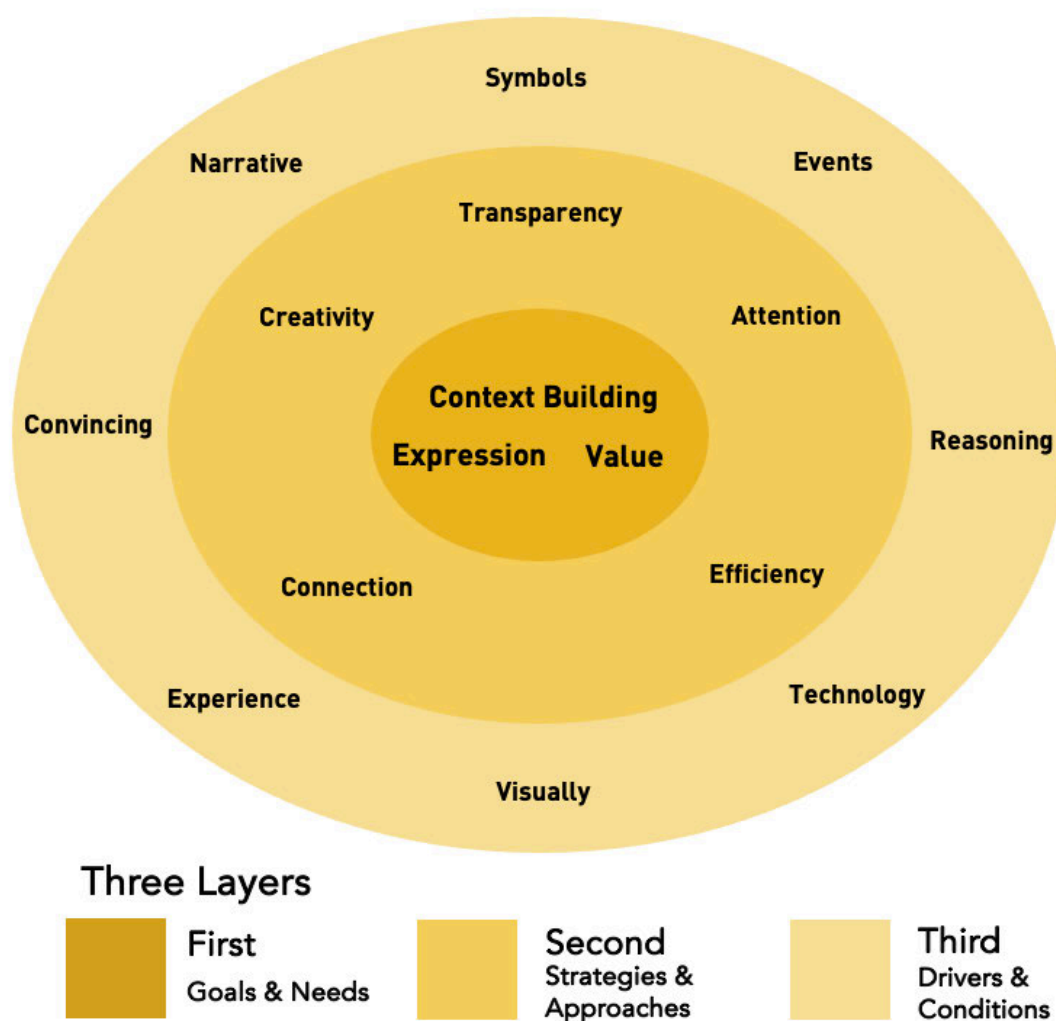


Figure 6.28 The Communication Model of Motion Graphics

6.5.2.1 *Goals and needs*

Analysis of the prototypes revealed that the only distinction between the roles of producers and viewers in MGs communication lies in who sends and who receives information. However, the communication process itself remains inherently reciprocal,

as both producers and viewers contribute to meaning-making. Communication through MGs addresses both producers' and viewers' goals and needs, indicating that MGs serve as a medium for conveying information and co-created meaning.

Participants identified Context Building as the focal point of MGs communication. Whether in production or consumption, establishing context serves as the foundation of communication, providing a structured environment where meaning is shaped and interpreted. From a producer's perspective, context functions as a framework in which information and underlying values can be conveyed effectively. Producers embed meaning in MGs by constructing and expressing a coherent visual, textual, and auditory context, ensuring that their intended message reaches the viewers in a structured manner. From a viewer's perspective, context plays a crucial role in understanding and meaning-making. Viewers receive, decode, and understand the information presented within the MG design, forming value judgments, identifications, and emotional connections based on the established context.

Another aspect of Context Building is its ability to bridge the gap between the producer's intent and the viewer's understanding. The findings suggest that a well-constructed context enhances the clarity, emotional impact, and effectiveness of MGs communication, whereas a lack of context may lead to misunderstanding or disengagement.

6.5.2.2 Strategies and approaches

The prototypes further indicate that producers and viewers employ the same strategies and approaches to achieve the above goals and needs of communication. This aligns with the idea that communication is a process where both parties contribute to constructing and interpreting meaning.

Both prototypes acknowledge the importance of Transparency in MGs communication. Transparency in this context refers to the clarity, coherence, and accessibility of the conveyed message. Participants suggested that the effectiveness of MGs communication is directly linked to the clarity of context expression. As such, producers must adopt creative expression techniques and well-structured information design to ensure that their content is easily comprehensible. Viewers, in turn, benefit from a clear and intuitive communication structure, allowing them to engage with the content with minimal cognitive effort.

Additionally, the prototypes underscore that the appeal of MGs communication lies in creating resonance and connection, reinforcing the role of emotion and experience in shaping the viewer's engagement. This suggests that MGs

communication extends beyond mere information transmission and instead functions as a medium for storytelling, emotional impact, and viewer immersion.

Moreover, Efficiency plays a critical role in MGs communication. Whether in production or consumption, participants expressed an expectation of efficient communication, highlighting the importance of brevity, conciseness, and accessibility. MGs that effectively balance aesthetic appeal, clear messaging, and efficient content delivery tend to resonate more with viewers.

6.5.2.3 Drivers and conditions

Beyond strategies and approaches, the prototypes identified eight elements as drivers and conditions shaping MGs communication. These elements vary depending on individual scenarios, as MG design and interpretation involve significant subjectivity. Personal preferences, perceptions, and experiences strongly influence both how a design is created and how it is understood by viewers.

One of the primary challenges in MGs communication lies in the subjectivity of meaning interpretation. Regardless of producers' intentions, the designed experiences and intended messages (presented in symbols and events in MGs) may be understood, negotiated, or reinterpreted differently by viewers. The findings suggest that viewers' backgrounds, cultural contexts, and cognitive biases play a crucial role in determining how they engage with and internalise the content. i.e., how viewers reason what they see. This dynamic underscores the complexity of MGs communication, where the message is not passively received but actively constructed by the audience.

Another key driver is Convincing (credibility and persuasion). Whether viewers accept, question, or reject the information conveyed through MGs depends on how convincing the visual and textual elements appear. The degree of transparency, contextual consistency, and emotional resonance within the MG design determines its persuasive impact.

Additionally, technology provides the infrastructure for producing and consuming MGs, shaping both the production process and consumption. As technology advances and its applications evolve, the nature of MGs communication may continue to transform, introducing new possibilities for interactive experiences, personalised content, and auto-driven design approaches. However, participants also noted the potential risks of over-reliance on technology, cautioning that excessive automation may lead to a loss of human touch and artistic authenticity in MG design.

6.6 Discussion

As presented in Section 6.5, the two concept prototypes and proposed Communication Model of Motion Graphics identify key insights into MGs communication. In addition to Design Workshops, the discussion in this section references the previous fieldwork (Producers Observation and Viewers Focus Group) since the creation of the prototypes was built upon previous findings.

The discussion in this section begins with the supply and demand relationship between producers and viewers (Section 6.6.1). It describes how the shared goals and needs of the producers and viewers shaped their relationship and how those were established under a consumer culture. Section 6.6.2 then discusses the shared meaning-making between producers and viewers in communication, involving the principles and techniques merged from the standardised production of MGs. Section 6.6.3 discusses the role of transparency, engagement, technology and efficiency in the media culture of MGs.

6.6.1 *Supply and demand relationship*

As described in Section 6.5.2, the first layer of the proposed Communication Model of Motion Graphics represents that producers and viewers share the same goals and needs in the communication. This mutual alignment drives the relevance and meaning of the communication through MGs, as producers tailor their output to meet the viewers' needs. This perspective situates the research findings within McQuail's mass media theory (McQuail & Deuze, 2020), which emphasises that media production is driven by audience demand and expectations. Thereby, the findings suggest the communication between producers and viewers is based on a supply and demand relationship.

6.6.1.1 *Competitive market*

In general, the Goals and Needs layer does not reflect the inherent characteristics of MGs or the communication. It represents the shared goals and needs of communication from producers and viewers, which reflects a consumer culture, emphasising a market-like environment.

Production and consumption in the market embody a supply and demand relationship that transcends the distinct roles of producers and viewers. The results suggest that the prototypes created in the Design Workshops bridge the roles of producers and viewers through their shared goals and needs, and both parties engage in a co-creation process of meaning construction.

For example, producers must first construct an appropriate context to express their ideas and establish value when delivering a message. This process requires implementing strategies and approaches, ultimately leading to the completion of their creative practice. Conversely, viewers seeking to receive information will first engage with the visual content, process it through reasoning and narrative interpretation, and subsequently evaluate and form judgments about the message.

This dynamic reflects a technological prioritisation in digital media, where both the producer's final output and the viewer's initial reception rely on visual forms driven by technology (Berghel, 1998). In MGs communication, form often takes precedence over content, as technology determines how messages are produced, distributed, and received. However, while content may be pre-configured and pre-determined, it is also open to interpretation, influenced by symbolic construction and narrative sequencing. Through this interplay of symbols and narratives, the meaning becomes a paradoxical commodity, shaped by but also detached from its communicative function. This phenomenon is particularly evident in domains such as social media and advertising, where cultural expression and commercial messaging merge, making meaning itself both highly emphasised and paradoxically empty. As Horkheimer and Adorno (2002, p. 131) describe the fusion of culture and advertising:

“The more meaningless the latter appears under monopoly, the more omnipotent culture becomes. Its motives are economic enough.”

Participants in both the Viewers Focus Group and Design Workshops reported that the communication they are involved in is more similar to the action of consumption. They could spend hours watching videos like MGs without awareness of what they watched or understood, and they were involved in communication without the ability to select information autonomously. This is not purely negative but is a function of a competitive market, where *“In the competitive society advertising performed a social service in orienting the buyer in the market, facilitating choice and helping the more efficient but unknown supplier to find customers. It did not merely cost labour time, but saved it”* (Horkheimer & Adorno, 2002, p. 131).

Given the widespread use and broad audience reach of MGs, it holds a competitive advantage over other forms of media, such as static images. This economic and communicative advantage makes MGs an efficient medium for visual storytelling and information dissemination. However, within the broader short video landscape, MGs—particularly animated formats—rank below dominant live-action videos regarding market impact and audience preference. This positioning reflects both the

competitive nature of the media market and the continuous evolution of MGs to meet changing consumer demands and technological advancements. As in Prototype 1, participants considered 2D and AR MGs as more effective than other formats, as these modes better align with the shared goals and needs of the producers and viewers.

Moreover, Max Weber (2013, pp. 19–20) described how market competition influences individuals:

“It forces the individual, in so far as he is involved in the system of market relationships, to conform to capitalistic rules of action. The manufacturer who in the long run acts counter to these norms will just as inevitably be eliminated from the economic scene as the worker who cannot or will not adapt himself to them will be thrown into the streets without a job.”

Such influence reflected in the findings from the Producers Observation and Viewers Focus Group as well. As practitioners, producers’ communication strategies and objectives are designed to meet pre-existing communication needs. These needs manifest as predefined and strategically planned messages, which producers develop using specific techniques, approaches, and technical expertise. Consequently, producers must continually adapt to market trends and technological advancements and need to differentiate themselves in a competitive media landscape. From the Viewers Focus Group, participants expressed a preference for MGs over other mediums due to their ability to capture attention, provide transparent and easy-to-understand content, and present convincing expressions. Those findings highlight that market competition has fostered the supply and demand mechanism and the medium of MGs to meet needs and goals.

6.6.1.2 The mode of production and consumption

To achieve the goals and needs of MGs communication, it is essential to examine the producers’ and viewers’ modes of production and consumption.

A vast information system, established with the rise of Web 2.0 (Benkler, 2006; Kim et al., 2009), now encompasses all aspects of digital communication with powerful technology companies in the creative industry are increasingly investing in infrastructure—such as high-speed networks, display devices, and platforms—to strengthen their control over global communication (Hesmondhalgh, 2021; Plantin et al., 2018). Within this system, MGs serve as both a medium and a cultural form, shaping how information is produced, distributed, and consumed. One of the key implications of this media infrastructure is that direct communication between individuals is increasingly mediated by digital platforms. Producers’ outputs rely on these systems

for dissemination and distribution, just as viewers depend on them for access to information.

As Group 1 reflected on their prototype and contemporary communication trends, they noted that platforms and algorithm-driven environments facilitate faster access to relevant or promoted information. However, they also acknowledged the risk of becoming isolated from diverse perspectives, potentially confining users within specific topics or viewpoints.

The findings suggest that interaction and communication are increasingly mediated by digital platforms that prioritise visibility and engagement metrics. These platforms function as media institutions, using algorithms to predict demand and curate content (Caplan & boyd, 2018; Napoli, 2014). As these algorithms become more sophisticated in profiling and matching individual users, the content people consume appears diverse but is, in essence, highly similar. For instance, viewers with limited time and cognitive resources seek shorter, more direct, and personally relevant communication, as this represents valuable and meaningful engagement. Additionally, participants expressed a need for autonomy in choosing whether to engage and the ability to assess the usefulness of content. In response, content producers strive to meet these demands for efficiency, effectiveness and value, leading to communication that becomes increasingly concise, direct, and potentially formulaic.

As demand for content grows, producers face increasing pressure to generate more output, often resorting to more eye-catching, emotionally charged, and attention-grabbing methods. Consequently, MGs saturate digital spaces, competing for visibility by amplifying themes, intensifying experiences, and pushing creative boundaries. In this landscape, MGs is not just a medium but a message in themselves, embodying both the demand for content and the means of satisfying it.

Furthermore, as shown in Prototype 2, the boundary between viewers and producers is becoming increasingly blurred. Viewers are no longer passive consumers; they actively engage in industry discourse by sharing and creating ‘Spreadable Media’(Jenkins et al., 2013). This shift reconfigures traditional media hierarchies, as content circulation is no longer controlled solely by institutional producers but also shaped by viewers participation. Jenkins (2013, p. 83) describes this phenomenon:

“Yielding new insights, creating new value, reaching new audiences...but the business model often isolates the resulting texts from the social contexts within which they were produced and circulated, thus devaluing notions of reciprocity.”

Viewers engagement transforms them from passive recipients into hybrid sender-receivers, reflecting a broader transformation in digital communication (Couldry, 2009, p. 438). Rather than simply transmitting information, media actively shapes viewers' perceptions and behaviour by reinforcing repetitive patterns and messages. This aligns with McLuhan's (2001) argument that media is not merely a conduit for communication but a force that shapes daily life, ideologies, and individual perceptions. The pervasiveness of MGs and digital media means that people are immersed in its influence but often unaware of its impact. As a result, values, emotions, and worldviews are increasingly mediated through algorithmic content delivery, commercial imperatives, and large-scale audience targeting (Lull, 2000).

In summary, the findings indicate that a supply and demand relationship shapes the communication between producers and viewers. This relationship is rooted in a competitive, market-driven digital environment, where technological infrastructure, platform algorithms, and evolving audience behaviours shape modes of production and consumption. As media production becomes increasingly intertwined with digital systems, MGs continue to serve as both a medium and a cultural landscape, influencing communication strategies, audience engagement, and media consumption patterns in the digital environment.

6.6.1.3 Shared goals and needs

As discussed in the previous section, the supply-demand relationship between producers and viewers is shaped by their shared goals and needs. Specifically, these shared goals and needs are identified in the first layer of the proposed Communication Model of Motion Graphics: Context-building, Expression, and Value.

Context Building: foundation of meaning and engagement

Both prototypes highlight Context Building as a core element of MGs communication. This finding aligns with existing research on visual storytelling and cognitive processing, which suggests that effective communication relies on establishing a clear, engaging, and coherent context (McCloud, 1994; Rose, 2015).

According to Duranti (1992, p. 3), context functions as a frame that surrounds the event being examined, providing resources for its appropriate interpretation. In MGs communication, the objects and materials within the content construct a situational framework, allowing producers to build a structured context while enabling viewers to interpret it through their own understanding processes.

Research in neuroscience further supports the role of context in perception and interpretation. Studies suggest that familiar or consistent objects and contexts enhance visual performance, while inconsistent contexts may reduce performance but simultaneously make certain objects easier to recognise—particularly those with emotional value (Bar, 2004; Bar & Ullman, 1996; Fox, 2002; Öhman et al., 2001; Rémy et al., 2014; Zacharia et al., 2022). This underscores the importance of context in shaping both atmosphere and emotional engagement in MGs.

As a symbolic and suggestive process, context construction allows MGs to convey broader symbolic value rather than specific, isolated moments (G. Kress & Van Leeuwen, 2020, p. 106). This genericity of context makes MGs particularly effective for branding, storytelling, and marketing applications, as seen in brand promotion and narrative-driven content (Herrat, 2023; J. Li et al., 2019; Singh & Sonnenburg, 2012). As one participant noted: “*Context lets you know what this is about.*” (Hua, Group 1)

Furthermore, in the context of computing environments, Dey (2001, p. 5) defines context-awareness as, “*A system is context-aware if it uses context to provide relevant information and/or services to the user, where relevancy depends on the user’s task.*” This perspective suggests that context in MGs should be carefully designed not only to suit the media through which they are delivered but also to align with the purpose of communication and the expectations of the viewers.

Expression: representation and engagement of meaning and emotion

According to Al-Ruwaisa (2024), the interaction between the designer and audience of the information is crucial. Designers use art, technology and emotion to influence audiences. As Group 2 identified in their prototype, where Expression is a critical element of MGs communication for both producers and viewers. Expression in MGs aligns with Tolstoy’s (1996, p. 51) description of artistic expression:

“To evoke in oneself a feeling one has once experienced and... then by means of movements, lines, colours, sounds, or forms expressed in words, so to transmit that feeling so that others experience the same feeling.”

This highlights the reciprocal nature of expression in MGs, where producers craft visual language to evoke emotions, and viewers engage with and interpret these expressions. Therefore, expression is also an engagement process. Moreover, MGs as a medium inherently embodies expression. As Ridley (2003, p. 222) argues:

“...artworks must be understood as objects having expressive properties capable of revealing and being explained by the feelings of artists and (perhaps) of explaining and being revealed by the feelings of audiences.”

This suggests that MGs is not merely functional tools for delivering information but aesthetic and emotional forms of communication, capable of reflecting both the producer's intent and the viewer's interpretation.

Value: conceptual, ethical, and practical considerations

As shown in both prototypes, the concept of Value in MGs communication represents two aspects: judgment of worth or philosophical/ethical principles.

When involving a judgment of worth, viewers assess whether MGs have economic or functional value based on their relevance and significance to their own experiences. As Hua noted, "*I can decide if it is valuable to me or not.*" However, different viewer groups possess different value systems (Schwartz, 1992), meaning that MGs should be tailored to specific target groups to enhance engagement and impact.

Value also indicates a set of philosophical/ethical principles. As reported by Group 2, MGs serve as a medium for conveying values, such as family narratives, social messages, and lifestyle branding. In public service, MGs often used to raise awareness about societal issues, influence behaviour, and highlight ethical principles (Azahari et al., 2020; Freitas et al., 2023; X. He, 2017; Khamise, 2023; J. Li et al., 2019; Lonsdale et al., 2019).

Participants also emphasised that MGs possess inherent value as a medium, reflecting both contemporary media culture and the development of digital communication. The widespread application of MGs demonstrates their effectiveness in capturing attention, enhancing engagement, and reinforcing the intended information.

The discussion above identifies the shared goals and needs for MGs communication, which responds to the argument regarding MGs as a communication design (Section 2.2.2). Communication design has evolved from transmitting information to conveying concepts, where MGs as a medium is not an end but a powerful carrier and effective means for sharing content, values, and information (Drumeva, 2024).

6.6.2 Shared meaning-making

The findings suggest that the goals and needs orient the meaning-making in MGs communication. To achieve the goals and needs, the second layer of the proposed model, Strategies and Approaches, represents a shared mode of producers and viewers to make meaning.

The Strategies and Approaches layer is framed within the production and consumption perspective of the market economy's supply and demand relationship,

suggesting that producers and viewers employ the same strategies and approaches to produce and consume MGs. This layer illustrates how MG production responds to market demands while shaping audience consumption patterns. It highlights the dynamic interaction between human-human and human-medium relationships, acknowledging how MGs adapt to evolving audience preferences and the digital environment. This perspective aligns with broader media consumption and production trends, reinforcing the idea that MGs communication is not isolated but embedded within a larger socioeconomic and technological framework. The point is to recognise that behind the communication of MGs, *“lie many continuing social, political and economic forces which it is our task to trace, not judge in advance”* (Couldry, 2009, p. 447).

6.6.2.1 Standardised production

Standardised production in MGs establishes a normative framework for meaning-making and fosters a common visual language.

More specifically, the elements in the second layer of the proposed model—Connection, Attention, Transparency, Creativity, and Efficiency—correspond to the rationalisation of modern consumerism and the concept of ‘McDonaldization.’ Coined by George Ritzer, McDonaldization describes the standardisation of production, assembly-line processes, and the prioritisation of efficiency, effectiveness, calculability, predictability, and control in mass production. The rise of digitalisation and evolving consumer behaviour has further intensified these processes in media production (Ritzer, 2021; Ritzer & Miles, 2019).

As an experienced animator, Hart commented on her recent work during the Producers Observation, *“I feel like many works are fast-food-style; it feels like I’m a worker on a factory line, I’m a machine that only does copy and paste”*.

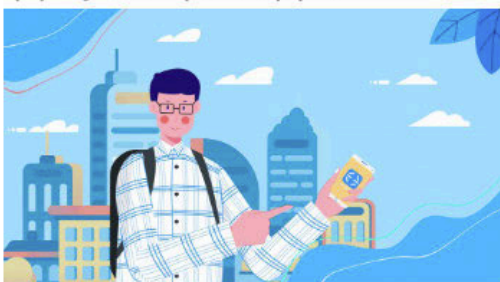
This sentiment reflects a growing concern within the MG industry: the tension between creative expression and the increasing demand for standardised, mass-produced visual content. For instance, when widespread dissemination is the objective, MGs must be designed to appeal to a broad audience, often relying on generalised and transparent symbols for expression, heightened emotional appeal, and universal values. To achieve this, MGs prioritise quick resonance, clear organisation of information, and creative structuring to ensure accessibility and audience engagement. This process, however, results in a globalised visual language, where MGs exhibit a high degree of uniformity across different languages and cultures. This phenomenon is illustrated in Figure 6.29, which presents a comparative example of six MG designs.

- Figures 6.29a–6.29c showcase 2D MG designs from different countries (6.29a and 6.29b from China, and 6.29c from the USA). Despite their geographical and cultural distinctions, these designs exhibit notable visual similarities, employing flattened, stylised elements as their primary means of expression.

- Figures 6.29d–6.29f display 3D MG designs by creators from different regions (SOMEI from China, JM Blay from Spain, and The Mill, a global enterprise with studios worldwide). Despite their diverse origins, these designs also reflect similar artistic and technical approaches, making it difficult to visually distinguish their cultural or geographic influences.

These examples suggest that normalised production methods and techniques contribute to the homogenisation of MG design, enabling designers to quickly respond to market demands across different regions, just like ManvsMachine and The Mill can operate globally with the same production standard and procedure (Section 1.4). While the purposes and intentions behind these designs may vary, the paradox is that, as media consumption experiences become more diverse, MGs production increasingly reinforces visual conformity and standardisation.

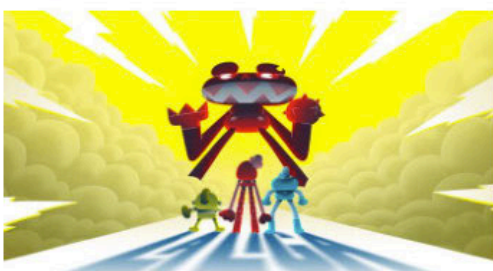
(a) By half pineapple



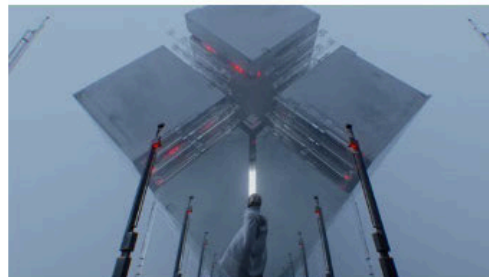
(b) By Huimeng Animation



(c) By Coat of Arms



(d) By SOMEI



(e) By JM Blay



(f) By The Mill

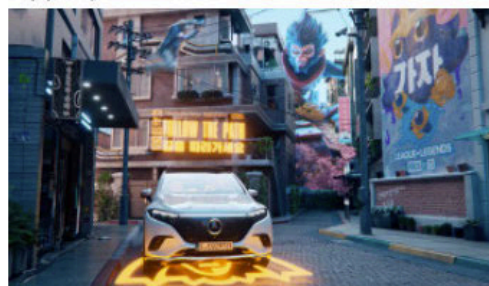


Figure 6.29 Examples of the common visual language of MGs²⁷. The (a) - (c) are 2D form, (d) – (f) are 3D form.

6.6.2.2 Meaning-making become techniques and principles

The efficient and standardised production of MGs, as described above, responds to growing demands in the digital environment, where information is increasingly accessible through digital platforms and information systems (Section 6.6.1.2). This mode of production and consumption has positioned MGs as a common medium (Section 5.5.1), shaping meaning-making in communication to follow certain principles and procedures.

²⁷ (a). <https://www.zcool.com.cn/work/ZNjUxODc2Mjg=.html>

(b) <https://www.zcool.com.cn/work/ZNjA2MDM3MzY=.html>

(c) <https://coatofarms.tv/>

(d) <https://vimeo.com/somei>

(e) <https://vimeo.com/912900885>

(f) <https://themill.com/the-mill-plus/talent/directors/tim-fox/mercedes-riot-league-of-legends-the-hunt-for-glory/>

This perspective aligns with Horkheimer's critique of standardised cultural production:

"... the same thing appears in countless places, and the mechanical repetition of the same cultural product is already that of the same propaganda slogan. In both, under the dictate of effectiveness, technique is becoming psychotechnique, a procedure for manipulating human beings. In both, the norms of the striking yet familiar, the easy but catchy, the worldly wise but straightforward hold good; everything is directed at overpowering a customer conceived as distracted or resistant" (Horkheimer & Adorno, 2002, p. 133).

The research findings highlight a fundamental challenge: as MGs become increasingly standardised and globally uniform, there is a growing difficulty in maintaining cultural specificity and depth of meaning within this globalised media landscape.

In summary, the Strategies and Approaches layer does not simply represent practical design methodologies for communication; rather, it encompasses the techniques and principles that shape meaning-making in MGs communication, employed by both producers and viewers. However, meaning in MGs is not inherent—it is constructed through symbols and contextual frameworks, referencing existing conventions and cultural representations (Barker, 2019).

6.6.3 Medium culture of effective communication

As Bignell (2007) suggests, different media forms reflect contemporary media and consumer culture. Jansson (2002) noted that the former is actually the latter, consumer culture, as media images and media-influenced commodity symbols are increasingly used as sources and expressions of cultural identity.

The findings suggest that *transparency*, *engagement*, *efficiency* and *technology* are key elements shaping the medium culture of MGs and highlight the trend of efficient communication. These elements reflect how information is presented and received and responds to MGs as a form of digital medium.

Both prototypes consider transparency as a key element in MGs communication. It is related to the credibility and accessibility of MGs. The findings suggest that the clarity of context expression directly impacts viewers' understanding and engagement, and establishes viewers' trust in the information presented. This brings reliability into communication, which justifies viewers to believe that their cognitive effort will bring sufficient effects (McCallum et al., 2020, p. 26).

Engagement is important to MGs communication, particularly regarding how MGs create resonance and emotional connection. As reflected in Prototype 1, Connection is one of the main ideas of communication. It relates to *engagement* and shaping *identification*. Similarly, Prototype 2 illustrates that connection is crucial in associating with the Experience and Value of MGs. Engagement with the content signifies viewers' identification with MGs (Fathi et al., 2014; Green et al., 2008; Green & Brock, 2000; Igartua, 2010; Scolari, 2009). The connection to the content fosters engagement and communication effectiveness and creates lasting memories (Oatley et al., 1997).

Both prototypes highlight that *efficiency* is a critical aspect of both MG production and consumption. It is deeply related to the goals and needs of the communication. Participants highlighted the importance of efficient expression of information, optimised visual hierarchy, and capturing attention.

Furthermore, the results indicate that as technology advances, the demand for communication may change, and the boundary between producers and viewers is becoming increasingly blurred. As noted, MGs is produced and distributed within the digital environment, with people making and consuming these contents through screens (Bucher & Helmond, 2018). The development of new technologies, such as generative AI, augmented reality, virtual reality, and mixed reality, will inevitably impact the existing forms of MGs. This will also affect and change the human-computer interaction, where intimate, multisensory, and spatial content makes the content engaging, relevant, and immersive (Bailenson, 2018; Chung et al., 2018). Viewers may not just be recipients of information in the future with the media culture become more participatory (Jenkins, 2006). When anyone can generate a video to express their thoughts by simply input a prompt, technology will further blur the boundaries between producers and viewers. The new technology also raises new concerns about power, privacy, ethics, and surveillance (Holmner, 2024; Ray, 2023; Szabo, 2014; Ward, 2020).

However, when strategic decisions and innovations are driven primarily by technological advancements and capabilities, technological prioritisation is emphasised because this approach can bring and define new demands (Chesbrough, 2003; Di Stefano et al., 2012); this is also reflected in Prototype 2, where participants considered that technology can create demands. This poses a challenge to the role of the producer, as Macdonald (2016) argues that the role of artists and designers is to continually rethink our relationship with technology rather than regarding technology as a means to an end.

With the development of technology, new mediums will emerge and represent a new culture because they better meet existing or future needs and goals. Alternatively, MGs could evolve into a new medium due to technological advancements (Section 5.5.1). These new mediums will serve production and consumption in the same or different ways as MGs. However, the findings from Design Workshops indicate that current MGs and future media may continue serving this relationship unless the supply and demand relationship changes. As Yochai Benkler point out, the market-based media structures will not disappear (Benkler, 2006). They will continue to drive market strategies that standardise and enhance effectiveness under instrumental and value rationality (Weber, 1978), focusing on choosing the most effective means to achieve a goal, aiming to maximise returns.

6.7 Conclusions

Through the Design Workshops, participants developed two concept prototypes to illustrate their shared goals and needs and how they communicate through MGs. Creating these prototypes involved participants using design tools (card set), which were developed based on previous research findings. By using the card set, participants generated new interpretations and ideas based on previous findings, enabling them to articulate their understanding of MGs communication and develop concept prototypes.

More specifically, the card set used in the workshops was developed from the two thematic maps, which are the outcomes of the Producers Observation and Viewers Focus Group. When expressing their ideas with the cards, participants compared the meanings in the cards with their own experiences, assessing whether the cards could represent their thoughts. This approach can be considered as an indirect assessment of previous findings. Participants considered each card as an isolated concept rather than a factor under a theme from the thematic map. Thus, participants were able to redefine the relationships between factors from the original thematic maps and identify new elements/structures to develop prototypes based on their goals and needs. For instance, in the thematic map (Figure 4.7), Efficiency was initially placed under the Demand Changing theme. However, Participant Group 1 put Efficiency as a supporting element for the main idea of Context Building in Prototype 1.

Another crucial aspect of the workshops was the BEPI design process. Participants had not encountered the tools and design methods introduced by the researcher, so they needed time to understand what they were supposed to do and how to do it. A carefully structured design process and workbook facilitated their deep engagement, achieved by guiding them step by step through the BEPI design process,

which helped them organise their thoughts and uncover their real goals and needs. Additionally, following the design process and recording in the workbook effectively supported structured data collection, demonstrating how participants' ideas evolved.

Participants enjoyed the design process in different ways and for various reasons. As participants reflected, this was their first time engaging in a co-design process. They actively assumed different roles within the group, and this role assignment positively influenced their participation. For example, in Group 1, during the Brainstorming phase, participants took turns sharing their perspectives. By the prototyping phase, they had spontaneously assigned roles—Hua took on a leadership role, James and Phoebe helped construct the prototype, and Elizabeth offered suggestions and ideas to support others. Participants felt mutually supported and were proactive in sharing decision-making, taking ownership of the design process rather than relying on the researcher's instruction.

Developing prototypes empowered participants to take the lead in design and provided them with opportunities for in-depth discussion and reflection on the research topic. Participants reported that their involvement was a positive experience, as they had never had the chance to think so deeply about issues related to the research topic. Creating prototypes and engaging in discussions made them proud of their creativity and insights.

An interesting observation is that, although the research topic and prototype design were targeted to MGs communication, participants' discussions and reflections on their prototypes extended it to a broader context; this helped them connect their ideas to real-world phenomena. For example, Group 1 discussed how today's algorithm-driven environment limits communication, as people are primarily exposed to content that aligns with their preferences, resulting from the goals and needs of both producers and viewers. Group 2 reflected on the broader implications of communication media in the digital environment. They suggested that the ideas presented in their prototype might not only apply to MGs but could also be relevant to other communication mediums, as they reflect contemporary communication needs and how these needs are met.

Based on the prototypes created by the participants, this chapter proposed a Communication Model of Motion Graphics and engaged in a critical discussion of the model. It was found that MGs communication is grounded in the supply and demand relationship within a market environment, and the elements that enable this communication were further clarified.

In conclusion, as the final part of the Participatory Design Project in this study, the Design Workshops built upon the findings from the Producers Observation and Viewers Focus Group to further explore how producers and viewers communicate efficiently and meaningfully through MGs. The findings from the prototypes reveal that MGs communication operates as a supply-demand system, where producers supply structured, contextual and engaging content that meets the cognitive and emotional needs of viewers. The results also highlight that MGs communication is inherently reciprocal, with producers and viewers engaging in shared strategies and approaches of meaning-making rather than a one-way transmission of information.

Additionally, the study suggests that Transparency, Engagement, and Efficiency are key components of the medium culture and efficient communication of MGs. Those aspects shape producers' composition and communication strategies and how viewers interpret, respond to, and engage with MGs. Transparency enhances clarity and credibility, engagement fosters emotional resonance and experience, and efficiency ensures that messages are effectively created and conveyed.

These findings contribute to a deeper understanding of MGs communication and response to Research Question 3: How do producers and viewers communicate through MGs to make meaning?

CHAPTER 7 DISCUSSION

7.1 Introduction

As introduced in Chapter 1, this study aims to explore and discuss the needs, challenges and potential of MGs as a medium for communication within the digital environment. Chapter 3 introduces the Participatory Design Project (PDP), which was developed to achieve this aim through participatory design activities. Chapters 4 to 6 provide a detailed description and discussion of the fieldwork, conducted in three parts: Producers Observation, Viewers Focus Group and Design Workshops, each addressing the research questions.

The Literature Review (Chapter 2) considers MGs an efficient medium for communication, which delivers complex information quickly and effectively through elements such as motion, graphics, and sound. Based on the literature review, this study raises three Research Questions to investigate more detailed aspects of MGs communication:

RQ 1: As practitioners, what communication strategies and approaches do producers adopt in their practice, and what factors influence them?

RQ 2: As consumers, how do viewers understand and experience MGs, and what factors influence their understanding and experience?

RQ 3: How do producers and viewers communicate through MGs to make meaning?

This chapter discusses the results from the PDP to address the research questions, describing how this research has contributed to the existing body of knowledge on MGs. The following sections describe how the research questions were addressed. Sections 7.2 and 7.3 examine the results of the Producers Observation and Viewers Focus Group and identify how information is sent and received in MGs communication, which addresses RQ 1 and 2, respectively. Section 7.4 discusses the findings from the Design Workshops address RQ 3. Section 7.5 presents the contributions of the research. Section 7.6 addresses the limitations of the study.

7.2 Addressing research question 1

As practitioners, what communication strategies and approaches do producers adopt in their practice, and what factors influence them?

The first research question is addressed through a critical review of the literature (Chapter 2) and the Producers Observation (Chapter 4). Chapter 2 provides an extensive literature review that explores producers' approaches, such as how to apply animation in their practice, as well as how to achieve communication through narrative,

experience and symbols. Additionally, through the composition of various design elements, MGs generate multi-sensory experiences, such as audio-visual and emotional experiences.

By identifying the primary focus and characteristics of MGs communication—information transmission and multi-sensory experiences—the literature review highlights the importance of producers' composition and communication strategies. However, existing research predominantly examines or introduces the processes and techniques of MG design (Jahanlou et al., 2021; Luiz Fronza et al., 2014; Shi et al., 2021; J. Thompson et al., 2020), while paying less attention to the intentions and motivations behind producers' design choices. A targeted exploration of design decisions and producers' underlying intentions could enhance understanding of MGs communication. As the results show, investigating producers' workflows and design approaches reveals how they achieve communication objectives. For instance, producers use storyboards to define the plot and action, mood boards to establish the atmosphere and consider time and motion as fundamental design elements and materials. These findings align with the design techniques and principles in the design industry (Section 1.4) and existing literature (Shaw, 2019; Taylor, 2013; Yilmaz, 2019; Zhou, 2017), and further integrate them into the producers' process of sending information.

The Producers Observation addressed the above gap by providing direct insights into producers' communication strategies and approaches to sending information through MGs. The results indicate that text visualisation is a key design objective, while compositing events and designing experiences are the primary strategies for sending information. These strategies frame information within a meaningful context, enabling audiences to engage both visually and emotionally.

7.2.1 Communication strategies and approaches identified in producers' practice

Producers create and communicate information through text visualisation, composite events, and design experiences. As Svärde Åberg (2013; 2017) highlights, digital tools and different text modes influence how text is expressed, resulting in multimodal text visualisation. Such visualisation is inherently situational, shaped by and assessed within social and cultural contexts (Kress & Van Leeuwen, 2020).

In MGs, producers rely on multimodal texts during the design process, integrating written scripts, visual symbols (graphics, colours, and motion), and sound to convey layered meanings. According to Lotman (2001), text is inherently tied to symbols and serves as a unit of semiosis, the smallest functional mechanism,

comprising multiple layers of meaning—including linguistic, stylistic, cultural, and ideological dimensions (Nöth, 2015). This perspective aligns with the notion that text in MG design extends beyond a mere collection of words or images, and it functions as a dynamic communication process between the producer and the audience.

This multimodal visualisation process typically begins in the early stages of a project. Producers emphasise the importance of structuring content through storyboarding and text visualisation, which forms the foundation of their communication strategy. Gina, for instance, described how sketching storyboards helps her identify key elements and plot sequences, stating, “*I typically commence by outlining the story or creating sketches... these sketches highlight pivotal elements.*” This visualisation process enables producers to organise their work effectively, ensuring that audiences can intuitively follow the story.

During composition, producers synthesise various visual symbols to communicate complex layers of information and establish context. For example, they may use symbols such as an orange maple leaf to signify autumn or rapid movements to convey tension. These symbols function as event units (Cohn, 2014), contributing to the overall narrative structure and enhancing the depth of the information.

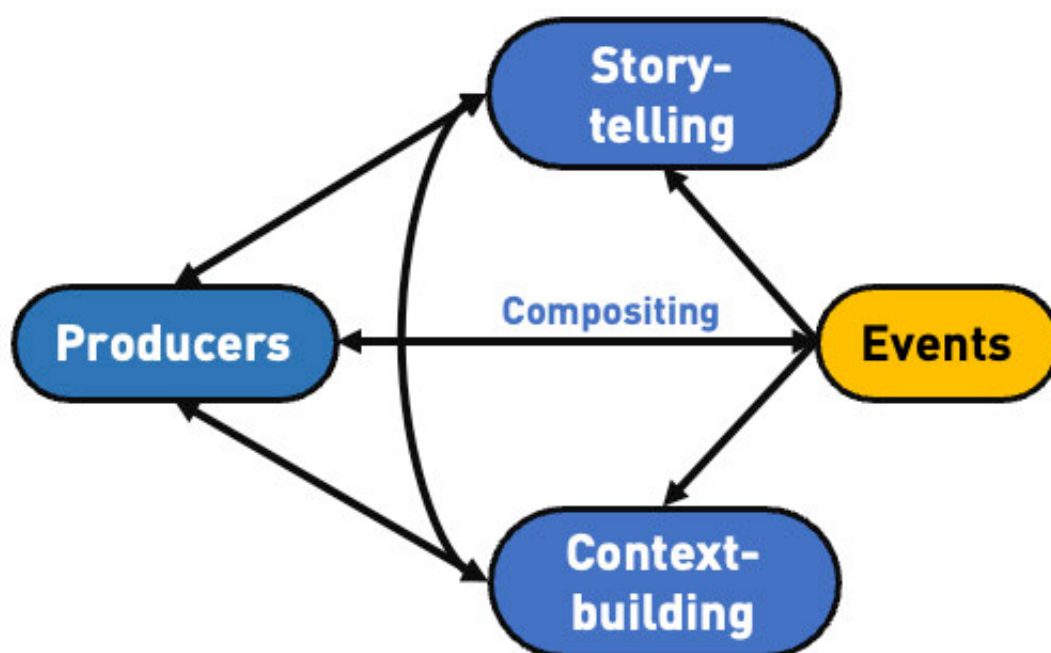


Figure 7.1 The composition of events, by the researcher

Based on the result (Section 4.5.1.3), Figure 7.1 summarises how producers compositing events in MGs. According to Cohn (2014), each unit in visual storytelling constitutes an event that contributes to a complete narrative. In MG design, producers’

composition and design decisions aim to construct events (Geng, 2016). The main theme Message Delivery and the subjective factors within (Section 4.5.1) further identified how producers adopt storytelling and context-building as strategies to composite events.

In storytelling, producers primarily rely on direct storytelling and non-verbal cues to establish a clear narrative arc. Direct storytelling includes techniques such as subtitles, narration, and voiceovers, while non-verbal cues involve the symbolic use of characters, graphics, colours, and actions. Context-building relies more on non-verbal cues and minimal explicit descriptions, focusing on reinforcing themes and atmosphere within an MG design. However, both strategies must ensure coherence and consistency, considering whether each content unit aligns with others and whether transitions between actions and scenes are smooth enough to form a cohesive narrative. A detailed description on the sub-theme of Events is provided in Section 4.5.1.3.

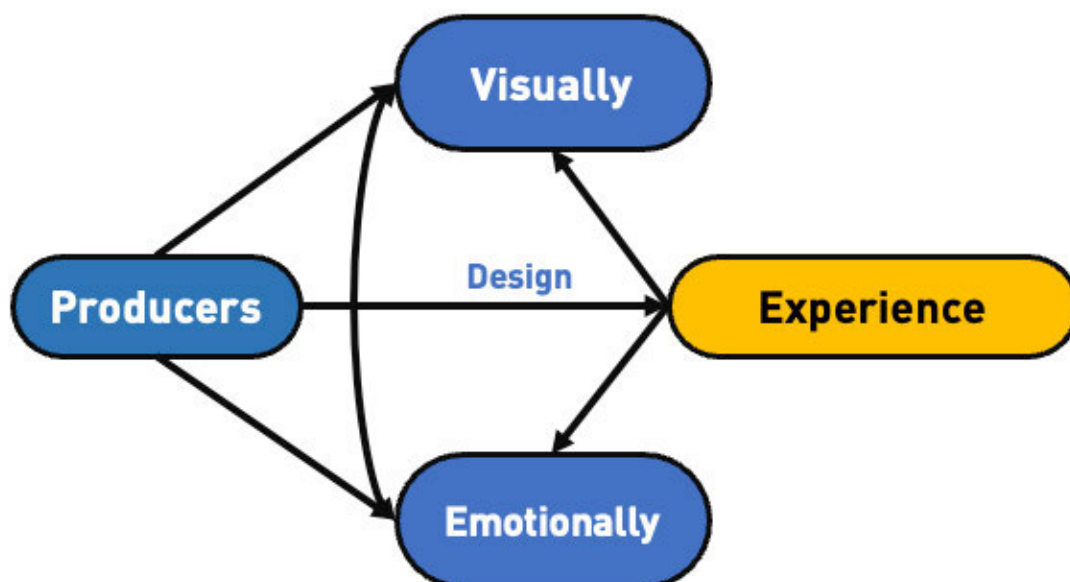


Figure 7.2 The design of experience, by the researcher

Studies suggest that MGs can bring multi-sensory experiences to the audience (Geng, 2016; Liu, 2020; Lu, 2019; Pei et al., 2022). Following this argument, the Producers Observation identified two primary approaches from the sub-theme Experience (Section 4.5.1.2) for designing these experiences: Visually and Emotionally (Figure 7.2). Producers actively integrate both to evoke specific emotional responses while maintaining visual appeal. For instance, slow movements, curvilinear shapes, fabric-like textures, and warm colours create a soft and relaxed atmosphere. In contrast,

rapid movements, sharp shapes, metallic textures, and cool colours produce a cold and tense atmosphere.

These design decisions are often based on producers' subjective judgment, informed by their professional experience and personal interpretation. As Jack explained, *"it's all about balancing what feels right visually and what will connect emotionally."* A detailed discussion on the theme of Experience is provided in Section 4.6.1.2.

7.2.2 Influential factors

The Producers Observation also examined the influential factors in producers' practice. Two main themes with influential factors were identified: Individual Awareness (Section 4.5.2) and Social Relations (Section 4.5.3). These factors include Knowledge, Inspirations, Blurry Boundaries, Various Outputs, Attention, and Efficiency. These two themes respond to Hall's (1973) encoding/decoding model discussed in Section 2.2.2.2, in which producers operate within specific "frameworks of knowledge", "structures of production", and "technical infrastructures".

The main theme Individual Awareness indicates that producers' knowledge and personal experiences directly shape their design approaches; they draw inspiration from their life events or other creative works. All producers in this study reported that they incorporate observations from life experiences or other creators' works into their practice. This finding aligns with Chan's (2009) and Zhang's (2014) studies, which found that image and video referencing, as well as life experience, help create MG designs. Furthermore, producers' knowledge determines the techniques and skills they apply in practice. For instance, differences in MG design presentation are evident between students with graphic design and animation backgrounds (Kubasiewicz, 2005).

Moreover, the findings from Producers Observation reveal how social relations impact producers' practice and their roles, which offers new insight into MGs communication and brings more details on individuals compared to the desktop survey (Section 1.4). Specifically, the influential factors in the main theme Social Relations indicate that the blurring of professional roles and increasing demands for efficiency shape how producers manage their work. For example, Hart, who previously worked as an animator in a team, now often completes all tasks independently, including scriptwriting, client communication, illustration, and video production. Similarly, Gina, originally a graphic designer, has expanded her role to include MG design and video editing, in addition to her expertise in graphic design and typography. Jack has extended his MG design work into computer game production.

The factors in the main theme Social Relations also emphasised the importance of capturing attention and ensuring efficiency in producers' practice. The producers recognise the challenge of balancing artistic creativity with practical constraints, particularly in keeping audiences engaged while meeting tight deadlines and budget. This aligns with Mediratta (2016) who noted, "*Twice the impact, in half the time, at half the cost*". For instance, Hart needs to complete projects alone in a much shorter timeframe than before, transitioning from several weeks to just a few days (Section 4.5.3.1). In pursuing efficiency, producers must also consider effectiveness in communication. This is reflected in their design approach, where they strategically enhance audience engagement to maximise impact. However, as noted in Section 4.6.3, creativity and design ideas should always be prioritised, and producers regard technology as a means to realise their ideas. As Hesmondhalgh (2002) points out, creativity and commerce should not be overly opposed. Producers need to be paid, and some of the best works are produced in a commercial system. New technologies, emerging knowledge, and external constraints often foster innovation (Lambie-Nairn, 1997; Wells, 2013; Macdonald, 2014; Friedman, 2025).

By observing producers in action, this study enhances the understanding of communication strategies and approaches in producers' practice. It highlights compositing events and designing experiences as core strategies for conveying information while emphasising the role of symbolism and multimodal text in enriching the communication process. Additionally, the sessions documented the complete design process, offering a structured record that facilitates the examination of producers' workflows—an aspect rarely covered in existing studies (Jahanlou et al., 2021). These insights extend existing literature by providing empirical evidence on how producers operate in practice, addressing a previously unexamined gap concerning the intentions behind MG design processes.

Furthermore, producers found the observation sessions valuable. For example, Ryan described them as "*like a step-by-step observation and learning of practice*". The sessions clarified the producers' design practices for themselves, making it "*easier to explain design intentions and strategies*" (Jack) in real-world contexts. The step-by-step observation of designers' work provided the producers with a detailed and comprehensive insight into how they organise design elements and their communication strategies in practice. Producers also noted that the sessions encouraged reflection on their own practice. As Gina observed, "*Explaining to you while I do it makes my thoughts clearer... and it makes me start to think about why I do things.*"

However, insights from the Producers Observation reflect only the perspectives of designers in practice. As creators and expressers of information, producers focus on translating their vision and messages into visual representations that resonate with audiences. Nonetheless, a challenge remains: *“You can’t really know what [the audience] likes, and even if you do, it’s hard to say your design is good to them. It’s full of uncertainties”* (Gina).

This section addresses RQ1 with how producers send information in MGs communication, the next research question regarding how viewers understand and experience MGs (how they receive information) is discussed in next section.

7.3 Addressing research question 2

As consumers, how do viewers understand and experience MGs, and what factors influence their understanding and experience?

The literature review and the Viewers Focus Group address the research question 2. The literature review examines how viewers understand MGs, focusing on their experience, perception, and understanding of content. Research suggests that viewers can emotionally respond to motion (Cho & Yamanaka, 2011; Cho Y & Yamanaka T, 2010; Freedberg & Gallese, 2007) and assign specific meanings to distinct movements (Dodich et al., 2015), highlighting the crucial role of emotional resonance in MGs communication. Additionally, viewers engage with MGs based on empathic engagement (Power, 2008).

While existing studies highlight the advantages of MGs in creating experiences and disseminating information, as well as their greater communication efficacy compared to static media (Tsai et al., 2020; Wiana et al., 2018), the specific factors influencing communication effectiveness remain underexplored. Some studies argue that MGs only exhibit superior communication efficacy compared to static mediums under certain conditions (Höffler & Leutner, 2007; Schnotz & Rasch, 2005; Tversky et al., 2002).

A critical insight from the literature, including Berney’s (2016) meta-analysis, is that moderating variables—such as pacing control, visual abstraction, signalling cues, the abstraction of visual representation, and the modality of accompanying commentary—can significantly affect understanding of MGs. Berney further argues that these variables explain why many studies fail to identify a significant advantage of animation over static graphics (2016, p. 161). Assessing these variables is challenging due to their diverse dimensions, the lack of standardised evaluation criteria, and

individual differences in subjective perception, which complicate experimental control (Höffler & Leutner, 2007).

Considering these moderating variables requires accounting for individual viewer characteristics. For instance, Coderre (2024) provides further evidence that proficiency influences the understanding of visual materials, particularly in experimental or clinical testing contexts, where such individual factors are difficult to quantify. In addition to proficiency, Redi (2015) identifies other individual factors, including interest, personality, age/gender, and affect/mood, which shape viewers' cognitive and emotional states. Beyond individual factors, systemic and contextual influences also play a significant role. These factors do not operate in isolation; they may interact in complex ways, shaping how viewers assess content quality and overall understanding.

Building on the above theoretical insights, the findings from the Viewers Focus Group propose that viewers understand and experience MGs through three aspects:

Reasoning events – Viewers engage in logical interpretation, drawing connections between visual and auditory cues. This involves recognising symbols and establishing event boundaries.

Organise narrative – Viewers understand and interpret MGs as a story, linking events into a cohesive narrative. This involves organising sequences of events.

Experiential engagement – Emotional and sensory responses shape how viewers process MGs content.

7.3.1 How viewers understand and experience MGs

The sub-theme Reasoning (Section 5.5.3.3) in the results included two subjective factors, intuitive and analytical, which indicate that the viewers actively engage in understanding MGs in two modes of reasoning. Figure 7.3 summarises this finding.

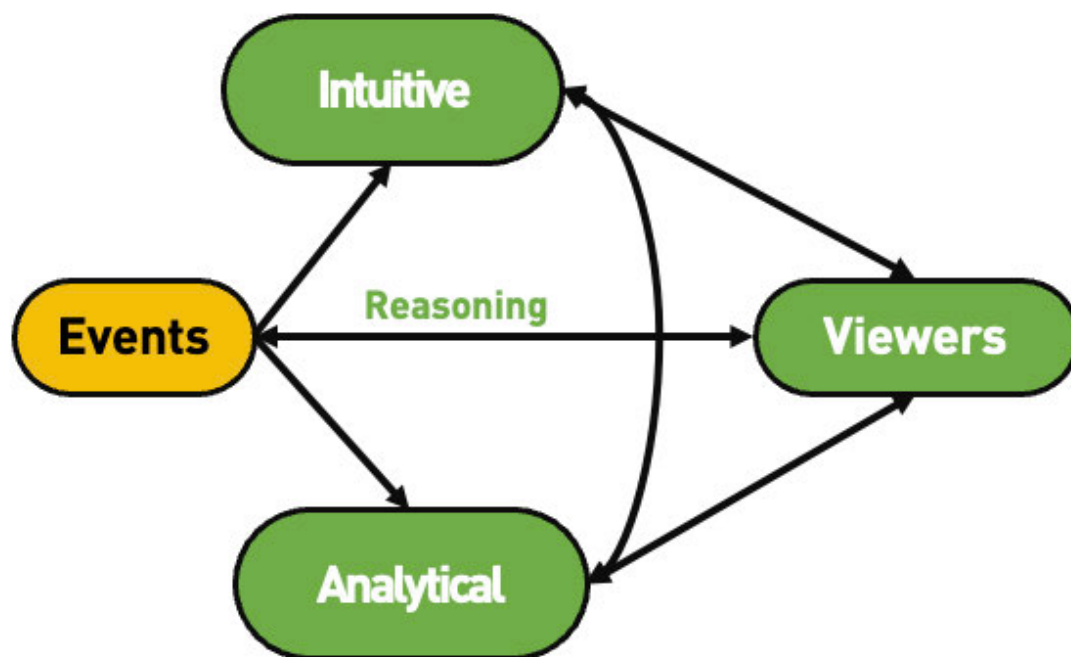


Figure 7.3 Reasoning Events in MGs, by the researcher

Intuitive reasoning enables viewers to quickly perceive and evaluate events and their boundaries, relying on immediate emotional reactions and first impressions. This allows them to capture emotions and atmospheres while forming expectations for forthcoming events through narrative empathy (Goldman & Sripada; 2005; Kosslyn, 1994; Freedberg & Gallese, 2007; Power, 2008).

Analytical reasoning involves a deeper, more systematic approach to event comprehension. Viewers analyse each symbol and its causal relationship within the event, often cross-referencing visual cues to ensure their understanding aligns with the narrative progression (Shen & Pritchard, 2022; Lowe, 2003). This process allows them to adjust their interpretations as the content unfolds, enhancing engagement.

These two modes of reasoning align with Mayer's Multimedia Learning Theory, which describes selecting, organising, and integrating information as key cognitive processes in learning (R. Mayer & Mayer, 2005). A more detailed discussion of reasoning processes is provided in Section 5.6.3.3.

After reasoning events, viewers organise events into a coherent narrative, and interpret their understanding in a story. This aligns with Cohn's visual narrative theory (Cohn, 2013, 2014), which identifies Establishers, Initials, Peaks, and Releases as key narrative units (Section 2.4.1). Furthermore, more experimental results support the idea that audiences use narrative structures to understand (Cohn et al., 2014), and viewers comprehend MGs similarly to how they process language (Coopmans & Cohn, 2022).

This study contributes to the literature by offering new insights into how viewers use narrative structure and intuitive and analytical reasoning in understanding MGs. These findings extend Cohn's visual narrative theory (2013) from static media to motion graphics, demonstrating how viewers rely on narrative empathy and embodied simulation to connect emotionally with MGs content (Dodich et al., 2015; Power, 2008). The finding that viewers reason through MGs by interpreting symbolic events and organising them into a narrative-based understanding provides a deeper understanding of how MGs function as a communicative medium.

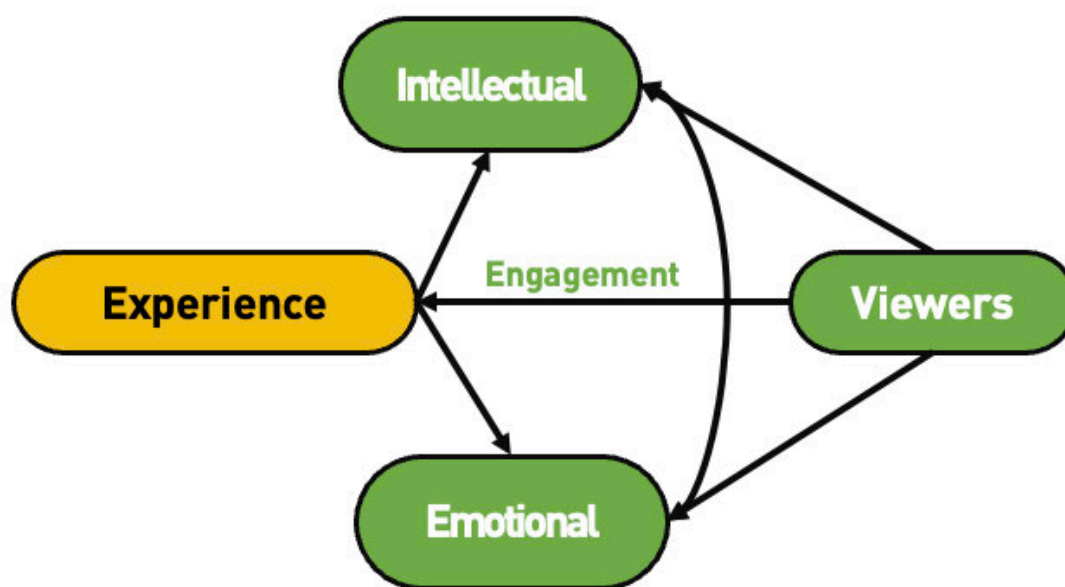


Figure 7.4 Gain Experience from engagement, by the researcher

Another key contribution from the Viewers Focus Group is the role of experiential engagement in shaping comprehension. Figure 7.4 summarises this finding from the sub-theme Engagement (Section 5.5.2.3), which includes two subjective factors: intellectual and emotional.

Intellectual engagement stems from analytical reasoning, prompting viewers to actively think about the content. However, this engagement is not a puzzle challenge requiring a single correct answer; rather, it encourages viewers to observe, imagine, and engage more deeply, enhancing their overall experience.

Emotional engagement is linked to intuitive reasoning, as viewers instinctively perceive the feelings and impressions conveyed in MGs. This process evokes memories and emotions, shaping their emotional experience (Power, 2008).

When viewers resonate with the perceived emotions, their experience and understanding are enhanced. This may explain why a less representational approach

with a stronger narrative structure in MGs increases emotional engagement (Liu, 2014). The ambiguity in expression provides greater interpretative space, allowing viewers to engage more deeply with the content.

A key finding of this study is the reciprocal relationship between experience and understanding—where experience enhances comprehension and vice versa. This aligns with Barnes' (2017) research, which demonstrates how coherent narratives in MGs improve viewers' experiences. A more detailed discussion of engagement processes is provided in Section 5.6.2.3.

7.3.2 Influential factors

The Viewers Focus Group also identified several influential factors that shape how viewers understand and experience MGs (Sections 5.5.2 and 5.5.3). These factors include attention, expression, symbols and events. This finding refers to the aspect that constrains viewers' understanding and experience, indicating that viewers are the information receivers.

Attention is drawn to moving objects and spatial changes (Franconeri & Simons, 2003; Scholl, 2001) with movement in MGs functioning as visual cues or feedback. As a time-based medium, MGs direct viewers' attention through temporal sequencing, which plays a crucial role in determining how information is received.

Expression influences comprehension by aligning content with viewers' expectations and prior experiences. The complexity of visual expression, clarity of event sequencing, and symbolic choices interact to shape how viewers interpret and understand MGs.

Moreover, individual differences—such as personality, mood, and experience—lead to varying subjective interpretations (Berger, 1972). Some viewers prioritise emotional resonance, while others focus on logical event progression, reinforcing the subjective nature of understanding MGs. Thus, events and symbols significantly influence how viewers construct meaning. The way viewers organise events and interpret symbols varies, and effective visual expression can enhance the overall viewing experience (Barnes, 2017; Barnes, 2016).

In the communication process of MGs, viewers act as both consumers and experiencers. They actively construct their understanding, which is shaped by what they see rather than what the designer intends (Fiske, 2010). As Lucas described, “...*like when you go shopping, you know what you want, but you can't determine its quality.*”

In summary, viewers gain experiences and understand MGs through engagement and reasoning events, which lead them to form a narrative-based

understanding of the content. As Liu (2014) found, viewers' intellectual and emotional engagement is closely tied to narrative structures and visual presentation. The studies reviewed in Section 2.4.2 indicate that the ambiguity and multi-sensory experiences in MGs (Hillner, 2009; Lu, 2019) may evoke what Zeki (2004, p. 173) referred to as "creative ambiguity", which implies the experience may connect to understanding. The findings from the Viewers Focus Group expand the understanding of the connection between viewers' understanding and experience and further identify how to achieve them. When confronted with ambiguous content, viewers use inferential reasoning to interpret events, enhancing their sense of involvement. Their intellectual and emotional engagement also deepens their understanding of the content. As Redi (2015) argued, evaluations of multimedia content quality should actively consider viewers' aesthetic and emotional responses to the content. Emotions play a role in shaping attention, as positive emotions can lead to more focused visual attention patterns (Biele et al., 2013). Therefore, the findings also suggest that viewers' experiences and engagement with MGs should be considered to enhance communication when designing MGs, as Kress (2020) noted, the contemporary medium is sensory and emotionally oriented to maximise communication effectiveness as much as possible.

Through the discussion in the previous section and this section, research questions 1 and 2 are addressed. The findings from Producers Observation and Viewers Focus Group explored how producers send and how viewers receive information. The communication between producers and viewers is discussed in the next section to address research question 3.

7.4 Addressing research question 3

How do producers and viewers communicate through MGs to make meaning?

Research Question 3 is addressed by literature review and insights gained from the Participatory Design Project (Producers Observation, Viewers Focus Group and Design Workshops). The findings from the Producers Observation and Viewers Focus Group allowed the researcher to examine the sending and receiving of information from both producers' and viewers' perspectives. As discussed in previous sections, producers use visualised text to convey information, while viewers rely on narrative structures to understand it. This transmission process can be regarded as a one-way information transmission, similar to the Shannon-Weaver model (Shannon, 1948) and Jakobson's communication model (Jakobson & Sebeok, 1960). Both models conceptualise communication as interacting between the transmitter/addresser and the receiver/addressee. Based on the Producers Observation and Viewers Focus Group

findings, the information transmission process in MGs can be described as producers - MGs - viewers, as shown in Figure 7.5.



Figure 7.5 Information transmission process

However, the above one-way process only explains how information is transmitted and does not account for how new information and meaning are generated during MGs communication.

In this respect, Lotman's (2001) concept of the text offers a useful framework. According to Lotman, a text is not merely a vehicle for transmitting information but also a generator of new meaning (Semenenko, 2012), as the meaning produced through encoding and decoding is not equivalent (Kang, 2005)—particularly in the context of multimodal communication in MGs. This point aligns with Eco's (1972) decoding theory, which argues that in mass communication, texts are interpreted by different social groups using codes and conventions that may differ from those used in the encoding process. Aberrant decoding, Eco suggests, is the norm; that is, viewers often have different understandings. While Hall (1980) identified dominant, negotiated, and oppositional readings for viewers' understanding, Fiske (2010, p.64) noted that, in practice, pure dominant or clear oppositional interpretations are relatively rare; communication is often a negotiated process between the text and readers from different social positions. As Hobson (1982) described, "*The message is not solely in the 'text', but can be changed or 'worked on' by the audience as they make their own interpretation of a programme*" (p.106). These perspectives echo the previous section's discussion of viewers as active constructors of meaning rather than passive receivers of information. Moreover, like television audiences, MGs viewers also represent diverse groups who engage with content—actively or passively—to generate meanings linked to their own social experiences (Fiske, 2010b). As such, the visualised text through MGs, could be regarded as "*producerly text*" (Fiske, 2010, p.95)—text that invite viewers to engage with them using their own discursive capabilities in productive and self-interested ways because viewers are not only consumers, but also sources of meaning, which oriented producers' work (Hall, 1973).

The key findings of the Design Workshops are in how producers and viewers co-create meaning and suggest that MGs communication occurs within the context of a supply and demand relationship, reflecting a cultural environment or, more

specifically, a consumer culture (Section 6.6). Those findings related to the above discussion and address the gap in how MGs communicate and expand MGs communication into broader fields. Specifically, under consumer culture, the production and consumption of MGs are shaped by the shared goals and needs of both producers and viewers, rely on a web of context, expression, and value to make meaning. Furthermore, the meaning-making process in MGs communication follows a set of strategies and approaches and is influenced by various drivers and conditions (Section 6.5.2). These insights have been summarised into a model to describe the findings from the Design Workshops (Figure 7.6). The following sections discuss the key findings of the Design Workshops—co-created meaning and consumer-driven communication—in more detail.

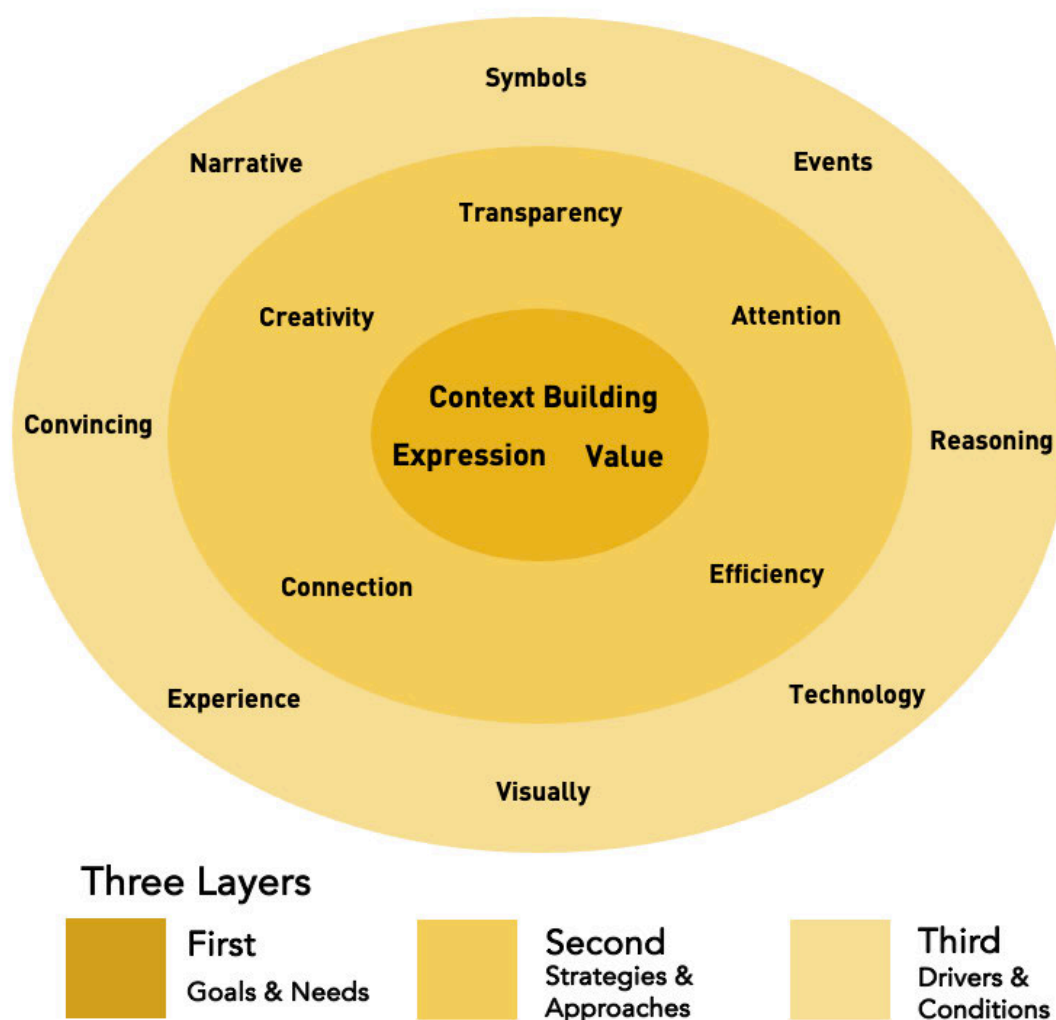


Figure 7.6 The proposed Communication Model of Motion Graphics

7.4.1 *Co-created meaning*

As discussed in Section 6.6.1, within the supply and demand relationship underlying MGs communication, both producers and viewers share common goals and needs. This shared dynamic blurs the distinction between their roles, merging them into the concept of the ‘prosumer’ (Kotler, 2010; Ritzer, 2015; Ritzer et al., 2012; Tapscott & Williams, 2008). Through MGs as a communication medium, prosumers both create and indirectly experience prosumption via the information conveyed in MGs. As Kuepers (2002, p. 32) states, “*The service-provider and the customer voluntarily become ‘caught up’ in a co-created story.*” In this co-created story, value is central, stemming from a sense of identification (Tirocchi, 2024; Tonge et al., 2012).

The results suggest that identifying value within a given context is fundamental to how people make meaning in MGs communication. In the contemporary digital environment, MGs effectively convey value, establish connections, and help shape identity due to their accessibility and ease of understanding (Zwick et al., 2008). However, value references have become increasingly fluid in an era of societal diversity and complexity, adapting to various contexts. This reflects what Bauman (Bauman, 2013) describes as ‘liquid modernity’, where personal identity construction, social belonging, and consumer behaviour serve as expressions of individual choice. This finding expands the understanding of the MGs communication, which highlights value identification in the communication depending on the specific context being referenced.

Furthermore, the study found that the expression of information is essential to meaning-making. Interpretation and understanding become more apparent in complex content, as viewers use both intuitive and analytical reasoning (Section 5.5.3) to connect meaning with context. For instance, when viewers engaged in visual tasks in the Viewers Focus Group, they appreciated the designer’s creativity and level of detail if they understood the context and background of the symbols within a design. Conversely, where the content was conceptual, stylised, or unfamiliar to the viewers, they tended to rely on emotions and imagination for interpretation. Additionally, producers reported in the Producers Observation that they can choose to emphasise the story, concept or mood. The strategy they adopt affects the expression of the text visualisation.

Another key aspect of meaning-making in MGs is the role of events formed by symbols. The meaning-making is not simply created and interpreted by producers and viewers but rather emerges from the hyperreality constructed by simulacra²⁸

²⁸ Simulacra is a concept in which representation replaces reality. Baudrillard defines this term as “Simulation is no longer that of a territory, a referential being, or a substance. It is the generation by models of a

(Baudrillard, 1994). This process describes how symbols evolve—from faithful representations of reality to entirely self-referential reproductions. This transformation from symbol to simulacra requires specific drivers and conditions, which are reflected in the third layer of the model. A self-contained hyperreality emerges at this stage, where all meanings exist within a unified context. More importantly, building on the above discussion, the study revealed that the simulacra continue to influence perception in MGs communication, blurring the relationship between people and images.

For instance, in MGs, a brand or story is visually represented through a sequence of symbols. Yet, consumers perceive it visually, reason through it using its symbols and events, interpret it through narrative, and ultimately find it convincing. An example is the Amazon logo (Figure 7.7). When consumers form a connection and identify with Amazon's brand, its value and associated context are conveyed through a simple visual mark. The "a-z" design symbolises the completeness of its product offerings, while the smile-like arrow represents a friendly and pleasant experience. Additionally, the motion embedded in the logo further reinforces the concepts within the logo.



Figure 7.7 The logo of Amazon

7.4.2 Consumer-driven communication

The above discussion highlights that the object of consumer identification is no longer a real-world reference but rather a symbol, with meaning derived from its contextual associations. In this process, MGs communication acquires additional values and functions, as it not only blurs the relationship between people but also establishes a relationship between people and images. As Karl Marx described in his theory of Commodity Fetishism, *"There, the products of the human brain appear as autonomous*

real without origin or reality: a hyperreal.... It is no longer a question of imitation, nor duplication, nor even parody. It is a question of substituting the signs of the real for the real" (Baudrillard, 1994, p.1-2).

figures endowed with a life of their own, which enter into relations both with each other and with the human race” (2004, p. 165).

MGs, as a medium of image construction, alongside the global information system and visual language (Section 6.6.2), form what Guy Debord terms ‘spectacle’. According to Debord, *“The spectacle is not a collection of images but a social relation among people mediated by images”* (1970). This relationship signifies the visual dimension of capital, manifesting in advertising, popular culture, and public spaces, shaping how individuals construct relationships and perceive themselves. The proliferation of MGs within contemporary consumer culture reinforces this dynamic. The production and consumption of MGs are not merely about creating and viewing separate realities; rather, *“we are all spectators and performers of the spectacle”* (Gerrard & Farrugia, 2015, p. 2225).

Building on the previous studies regarding the function of visual symbols, including exploring how specific images or motions evoke emotions or play key roles in expression, functional grammar, and signalling (Brandão, 2015; Carra et al., 2019; Cho & Yamanaka, 2011b; Cho Y & Yamanaka T, 2010; G. Kress & Van Leeuwen, 2020; Lan, Shi, Wu, et al., 2021; Lan, Shi, Zhang, et al., 2021; Shi et al., 2021). This study extends the understanding of efficient principles and techniques to achieve communication, which are identified in the second layer of the Communication Model of Motion Graphics (Section 6.6.2). Furthermore, those principles and techniques reflect a perspective that responds to the argument at the end of Section 7.4.1 and at the start of this section—how individuals construct relationships and perceive themselves are blurred by adopting efficient communication techniques. As articulated by Horkheimer and Adorno:

“The most intimate reactions of human beings have become so entirely reified, even to themselves, that the idea of anything peculiar to them survives only in extreme abstraction... That is the triumph of advertising in the culture industry: the compulsive imitation by consumers of cultural commodities which, at the same time, they recognise as false” (2002, p. 136).

Thus, the findings of Design Workshops also indicate that MGs communication begins to imitate human-human interactions, incorporating emotion and identification to create immersive experiences. This finding is also supported by media and communication theories established in the previously reviewed literature (Baudrillard, 1994; Hall, 1980; Kress & Van Leeuwen, 2020; McQuail & Windahl, 2015). Within

this hyperreality (Baudrillard, 1994), MG design connects consumers to specific contexts, allowing it to convey values and establish perceived significance and utility.

However, it is important to emphasise that the discussion on meaning-making in MGs is grounded in consumer culture, where producers and viewers operate within a supply-demand relationship (Section 6.6.1). This culture deeply influences individual engagement, reinforcing the relationship between people and images rather than between people themselves. Producers and viewers are not only prosumers (Kotler, 2010; Ritzer, 2015; Ritzer et al., 2012; Tapscott & Williams, 2008); they also engage in cultural dialogue, production, and consumption through their symbolic creativity and self-branding (Hesmondhalgh, 2002, 2017). However, according to Hesmondhalgh (2017), satisfying people's needs or functionings in consumer culture under the supply and demand relationship is false satisfaction, which fails to enhance flourishing and may even limit the true well-being and development of human capabilities — the self-realisation of human true potential.

Moreover, the cultural economy within this context of consumer culture operates differently from the financial economy because in the cultural economy, consumers are not endpoints in financial transactions. As a result, there is no clear distinction between producers and viewers, meaning is circulated between them. In communication of consumer culture/cultural economy, “*what is exchanged and circulated here is not wealth but meanings, pleasures, and social identities*” (Fiske, 2010, p. 314). However, in the cultural economy, it is not the meaning that functions as a commodity, but the text. The text is not a container or conveyor of meaning but rather a facilitator in the construction of meaning (Fiske, 2010; Hesmondhalgh, 2002). The text is processed through standardised production and specific techniques (Section 6.6.2), facilitating co-created meaning.

The findings discussed earlier also reflect how the homogenisation and standardisation of MGs reflects the industrial aspects of media text production (Section 6.6.2). While producers—as symbol creators—retain some degree of autonomy within this industrial context, their creativity is often shaped and constrained by consumer expectations and demands for convenience (Section 4.6.3). Although producers and the cultural and creative industries that direct their work aim to generate and sell meaning, their greater challenge lies in how texts resonate with audiences (Hesmondhalgh, 2002). Thus, they exert more control over the circulation of texts than their production, relying on industrial systems and infrastructures to manage distribution (Hesmondhalgh, 2002, 2017, 2021; Plantin et al., 2018). Consequently, the production and consumption of

MGs within consumer culture may influence communication and shape how viewers understand and respond to the medium, which may limit opportunities for critical engagement and deeper understanding. This dynamic is evident in the preferences expressed by participants in the Viewers Focus Group and Design Workshops. Many participants noted that they prefer MGs because they are easy to understand with minimal effort, as the meaning structure and comprehension processes are pre-determined. This aligns with the structured approach taken by producers, who write scripts to define content, create storyboards to dictate event sequences, use mood boards to establish the atmosphere and continuously refine compositions for enhanced visual presentation.

As above discussion, the findings suggest that MGs operate as a tool for communication and viewer conditioning, adhering to pre-defined strategies and approaches (the second layer of the Communication Model of Motion Graphics). This aligns with broader trends in consumer media, where the focus on engagement and retention often overshadows independent thought and critical reflection. As Horkheimer and Adorno state:

“This is the incurable sickness of all entertainment. Amusement congeals into boredom, since, to be amusement, it must cost no effort and therefore moves strictly along the well-worn grooves of association. The spectator must need no thoughts of his own: the product prescribes each reaction, not through any actual coherence — which collapses once exposed to thought — but through signals. Any logical connection presupposing mental capacity is scrupulously avoided” (Horkheimer & Adorno, 2002, p. 109).

This dynamic highlight the challenges and implications of media design within a consumer-driven framework, where the imperative to capture and sustain audience attention frequently preserves the pursuit of meaningful or transformative content. Media manage consumption by leveraging consumer freedom, allowing for the continuous emergence and commodification of creative and valuable forms of consumer labour. This enables media to shape consumption in ways that benefit from consumer participation (Zwick et al., 2008).

Therefore, the MGs, as Holbrook (1982) emphasised, is focused on consumers’ fantasies, feelings, and fun. Through the transmission of multidimensional information, MGs deepen consumers’ impressions of use, enhance the entertainment value of the interaction process, and capture consumers’ attention (Bian & Ji, 2021). Furthermore, as Carr suggests, systems rather than human-generated cues should be considered in

understanding new paradigms of communication (Carr & Hayes, 2015). Section 6.6.2 discussed that MGs communication relies on the information system or platform for dissemination and distribution. This finding put MGs communication under the digital architecture of the internet and various media systems, while such communication and interaction do not reflect interpersonal exchanges (Dean, 2002).

7.5 The contributions of the research

By regarding MGs as communication design, this study explored how producers and viewers actively produce and consume MGs, focusing on their aims/needs, means, and influential factors in their communication. By addressing these gaps, the study sought to deepen understanding in both theoretical and practical domains of MG design and consumption. This section discusses the research contributions (Section 7.6.1), including theoretical, empirical and potential contributions. This section also discusses the targeted audiences of the research (Section 7.6.2).

7.5.1 Research contributions

7.5.1.1 Theoretical contributions

MGs is increasingly being adopted as a medium with efficient communication capabilities, appearing in various types and definitions across various research and practice areas. However, despite John Whitney introducing the term “motion graphics” in 1960, over nearly 60 years of practice and research, the definition of MGs and whether it should be considered a distinct discipline remains the subject of ongoing debate. Much of the growing body of research as in the literature review (Section 2.3) focuses on the effectiveness of MGs in communication, yet the purpose, methods, and defining factors that influence MGs communication remain unclear. Moreover, besides the ambiguous definition of MGs and the widespread use of different terminologies, existing knowledge is polarised between theory and practice, with relevant resources scattered across various fields. This fragmentation makes it even more challenging for the researcher to identify the scope and impact of knowledge in MGs.

Contribution 1

Based on the above, this study emphasises the communicative function of MGs rather than its effectiveness, with its first contribution being an exploration of how information is transmitted. As illustrated in Figure 7.5, the study identifies a unidirectional process of information transmission, namely producer – MGs – viewer. It highlights the role of the producer as the sender and expressor of information, while the viewers act as receivers and experiencers. In this process, the producer visualises the text and

transmits information through multimodal means, while viewers engage in reasoning with the visual content and connect the received information through narrative construction. This process also underscores the importance of events and experience as key elements that jointly influence both ends of the information transmission: the producers' sending and the viewers' receiving.

Contribution 2

The second contribution of the study is the discovery that communication in MGs operates within a supply-demand relationship driven by market mechanisms (Section 6.6.1). This finding extends the knowledge generated by the research from an individual's action (produce and consume MGs) to social relations and mass media communication.

Furthermore, by integrating the practical positions and experiences of both producers and viewers, the study reveals that their communication relies on an information distribution system as an intermediary, such as social media or video platforms (6.6.2). This finding emphasises that in MGs communication, interaction occurs not between people, but between individuals and systems. Producers depend on the system to distribute the information they create, while viewers rely on the system to access it. Communication within this supply-demand framework underscores the role of MGs as a tool and points to the broader influence of media on consumer culture. It also identifies a significant limitation in MGs communication: the inability to facilitate genuine, sustainable information exchange. Furthermore, the study contributes a critique of consumer culture for constraining meaningful communication, as meaning and value have been commodified, reducing information production to a product of mass standardisation. The primary goal of this standardisation is to capture consumer attention and prolong engagement, ultimately driving further consumption.

Contribution 3

The third contribution of the study, and its primary theoretical contribution, lies in uncovering the mechanism through which meaning is generated in communication. Unlike the one-way transmission of information mentioned earlier, meaning-making in MGs involves co-creation by both producers and viewers. By situating producers and viewers within the context of consumer culture, the study reveals that they are both prosumers of meaning. The generation of meaning requires expression within a specific context to convey value, and through connecting with the content, viewers develop an identification with that value, thus deriving meaning.

By reviewing existing communication and sociological theories and the prototypes developed by participants, the study aligns this discovery with real-world phenomena, offering original knowledge that connects participants' real-life experiences with theoretical frameworks. This is achieved through a design research approach, which addresses the core issues of MGs communication by creating concept prototypes. Additionally, this discovery provides a new theoretical perspective for media researchers, communication theorists, and educators, offering a research paradigm distinct from both scientific and humanities-based approaches. It highlights a designerly way to approach communication and social studies through the lens of co-created meaning and the interconnected roles of producers and viewers within the broader background of consumer culture.

7.5.1.2 Empirical contributions

The empirical contributions of this study lie in its qualitative exploration, through observation and experimentation, of how producers send information and how viewers receive it.

Contribution 1

The research identifies two core strategies—events and experience—employed by producers and viewers, which had not been explicitly recognised in the prior review of the literature and desktop survey. These strategies reveal how producers intentionally construct events and design experiences, and how viewers engage with and interpret these events, offering new insights for understanding MGs communication practices.

These findings help identify producers' communication strategies and viewers' comprehension processes. Through direct observation of producers' work, the study provides first-hand evidence of their strategies and methods, and maps out their workflow, offering richer and more specific insights than studies based solely on interviews. Additionally, some experimental approaches drawn from cognitive psychology were adapted into visual tasks for the Viewers Focus Group. These tasks expanded Cohen's visual narrative theory and Mayer's multimedia learning theory into the domain of MGs, identifying the viewers' modes of understanding. Specifically, viewers recognise symbols and organise them into events, then connect these events into a narrative, ultimately understanding them as a cohesive story. These findings offer an empirical perspective on the process and methods of information transmission in dynamic content, providing a new understanding of how meaning is conveyed in MGs.

Contribution 2

Furthermore, the Appendix provides a set of tools and resources designed by the researcher during the study, adding a unique originality and contribution. The interview record sheet used in the Producers Observation was developed based on existing literature and refined through a pilot study, offering a practical framework for documenting producers' workflows. The visual tasks in the Viewers Focus Group represent a further exploration of existing tools and materials, as previous tools were developed for static media. While the effectiveness of these tools and methods for dynamic media requires further validation, the perspectives and results explored in this study demonstrate their usefulness. From the results, the BEPI design process and workbook used in the Design Workshops were helpful to facilitate participants' development of concept prototypes. The design process and workbook enabled participants to focus on their personal experiences and ideas. It encouraged further reflection on the research topic, leading to the emergence of insights and tacit knowledge embedded in their prototype designs. This, in turn, effectively contributed to knowledge generation and provided a valuable opportunity for the researcher's reflection.

7.5.1.3 Potential practical contribution

The proposed Communication Model of Motion Graphics offers potential practical contributions, as described and discussed in Chapter 6. The model synthesises the results of the two concept prototypes created by the participant groups. Participants utilised the factors identified in the thematic maps from Chapters 4 and 5 as design tools, reorganising and reinterpreting the relationships between these factors and identifying key elements to incorporate into their prototypes. Through this approach, the model demonstrates originality and relevance by providing a resource that bridges theory and real-life applications. It presents a practical and relevant set of elements from the perspectives of both practitioners and consumers.

The model provides a framework for describing the communication mechanism of MGs across three layers, addressing the purpose, means, and impact of communication. The first layer, Goals and Needs, forms the core of communication and acknowledges the supply-demand relationship between producers and viewers by focusing on their shared goals and needs. It also identifies key elements necessary for constructing meaningful communication. The second layer, Strategies and Approaches, offers a combination of elements that describe effective methods for building communication, concentrating on the practical aspects of achieving the goals and needs outlined in the first layer. The third layer, Drivers and Conditions, highlights a set of

elements that influence both the first and second layers, focusing on the inherent characteristics of MGs as a communication medium.

This model provides a practical, comprehensive framework through its three-layered structure. For groups looking to utilise MGs in communication, especially educators and design practitioners, the proposed model offers predefined goals, strategies, and conditions that establish a theoretical and practical foundation for their work.

7.5.2 *Target audiences of the research*

Understanding the audience for this research is essential in determining how the findings on MGs production and consumption can be applied. The results are expected to impact a wide range of audiences, including academics, industry professionals, and visual media consumers.

The primary audience for this research includes scholars and researchers in the fields of media studies, design theory, and communication, who may find the theoretical contributions of the study valuable. The extension of visual narrative theory to dynamic content offers a new framework for analysing how audiences interpret MGs. The study also explores meaning production and value identification within the consumer culture of the current digital environment, laying a foundation for further academic inquiry.

MG designers, content creators, and marketing professionals can apply the insights into communication strategies and audience engagement to develop their projects. Understanding how audiences process MGs and the emotional impact of different design elements can help media creators tailor content to resonate more effectively with their target audiences. The proposed communication model also offers a potential set of design strategies and approaches (the model's second layer) that can enhance professional practice. Additionally, organisations involved in educational media production may find the proposed model helpful, particularly when designing MGs for teaching complex concepts in instructional videos or online learning platforms.

Another audience for the research includes consumers of MGs, such as individuals engaging with advertisements, educational videos, or entertainment. These consumers may find the study's findings intriguing and relevant to their everyday media consumption, potentially benefiting from a deeper understanding of how MGs influence their perceptions and experiences.

7.6 Limitations of the research

While this study provides valuable insights into MGs communication, several limitations must be acknowledged. Presenting these limitations is essential for ensuring

a balanced interpretation of the findings and guiding future research. Sections 7.6.1 and 7.6.2 discussed general limitations of this study. Sections 7.6.3, 7.6.4 and 7.6.5 provide more detailed limitations of Producers Observation, Viewers Focus Group and Design Workshops.

7.6.1 *Research design and methodological constraints*

As a qualitative investigation, the findings are not statistically generalisable to larger populations. However, the rich, detailed data obtained from the qualitative research and activities can still offer valuable insights that may be transferable to similar settings because participants' views may represent many.

The researcher's bias or preconceived notions will have influenced the understanding and interpretation of the data (Kvale, 2009; Maxwell, 2012), although efforts were made to ensure rigour. For instance, the semi-autonomous reporting tools used during the Producers Observation and Viewers Focus Group and the workbooks in the Design Workshops were designed to limit researcher bias by allowing participants to actively construct their own perspectives. However, the final presentation of the results is inevitably affected by the researcher's interpretation (Braun & Clarke, 2021). The researcher repeatedly cross-checked different datasets to mitigate bias during data analysis and avoid misinterpretations. For example, session audio recordings were compared with participants' written records to ensure that the researcher's interpretations aligned as closely as possible with the participants' intentions.

Additionally, the integration of design thinking and participatory design and the activities within were tailored for the study. It is not a standardised methodological framework, making it difficult to replicate or compare with other studies. The participatory design ensures active engagement from participants but also means that the research findings are highly dependent on participant contributions.

Limitations of the research design and methodology also emerged from contextual and practical constraints. The study was conducted primarily in an academic setting and investigated MGs in the context of media production and consumption. It does not include specific fields, such as education, advertising, healthcare, or corporate communication. In addition, specific platform differences—for example, how MGs communicate differently on social media, television, and mobile apps—were not considered in the scope of the investigation.

7.6.2 *Sampling*

In recruitment, the researcher relied on personal networks and participant referrals to form a diverse group, incorporating participants with various cultural and linguistic backgrounds. This approach enriched the study's perspectives and added variety to the participant pool. Such a convenient sampling approach, bringing ease of access and time-saving benefits (Obilor, 2023), greatly facilitated the management and implementation of the research project. However, this approach also introduces certain limitations.

The study involved 16 participants—6 producers and 10 viewers, with the age group concentrated between 18-34. This suggests that the research data might not represent a broader demographic statistically, thereby limiting the generalisability of the results. Although the findings provide rich qualitative insights and echo broader observations of production and consumption, and the study involved producers and viewers from different cultural and media backgrounds. The results may not fully apply to other cultural or regional contexts where MGs production and consumption practices may differ. Future research with larger sample sizes could help verify these findings across a broader population and cultural settings.

It is worth noting that 10 of the 16 participants came from the researcher's institution—an art school. This means that these students provided a convenient sample and contributed additional expertise in visual aesthetics beyond what might be expected from the general public. This expertise may have enhanced the quality of the data, as experts may perceive details that novices cannot. More specifically, experts and novices evaluate, create, and experience art differently (Kozbelt & Seeley, 2007; Mansilla et al., 2011; Phelps & Shanteau, 1978). But those participants' expertise may have biased their perceptions and limited the applicability of the findings to general audiences who lack formal design training.

The above discussion acknowledges the limited sample scope. However, as Braun and Clarke (2021) suggested, when evaluating data saturation in qualitative research, one should consider aspects such as the breadth and depth of the research questions, the data collection methods used, the richness of data generated by each participant or data item, the overall scope and purpose of the project, and its practical constraints. Based on these aspects, the researcher evaluated that the sample size of the study has generated sufficient data to support rich and complex accounts of problems relevant to the research questions and context (Malterud et al., 2016; Sim et al., 2018).

7.6.3 Producers Observation

While the findings provide valuable insights into how producers navigate communication strategies, workflows, and evolving industry demands, several limitations should be acknowledged.

The Producers Observation primarily reflects the views of a specific group of producers who possess different expertise and practices in various fields. While there are many similarities between the research findings and the industry practices investigated in Section 1.4, their observations are subjective and shaped by their personal experiences, professional backgrounds, and industry exposure. It is unclear whether these perspectives represent the broader MGs production industry, particularly across different cultural and commercial contexts. The findings may not fully capture the viewpoints of producers working in diverse fields such as independent animation, experimental motion design, or large-scale commercial production. However, it is worth noting that the producers in the study are considerably experienced, they all have 7-9 years of experience in the design industry, and their expertise, backgrounds, and working environments were significantly varied in this study, which provided different perspectives and opportunities for the study.

Another potential limitation of the Producers Observation is time constraints. As noted in Section 4.3, each producer participated in three sessions, which did not cover the entire design process of their project. Although the producers negotiate with the researcher to decide which aspects of the process should be observed, the missing observations of their entire practice may limit the study to fully explore their workflows and communication strategies. The results of the observations still provided valid evidence and valuable insights into the producers' practice, considering that it is an appropriate amount of time for professionals to conduct this study without payment. In future, it would be helpful to conduct more observations.

7.6.4 Viewers Focus Group

The limitations of the Viewers Focus Group relate to the influence of prior knowledge, the structure of the focus group discussions, and the challenges in assessing engagement.

With the reviewed literature and field research, the study reaffirms that viewers frequently rely on their prior knowledge and cultural references to understand MGs, highlighting the subjectivity in their understanding. Viewers familiar with certain cultural, religious, or artistic themes recognised specific symbols and narratives more easily than those without such backgrounds. This means that viewers' understanding was shaped more by individual differences rather than the inherent qualities of MGs.

The findings suggest that understanding may vary across different demographic groups, making it difficult to determine how universal or accessible MGs truly are. Future research would benefit from including a more diverse participant group to examine how different cultural and cognitive backgrounds influence interpretation.

The interactive nature of the focus group may have influenced the viewers' insights. While the visual tasks were conducted individually, the following group discussions allowed participants to share their perspectives through dialogue. This may have introduced the possibility of group influence, where some participants may have adjusted their views based on others' comments rather than their own independent reasoning. As viewers reported, some perspectives, particularly those related to symbolic meaning and story construction, emerged through discussion rather than from individual viewing experiences. Additionally, differences in verbal expression skills may have affected how effectively some participants articulated their thoughts, potentially leading to an uneven representation of viewpoints.

Furthermore, while the study identified the understanding process and engagement pattern of MGs, measuring the depth and nature of engagement remained challenging. Considering that the visual tasks were developed from cognitive psychology and neuroscience and were conducted similarly to experimental activities, the experiment control may be a potential limitation of the study, which involves variables that are challenging to measure and control, such as individual differences and how they engage with the tools, as well as the choose and development of the visual materials. Additionally, as viewers reported their experiences and reasoning approaches, their thoughts may not be consciously articulated, as they often occur implicitly at the cognitive level. Specifically, some viewers described their initial impressions, but their deeper cognitive engagement may not have been fully captured through verbal responses. Moreover, as engagement fluctuates dynamically over time, it is difficult to assess whether certain understandings were formed immediately, evolved through multiple viewings, or were influenced by discussion. More quantitative, empirical or experimental approaches, such as eye-tracking or real-time response measurement, might provide additional insights into how understanding and engagement unfold in real-time.

The study suggests that transparency—the clarity of MGs in conveying meaning—plays a key role in shaping viewers' understanding and experience, but its influence remains complex. Some viewers reported needing multiple viewings to refine their understanding. It may suggest that the quality and level-of-detail of MGs can

facilitate engagement. It also raises the question of accessibility. If MGs rely on repeated exposure to achieve clarity or engagement, this could limit their effectiveness in contexts where viewers only have a single opportunity to engage with the content.

7.6.5 *Design Workshops*

The participant composition in the Design Workshops may have introduced biases that affected the generalisability of the findings. The Participants were primarily from art and design backgrounds, which may not fully represent the diverse perspectives of MG producers and viewers in different industries, cultures, or levels of expertise. And fewer producers were recruited than planned. Additionally, the participant pool has not been maintained from previous studies. Built on the previous findings, the participants in the Design Workshops brought creativity and fresh perspectives, which resulted in the concept prototypes they created. However, participants needed more explanation of the research topic and critical concept. This was reflected during the BEPI process. After the introduction of the previous findings, the participants frequently asked the researcher about the concepts in the card set.

The structure and duration of the workshops may have influenced the depth and scope of participant engagement. Limited to the research schedule and participants' availability, the workshops were divided into three sessions for two participant groups. This inconsistency could have led to differences in the level of development or refinement of the prototypes. As the facilitator, the researcher facilitated discussions among participants, which may have subtly influenced how participants approached problems, structured their ideas, or interpreted MGs communication from their prototypes.

Another limitation is the influence of the existing prototype on Group 2. Prototype 1 as a reference was introduced to Group 2, and this approach helped accelerate the prototyping phase. During the prototyping phase, the researcher emphasised the importance and value of exploring new perspectives. However, Prototype 1 may have biased Group 2's ideation process by leading them toward similar ideas.

One of the key findings of the Design Workshops was that MGs communication is shaped by the supply and demand relationship, which highlights the shared goals and needs of producers and viewers. However, the workshop setting and design process may have led to/reinforced this finding rather than encouraging entirely new ways of thinking about MGs communication. For instance, the design exercise in the workbook involved emerging ideas such as, "What do you expect to produce/see? and what do

you like to gain?" Those questions may lead participants to think about their goals and needs for communication.

While the prototypes created from workshops successfully explored conceptual frameworks for MGs communication, they may not fully account for the constraints of real-world environments. As one of the key findings, the Communication Model of Motion Graphics remains exploratory. It focuses on individual perceptions and principles but does not consider the technological constraints, software limitations, production costs, or viewing environments that impact real-world MGs communication.

Furthermore, there were limitations in data collection and interpretation. The data collection relied on participants' workbooks, audio recordings and photographs of the prototypes and design processes. The verbal and written explanations of design choices may not fully capture the intuitive and visual decision-making processes involved in the prototyping and iteration phase. Some participants focused more on the prototyping phase rather than recording detailed reflections, which may have led to gaps in the documentation of their reasoning and interpretations.

Despite the above limitations of the Design Workshops, the participants' engagement and creativity offered critical insights into the study. The concept prototypes that the participants designed integrated and indirectly evaluated the previous findings, which helped the researcher further synthesise these prototypes and propose the Communication Model of Motion Graphics.

This chapter discussed how research questions were addressed, as well as the contribution and limitations of the research. The overall conclusion of the study is in the next chapter.

CHAPTER 8 CONCLUSION

This study—Communication Through Motion Graphics: A Participatory Design Investigation, Integrating Producer and Consumer Perspectives—explores how MGs function as a communication medium. The study was driven by three primary aspects: the producers' practice and communication strategies, the viewers' understanding and experience of MGs, and meaning-making in MGs communication. These aspects were framed within the broader context of the increasing relevance of MGs in various communication environments, from advertising to education. Despite the growing prevalence of MGs, limited research has been done to understand its role as a medium that combines visual elements such as motion, graphics and colour to transmit complex information efficiently. This research addressed this gap by exploring both the production and consumption perspectives of MGs communication. Through a Participatory Design Project involving Producers Observation (Chapter 4), Viewers Focus Group (Chapter 5), and Design Workshops (Chapter 6), this study has provided in-depth insights into how MGs function as a communication medium and the interaction between producers and viewers in communication, as well as the social influence behind it.

8.1 Overall conclusions and contribution to knowledge

8.1.1 Overall conclusions

Chapter 2, Literature Review highlights that MGs, as a hybrid medium, can effectively convey information in various contexts. However, despite the widespread application of MGs, there remain theoretical and practical gaps in understanding how MGs communicate. Specifically, the reviewed literature has not sufficiently explored the communication strategies employed by producers in MGs production, the processes by which viewers comprehend MGs during consumption, and the factors that influence or facilitate communication. These gaps provide the foundation for this research and underscore the need for empirical studies on the communication mechanisms of MGs. Additionally, the literature review, drawing on Cohn's (2017) theory of visual narrative and Mayer's (2005) theory of multimedia learning, suggests that MGs communication may be narrative-driven, with experience playing a crucial role in the communication process.

Chapter 3, Methodology and Methods, explains that this study employs a qualitative approach, organising the research activities into a design project using participatory design to investigate the production and consumption of MGs. This approach allowed the researcher to observe the actions of producers, examine the

engagement of viewers and actively involve them in the research activities. By directly involving participants in the design process, the study gained insights into how MGs function as a communication medium. The research methods and activities within the participatory design framework—questionnaires, interviews, shadowing, focus group, design workshops, and creative toolkits—facilitate the design project's output to address the research questions.

Chapter 4, *Producers Observation*, provides critical insights into the communication strategies used by producers. Producers primarily adopt two main strategies: storytelling and context building. Storytelling often involves the direct presentation of information, where producers use specific characters and narration to structure the content. In contrast, context building focuses more on conveying a coherent concept, form, or atmosphere. One of the most significant and novel findings is that producers emphasise composite events and design experiences when conveying information. This strategy ensures that viewers can connect with the content both visually and emotionally. Additionally, producers recognise the importance of balancing artistic creativity with practical constraints, such as maintaining audience attention, meeting changing demands, and adhering to project deadlines. These constraints often influence their design decisions.

Chapter 5, *Viewers Focus Group*, reveals the process by which viewers comprehend MGs. In the recognition stage, viewers rely on visual cues such as symbols and transitions to form events. In the organisation stage, they use narratives to structure these events into a cohesive story, where experience and understanding are interconnected. However, individual differences—such as personal experiences, cognitive processes, and preferences—play a significant role in shaping how viewers interpret MGs. For example, viewers apply different reasoning and engagement methods to interpret MGs, resulting in varied understandings and experiences based on their individual differences.

Furthermore, factors including attention, expression, symbols, and events are influential to viewers' understanding and experience of MGs. These findings suggest that while MGs is a powerful communication tool, its effectiveness can vary depending on the viewers' backgrounds and experiences.

Chapter 6, *Design Workshops*, played a pivotal role in integrating insights from both producers and viewers to explore how MGs facilitate meaningful communication. Participants collaboratively created two concept prototypes, which emphasised the

importance of context building, expression, and value in MGs, highlighting that these elements represent the shared goals and needs of producers and viewers.

The discussion on these shared goals and needs further highlighted that MGs reflect a medium and consumer culture and broader production and consumption trends through the discussion of the underlying supply and demand relationship between producers and viewers. Based on the Design Workshops results, the researcher proposed a novel Communication Model of Motion Graphics that synthesises the study's findings and outlines how MGs communicate and create meaning through a set of elements.

8.1.2 Contribution to knowledge

This research extends existing theories in communication design and visual media. The research methodology provided participatory insights into MGs communication and meaning-making process. Furthermore, the proposed Communication Model of Motion Graphics provides a practical, comprehensive framework which may be helpful to the practice or research on MGs.

8.1.2.1 Theoretical Contributions

This research extends existing communication design theories by providing a detailed analysis of the mechanisms by which MGs convey information. It also contributes to the body of knowledge on multimodal communication by demonstrating how MGs integrate various elements, such as motion, graphics and colours into communication.

The main themes in the thematic map, Message Delivery, Individual Awareness, and Social Relations, were identified from the producers' real-time practice, which provided evidence of their communication strategies and approaches and what influenced their practice. This finding provides more details compared to the desktop survey (Section 1.4), which contributes to knowledge by bridging practical actions and theoretical implications.

By synthesising insights from communication theory, semiotics, and cognitive psychology, this research highlights the role of MGs in shaping audience understanding and engagement, as well as identifies the understanding process and influential factors.

Furthermore, the findings reinforce the argument that MGs serve as an effective medium for communication. Producers and viewers are co-creators of meaning, which is shaped by the producers' intent and viewers' cognition. Based on the co-created meaning, the study revealed the supply and demand relationship behind MGs

communication, as well as the shared goals and needs of producers and viewers within a consumer culture in modern society.

8.1.2.2 Potential Practical Contributions

From a methodological perspective, this research employs a qualitative approach. Employing design thinking and a participatory design framework, the integration of activities and methods in Producers Observation (Chapter 4), Viewers Focus Group (Chapter 5), and Design Workshops (Chapter 6) provides a comprehensive and structured perspective on how MGs function in communication. This methodological approach may serve as a framework for future research into digital media communication, enabling deeper engagement with production-consumption dynamics and participatory co-creation in design processes. In addition, the tools developed by the researcher (listed in the Appendix) provided a toolkit to suit this framework.

At a practical level, one of the key outcomes of this study is the Communication Model of Motion Graphics, which provides a structured representation of the mechanisms underlying MGs communication. The model synthesises insights from the overall findings of the study into three layers—Goals and Needs, Strategies and Approaches, and Drivers and Conditions. The model captures practical needs, design principles, and drivers and conditions, and it maps the interaction between producers and viewers in meaning-making. While this model remains conceptual rather than practical because it hasn't been tested in other settings, the findings of the study aligned with many existing media and communication theories, which suggests it still has the potential to serve as a framework to guide the analysis and practices of researchers and designers across various fields. Importantly, it bridges gaps in existing research by situating MGs within a dynamic, participatory framework, emphasising the interplay between design choices, audience perception, and goals and needs in communication.

Furthermore, the findings provided insights into the design practice of producers, which highlights their workflows and challenges. These insights could be particularly helpful for entrants to the field, e.g., early career producers.

8.2 Recommendations for future work

Based on the findings and limitations of this study, several directions for future research can be explored to build on and refine the work presented in this thesis.

Validation of the Communication Model of Motion Graphics

The proposed Communication Model of Motion Graphics is derived from the synthesis of participants' prototypes, which were developed based on the findings from

the Producers Observation and Viewers Focus Group. While this model offers theoretical insights into MGs communication, it does not provide directly applicable solutions for MGs design and production, nor empirically tested in real-world MGs production and consumption scenarios. Therefore, the proposed model should be interpreted as foundational knowledge rather than as prescriptive guidelines for practitioners. Further studies are recommended to develop the model for practical implementation, including testing and documentation.

Short-term Qualitative Investigation

The study captures participants' immediate reactions and understanding of MGs. It does not investigate long-term effects on memory retention, behavioural change, or audience engagement over time. Additional quantitative and empirical studies could provide deeper insights into the long-term impact of MGs.

Technological Context

This study focused on MGs within current design and communication practices. However, as technology evolves—especially with the rise of AI-generated visuals, virtual reality (VR), augmented reality (AR) and interactive media—new forms of media or MGs may emerge that alter the ways producers and viewers interact and communicate. Future research should consider how such technology advancements influence MGs communication.

8.3 Final remarks

This research advances the understanding of MGs communication by integrating producer and viewer perspectives. The findings underscore the significance of the subjectivity of producers and viewers in communication and meaning-making, as well as the individual and social influence on communication.

By integrating theories and methods from media studies, cognitive psychology, and participatory design, this study contributes to interdisciplinary discourse on communication in digital environments. It demonstrates how MGs, as a hybrid medium, blur traditional boundaries between animation, graphic design, and film, and the producers and viewers as co-creators of the meaning in communication through MGs. This highlights the research contributions to new theoretical perspectives on the role of MGs in contemporary digital culture.

While the research findings are primarily theoretical and conceptual, the findings have implications for MGs production in areas such as advertising, education, and public service. Insights into how viewers engage with MGs and how producers approach meaning-making provide a foundation for improving design strategies. The

study also underscores the growing importance of audience participation in shaping media content, encouraging designers to adopt contextual, highlight expression of value, and efficient-driven strategies, which are consistent with long-existing media and communication theories.

Overall, this research advances the discourse on MGs communication by providing an empirically grounded, theoretically informed, and methodologically robust exploration of how information is sent and received and how meaning is constructed through MGs. Future studies can build upon these contributions in practical applications and extend their applicability to emerging technologies, as the creative institution has done within the industry.

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Appendix

1. Consent form of Producers Observation



Consent Form

Title of the study: *Communication Medium and Visual Tool in the Digital Environment: Research on Expression and the Comprehension of Symbols in Motion Graphics Based on Participatory Methods*

Lead Researcher: *Shangshu Wang*

*Please initial
boxes*

1. I confirm that I have read and understood the participant information sheet for the above research project and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. However, data already given anonymously cannot be withdrawn. ☐
3. I agree to audio recorded of me and photographs or screenshots of my screen can be taken during the sessions as part of the research. And I understand that these will be kept anonymous. ☐
4. I agree that the information I provide may be used in research reports, thesis and presentations. I understand that the information will be anonymised and my identity will remain anonymous and that all information I provide for this study will be treated confidentially. ☐
5. I understand the information I provide will be kept secure and anonymous for the duration of the project, up to a maximum period of six months after the end of the project, and then destroyed. ☐
6. I would like to receive a summary of the results or findings (either via email or other forms) and I am happy for my contact details to be kept on record for up to six months. ☐
7. I understand the risks and mitigations around COVID-19 transmission that will be in place and agree to consent to taking part. ☐
8. I agree to take part in the above study. ☐

_____ Name of Participant	_____ Date	_____ Signature
_____ Shangshu Wang Researcher	_____ Date	_____ Signature

2. Participant information sheet of Producers Observation

PARTICIPANT INFORMATION SHEET



Title of the study:

Communication Medium and Visual Tools in the Digital Environment: Research on Expression and the Comprehension of Symbols in Motion Graphics Based on Participatory Methods

Welcome!

You are being invited to take part in a PhD student research study. Before you make your decision, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

This study is being conducted as a part of PhD research to discover how designers can communicate concepts, information or emotions through motion graphics as a hybrid media. The researcher, Shangshu Wang, is supervised by Andrea Taylor, and Dr Jay Bradley from the School of Design and School of Innovation, The Glasgow School of Art (GSA).

What is the purpose of the study?

The study begins with the problems posed by critical theorist and research artist, Michael Betancourt who thinks the kinetics of how motion and image interact to create meaning is fundamentally unconsidered and untheorized as part of a general refusal of theorisation by the design fields. To this end, the study considers motion graphic design as a medium of communication to further explore how and why motion graphics are created and its communication mechanism. And, it needs practitioners in this area to participate.

Why have I been invited to take part?

You have been invited as you have relevant skills to this study. The study specifically seeks to observe and gain insight from your work and your practice process.

Do I have to take part?

No, it is up to you to decide whether or not to take part. Taking part is completely voluntary. If you decide to take part, you are still free to withdraw at any time and without giving a reason. Any data recorded anonymously may still be used if you withdraw. Those data include the result of questionnaire, audio record of the interview, photos and screenshots of your practice.

What will happen to me if I take part?

If you agree to participate, you will be invited to complete a questionnaire, be interviewed for 40 minutes and be observed creating motion graphics by the researcher for a further 45 minutes to an hour. More observation processes will take in the next 3 weeks depending on your schedule. I have planned to speak to six people, including yourself, depending on the research process. Fewer or more people might be included depending on the project's progress. Your contribution to the research will be:

PARTICIPANT INFORMATION SHEET



- **Understand your experiences.** You will be invited to complete an anonymous questionnaire and interview at first. The interview will be audio recorded. This session will be held as in individually in the first meeting, it can conduct remote or in-person depending on which more accessible to you. In-person meetings will first be considered on the GSA campus.
- **Observation of your practice.** Researcher will use a participatory method call the Shadowing for this activity. It combines observation with short, on-the-go interviews and debriefing sessions when you do the design practice during the researcher's observation. You might need to explain to the researcher how and why you took some of the steps. This session can be conduct remote or in-person, in-person meetings will first be considered on the GSA campus.
- **Gather your reflections and feedback.** You will be supported to be an important role in the study to provide critical reflection on what the researcher finds and what have we done or should do during the process. You are free to give feedback and comments, and there no right or wrong answers.

There are two ways for you to participate, face-to-face or remotely. Both approaches require you have your work device (PC or tablets). Remote sessions require your devices have access to the Internet to share your screen through Zoom or Tencent Meeting.

What are the possible benefits and risks of taking part?

Reflecting on your practice as a motion graphics designer can be helpful in understanding your practice and be cathartic. Participatory research relies on the contribution of experts such as yourself. I hope that you will find helping to explore your expertise and develop a theory is a positive experience. The risk in online sessions is negligible. However, Covid 19 infection is a tangible risk if you choose to meet face-to-face.

Covid19 Requirements and Procedures

To ensure your and the others safety, in addition to the basic COVID-19 precautions, this project is compliant with current GSA Safe Campus policies¹ relating to Covid-19. Basic requirements:

- Follow COVID-19 safety guidelines such as maintaining appropriate distance and handwashing procedures.
- The researcher will take lateral flow tests before and after the in-person activities and the physical equipment (e.g. pens) will be disinfected before and after the workshop to reduce the risk of transmission.
- If you or a family member has developed symptoms of COVID-19 in the last 7 days, please do not attend, but get in contact and we will arrange another time to meet.

Will my taking part be kept confidential?

The information that you share in the research sessions will be included in research thesis, publications and presentations, which may be made available to the public. However, your name will be removed so that you cannot be recognised.

¹ <https://gsafa.sharepoint.com/sites/StudentIntranet/SafeCampus/Pages/default.aspx> Safe Campus page, GSA.

PARTICIPANT INFORMATION SHEET



The online sessions will be recorded (audio) so that the researchers can gather any helpful information that is not included in your sharing screen. The full recordings will not be shared publicly. If you agree, we will also take photographs/ screenshots on your screen during the sessions. Your face won't appear in any record.

If you agree, quotations (words that you say) during the sessions and any photographs/screenshots that are taken, or short audio clips from the recording of the session may be used in the research thesis, publications and presentations. However, I will not identify you by name and use pseudonym instead, and I can edit audio recordings to change your voice if you do not wish to be identified in them.

All data collected during the study will be dealt with in confidence so that anonymity will be preserved. The individual data you provide will be kept secure and anonymous for the duration of the study, the paper files will be kept in a secure filing cabinet accessible only to the researcher, and digital data will be stored on the personal drive of the researcher on the GSA network, which is only accessible by the researcher and researcher's supervisor team (the access of data for supervisors is complaints handling or for examination purposes).

Up to a maximum period of six months after the end of the project, any identifiable data will be removed and destroyed. Anonymised extracts from the recordings or notes may be quoted in my dissertation or other published works for this study.

What will happen to the results of the study?

You and other participants will be provided a summary of the results if you indicate on the consent form, it will confirm that you would like to receive the summary.

How is the project being funded?

My PhD is self-funded.

Who should I contact for further information?

If you have any questions or require more information about this study or if you wish to make a complaint about the conduct of the study, please contact me or my supervisors using the following contact details:

Lead Researcher: Shangshu Wang, [REDACTED]

Primary Supervisor: Andrea Taylor, [REDACTED]

Co-Supervisor: Dr Jay Bradley, [REDACTED]

Thank you for reading this information sheet and for considering taking part in this research. Please keep this sheet for future reference

3. Questionnaire of Producers Observation

Which of the following best describes how you think of yourself?

Male

Female

Prefer not to say

Prefer to self-describe: _____

What is your age group?

16-24

25-34

35-44

45-54

55-64

65 or over

Prefer not to say

What do you consider your ethnicity to be?

White (Scottish, other British, Irish, Gypsy/Traveller, Polish, other white ethnic group)

Mixed or Multiple ethnic group

Asian, Asian Chinese, Asian Scottish, Asian British

Caribbean or Black

Arab, Arab Scottish, Arab British Ethnic group not listed

Prefer not to say

Please describe your ethnic group not listed above: _____

How would you describe your current employment status?

Paid full-time

Paid Part-time

Unpaid work e.g. caring responsibilities Student

Retired

Unemployed

Prefer not to say

Which of the following time periods do you think can describe your practice or work experience?

0-3 years

4- 6 years

7-9 years

10 years or over

Prefer not to say

What is your major in university?

Please describe your major: _____

How do you build your design from the start?

Please describe your approach (e.g., sketches, story boards, mood boards): _____

How would you rate your ability to convey information (and emotions or concepts) with your designs?

Don't know

Below average

Slightly below average

Average

Slightly above average

Above average

Prefer not to say

How often per week do/did you...?

Watch/experience media which similar to your work? e.g., anime, movie, graphic and typography (Mark 1-7).

Never ---- Sometimes ---- Always

1 2 3 4 5 6 7

Practice or create outside of work (Mark 1-7).

Never ---- Sometimes ---- Always

1 2 3 4 5 6 7

Do you get inspired by what you see? (Mark 1-7)

Never ---- Sometimes ---- Always

1 2 3 4 5 6 7

4. Question list of interview

1. Can you briefly introduce yourself and describe your main work responsibilities?
2. When did you first get into motion graphics? How did you enter this field?
3. How do you typically start a motion graphics project? (For example, do you use sketches, storyboards, mood boards?)
4. What aspects of design do you focus on the most? For instance, conveying information, visual style, emotional expression, etc.?
5. Do you follow a fixed creative workflow, or does it vary depending on the project?
6. What software or tools do you primarily use for your work? Why do you prefer these tools?
7. What are your biggest challenges in your creative process, and how do you overcome them?
8. Do you think your background (education, culture, work experience) has influenced your design style? Can you give an example?
9. Are you influenced by specific styles, artistic movements, personal experiences, or cultural elements? How do these influences manifest in your work?
10. How do you usually find inspiration? (For example, movies, animation, graphic design, social media, etc.)
11. Do you practice or create motion graphics outside of work?
12. Are you influenced by visual elements in your daily life (e.g., street art, brand advertising)? How do these influences reflect in your work?
13. How do you think your work environment or social circle influences your creative process?
14. How has your creative style or workflow changed over the years? What triggered these changes?
15. Are there any new technologies or creative approaches you'd like to explore in the future? If so, what are they?

5. Interview chart

Design Process	start	in progress	output	evaluation	iteration		notes
 Things need to do							
 Reach Point							
 Gains							
 Pains							
 Time							

6. Observation sheet

Where & When LOCATION: DATE: TIME:	Likes	Dislikes	Habits
Who PERSON SHADOWED: REASON FOR SHADOWING: TASK:			
Key findings _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	Activities	Philosophy	Environments
	Questions & Notes:		

7. Consent form of Viewers Focus Group



CONSENT FORM

Research Project Title: *The Communication System and Semiotic Interpretation of Motion Graphics in Producers' Expression and Viewers' Understanding: A Collaborative, Interactive and Participative Investigation*

Lead Researcher: *Shangshu Wang*

Please initial
boxes

1. I confirm that I have read and understood the participant information sheet for the above research project and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. However, data already given anonymously cannot be withdrawn. ☐
3. I agree that my voice during the session will be audio recorded as part of the research. And I understand that recordings will be kept anonymous and confidential. ☐
4. I agree that the information I provide may be used in research reports, thesis and presentations. I understand the information I provide will be kept confidential and anonymous for the duration of the project. The consent form and any personal data will be kept up to a maximum period of six months after the end of the project, and then destroyed. The fully anonymous research data will be kept for a period of ten years. ☐
5. I would like to receive a summary of the results or findings (either via email or other forms) and I am happy for my contact details to be kept on record for up to six months. ☐
6. I acknowledge that covid19 is a tangible risk and understand that there is no mandatory mitigation in this study. I have the opportunity to discuss this with the researcher. ☐
7. I agree to take part in the above study. ☐
8. **(If you are GSA or UofG student) ** I understand that choosing to participate, or withdrawal from the study will not affect my studies at GSA and course grading. ☐

Name of Participant

Date

Signature

Shangshu Wang

Researcher

Date

Signature

8. Participant information sheet of Viewers Focus Group



PARTICIPANT INFORMATION SHEET

Title of the study:

The Communication System and Semiotic Interpretation of Motion Graphics in Producers' Expression and Viewers' Understanding: A Collaborative, Interactive and Participative Investigation

Welcome!

You are being invited to take part in a PhD student research study. Before you make your decision, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

This study is being conducted as a part of PhD research to discover the audience's visual experiences, their interpretations of narrative and communication in motion graphics, and the various factors that impact their understanding of this medium. The researcher, Shangshu Wang, is supervised by Andrea Taylor, and Dr Jay Bradley from the School of Design and School of Innovation, The Glasgow School of Art (GSA).

What is the purpose of the study?

A large and growing body of research in education and public services has explored using motion graphics or animation as audio-visual materials, claiming that this medium can enhance participants' understanding and memory. However, these studies did not consider the quality of the visual material itself, e.g., visual materials' communication efficiency and visual experience. Therefore, it is necessary to study from the viewers' perspective to understand their visual experience with motion graphics and discover what affects their understanding and experience.

Why have I been invited to take part?

You have been invited as you can provide unique perspectives and insights to the study, and you can help to enrich the diversity and breadth of the research findings. The study will benefit from your practical experience or observations from your everyday life relevant to the research topic, which can provide deeper insights into the study.

Do I have to take part?

No, it is up to you to decide whether or not to take part. Taking part is completely voluntary. If you decide to take part, you are still free to withdraw at any time and without giving a reason. Any data recorded anonymously may still be used if you withdraw. Those data include the result of questionnaire, audio recordings of interview and focus group.

If you are GSA or UofG student

Choosing to participate or withdrawal from the study will not have any bearing on your studies at GSA or UofG and course grading.

What will happen to me if I take part?

If you agree to participate, you will be invited to complete a questionnaire, join a group interview and focus group in a 60-90 min session. Depending on the progress of the research activities, the session might take longer, but no more than 2 hours. I planned to invite six people, including yourself, to the session. Fewer or more people might be included depending on the study's progress. Your contribution to the research will be:

- **As an example of audiences.** You will be invited to complete an anonymous questionnaire first. You will be considered a representative individual for the viewer group in motion graphics consumption and provide some information about yourself and your daily experiences and preferences.
- **Understand your experiences.** You will be invited to a focus group. A group interview will conduct first, it is a chance that you can provide your unique perspectives and insights about the questions related to the topic and exchange ideas with other participants.
- **Discover what influence your experiences.** You will be invited to complete three tasks supported by visual materials and tools. You are free to give your opinions and ideas, there are no right or wrong answers for those tasks.

Three visual materials in the form of motion graphics provided by the researcher for you to watch. And each material corresponding to a task. The description of the tasks as follows:

Arrangement Task (AT): A series of shuffled motion graphics clips will be presented to you along with the referential cards (which represents the content of the segment you see). You can arrange these cards in the order from your interpretation of the material and explain the rationale behind their ordering.

Sequential Reasoning Task (SRT): An incomplete sequence of motion graphics will provide to you, and referential cards containing potential content that could complete the material will be given to you. You can select the cards that you believe would complete the sequence and provide a rationale for your choices.

Narrative Comprehension Task (NCT): You will be encouraged to use cards or collages to describe the material you see. You are welcome to give your own interpretations of the visual material and share any related stories.

- **Gather your reflections and feedback.** You will be supported to play an important role in the group to provide critical reflection on what the study finds and what have we done or should do during the process. You are encouraged to give feedback and questions or problems you find, and discuss your opinions with other participants. The researcher can use these insights and questions from you to develop the study in depth further.

This study will be conducted face-to-face on the Glasgow School of Art campus, and some refreshments will be provided during the session. You do not need to dedicate additional time or preparation for this session.

What are the possible benefits and risks of taking part?

As a consumer of digital media, your insights and active participation in reflecting on the content you regularly engage with can be a positive and valuable experience. Participatory research relies on the experiences and contributions of individuals like you, who represent the wider audience, to gain meaningful insights and perspectives.

Your involvement in this study is greatly appreciated and will contribute to a more comprehensive understanding of the subject matter.

However, Covid 19 infection is a tangible risk due to the study is a face-to-face session. Although there are no government or campus regulations, researcher will try to avoid the risk of covid-19 transmission by taking following procedures:

- The researcher will take lateral flow tests before and after the in-person activities and the physical equipment (e.g., pens) will be disinfected before and after the workshop to reduce the risk of transmission.
- If you or a family member has developed symptoms of COVID-19 in the last 7 days, please do not attend, but get in contact and I will arrange another time to meet.

Please discuss any transmission mitigation you wish to take with the researcher before you participate.

Will my taking part be kept confidential?

The information that you share in the research sessions will be included in research thesis, publications and presentations, which may be made available to the public. However, your name will be removed so that you cannot be recognised.

The session will be recorded (audio) so that the researcher can gather any helpful information that is not included in researcher's note. The full recordings will not be shared.

If you agree, quotations (words that you say) during the session or short audio clips from the recording of the session may be used in the research thesis, publications and presentations. However, I will not identify you by name and use pseudonym instead, and I can edit audio recordings to change your voice if you do not wish to be identified in them.

All data collected during the study will be dealt with in confidence so that anonymity will be preserved. The individual data you provide will be kept secure and anonymous for the duration of the study, the paper files will be kept in a secure filing cabinet accessible only to the researcher, and digital data will be stored on the personal drive of the researcher on the GSA network, which is only accessible by the researcher and researcher's supervisor team (the access of data for supervisors is complaints handling or for examination purposes).

Up to a maximum period of six months after the end of the project, any identifiable data including consent forms will be removed and destroyed. Anonymised extracts from the recordings or notes may be quoted in my dissertation or other published works for this study. The fully anonymised research data will be held for a period of ten years, accessible by the researcher and GSA supervisor team, in line with the GSA Research Data Management Policy.

What will happen to the results of the study?

You and other participants will be provided a summary of the results if you indicate on the consent form, it will confirm that you would like to receive the summary.

**PARTICIPANT INFORMATION SHEET****How is the project being funded?**

My PhD is self-funded.

Who should I contact for further information?

If you have any questions or require more information about this study or if you wish to make a complaint about the conduct of the study, please contact me or my supervisors using the following contact details:

Lead Researcher: Shangshu Wang, [REDACTED]

Primary Supervisor: Andrea Taylor, [REDACTED]

Co-Supervisor: Dr Jay Bradley, [REDACTED]

Thank you for reading this information sheet and for considering taking part in this research. Please keep this sheet for future reference

9. Questionnaire of Viewers Focus Group

1. Which of the following best describes how you think of yourself?

- ☐ Male
- ☐ Female
- ☐ Prefer not to say
- ☐ Prefer to self-describe:

2. What is your age group?

- ☐ 16-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65 or over
- ☐ Prefer not to say

3. What do you consider your ethnicity to be?

- ☐ White (Scottish, British, Irish, Gypsy/Traveller, Polish, another white ethnic group)
- ☐ Mixed or Multiple ethnic group
- ☐ Asian, Asian Chinese, Asian Scottish, Asian British
- ☐ Caribbean or Black
- ☐ Arab, Arab Scottish, Arab British Ethnic group not listed
- ☐ Prefer not to say

Please describe your ethnic group not listed above:

4. Using the following scale, on average, how often per week do/did you...? (Place a whole number in the square)

Never -----Sometimes-----Always

1 2 3 4 5 6 7

	Currently (Mark 1 – 7)	Which is your favorite? (Mark with “X”)
...watch movies		
...watch TV shows		
...watch cartoons/anime		
...watch streaming videos		
...watch/read user generate content		

5. What is the device you primarily use to watch digital media?

- ☐ Smartphone
- ☐ Computer
- ☐ Tablet
- ☐ TV
- ☐ Prefer not to say

Please describe your device not listed above:

6. Do you usually watch digital media to/for...?

- ☐ Learning
- ☐ Working
- ☐ Entertainment

☐ Other

7. Based on the media you watch frequently, on average, do/did you...? (Place a whole number in the square)

Never -----Sometimes-----Always

1 2 3 4 5 6 7

	Currently (Mark 1 – 7)	Which is you like to see? (Mark with “X”)
...notice the visual style		
...notice the story		
...notice the feelings and emotions it gives you		

10. Question list of interview

1. Where do you usually see motion graphics? (e.g., social media, advertisements, films, educational content, etc.)
2. Can you recall a recent motion graphics piece that caught your attention? What made it stand out?
3. When watching motion graphics, what aspects do you usually focus on? (e.g., visuals, storytelling, emotional impact, typography, colours, animations)
4. Do you find motion graphics effective for conveying information? Why or why not?
5. What kind of motion graphics style do you prefer? (e.g., minimalist, abstract, detailed, cinematic, playful)
6. Do you think motion graphics should prioritise artistic expression or clarity of communication? Which one matters more to you?
7. Have you noticed any differences in motion graphics styles across different cultures or industries? If so, how do they affect your perception?
8. What do you think about motion graphics used in educational or commercial content? Does it help you retain information better?
9. In your opinion, what makes a well-designed motion graphics piece? What makes a poorly designed one?
10. What improvements would you like to see in motion graphics today?

11. Recording sheet

RECORDING SHEET

Questionnaire	Q4		Q7	
Interview	Likes		Dislikes	
Tasks	AT	SRT	NCT	

12. Viewers’ feedback on focus group



Did the format of the focus group allow you to express your ideas and experiences related to motion graphics adequately?
9 responses

Yes	Yes	Yes
Yes	Yes	Yes
yes	Definitely	Yes

Mentimeter

After all activities, what do you think as key element in motion graphics communication?
10 responses



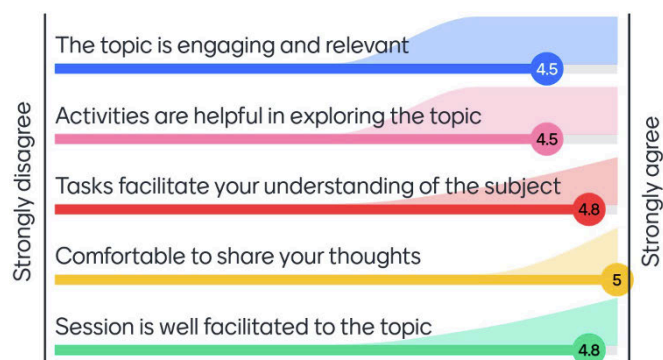
Mentimeter

How would you describe your overall experience in this focus group?
4 responses

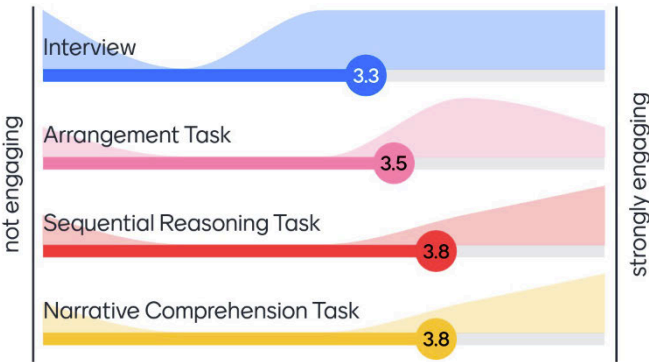


Mentimeter

Rating



Which is the most engaging



Any aspects of the process that you felt could be improved?
3 responses

- add the non-professional audience
- Need more participants
- More people

13. Consent form of Design Workshops



CONSENT FORM

Research Project Title: *The Communication System and Semiotic Interpretation of Motion Graphics in Producers' Expression and Viewers' Understanding: A Collaborative, Interactive and Participative Investigation*

Lead Researcher: *Shangshu Wang*

Please initial
boxes

1. I confirm that I have read and understood the participant information sheet for the above research project and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. However, data already given anonymously cannot be withdrawn. ☐
3. I agree that my voice during the session will be audio recorded as part of the research. And I understand that recordings will be kept anonymous and confidential. ☐
4. I agree that the information I provide - including any ideas, designs or creations I made during the workshop- may be used in research reports, thesis and presentations, and my contribution may be reproduced by the researcher for educational, research and reporting purposes. I understand the information I provide will be kept confidential and anonymous for the duration of the project. The consent form and any personal data will be kept up to a maximum period of six months after the end of the project, and then destroyed. The fully anonymous research data will be kept for a period of ten years. ☐
5. I would like to receive a summary of the results or findings (either via email or other forms) and I am happy for my contact details to be kept on record for up to six months for that purpose. ☐
6. I agree to take part in the above study. ☐
7. **(If you are GSA or UofG staff or student) ** I understand that choosing to participate or withdraw from the study will not affect my studies or work at GSA or UofG, including course grades. ☐

Name of Participant

Date

Signature

Shangshu Wang

Researcher

Date

Signature

14. Participant information sheet of Design Workshops



PARTICIPANT INFORMATION SHEET

Title of the study:

The Communication System and Semiotic Interpretation of Motion Graphics in Producers' Expression and Viewers' Understanding: A Collaborative, Interactive and Participative Investigation

Welcome!

You are being invited to take part in a PhD student research study. Before you make your decision, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

This research aims to uncover how motion graphics convey information, generate meaning, and explore the communication mechanism. This involves the engagement of stakeholders in motion graphics through creative activities. The researcher, Shangshu Wang, is supervised by Andrea Taylor, and Dr Jay Bradley from the School of Design and School of Innovation and Technology, The Glasgow School of Art (GSA).

What is the purpose of the study?

Motion graphic design is extensively applied across various domains; however, there is not enough discussion regarding how motion graphics tell stories and why they are engaging. This study aims to engage stakeholders within this communication medium in creative activities. By considering both producer and viewer perspectives through the co-design workshop, the study seeks to uncover how motion graphics function as a hybrid media in the contemporary digital landscape, conveying information and creating meaning, reveal the impact of motion graphics on our communication within the digital environment.

Why have I been invited to take part?

You have been invited as you can provide unique perspectives and insights to the study, and you can help to enrich the diversity and breadth of the research findings. The study will benefit from your practical experience or observations from your work or visual experience relevant to the research topic, which can provide deeper insights into the study.

Do I have to take part?

No, it is up to you to decide whether or not to take part. Taking part is completely voluntary. If you decide to take part, you are still free to withdraw at any time and without giving a reason. Any data recorded anonymously may still be used if you withdraw. Those data include the result of questionnaire, audio recordings of interview and focus group.

If you are GSA or UofG student or staff

Choosing to participate or withdraw from the study will not have any bearing on your studies and work at GSA or UofG, including course grades.

As a school community member, your authentic thoughts will be appreciated. Your genuine and unbiased insights are invaluable to my study. It is encouraged and important that you provide honest responses. I hope your input is unaffected by any prior knowledge of the project and the researcher.

What will happen to me if I take part?

If you agree to participate, you will be invited to join a co-design workshop in a 90-120 min session. Depending on the progress of the research activities, the session might be shorter or longer. I plan to invite six people, including yourself, to the session. Fewer or more people might be included depending on the study's progress. Your contribution to the research will be:

- **Understand your experiences.** You will be invited to a group interview. A group interview will be conducted first, it is a chance that you can provide your unique perspectives and insights about the questions related to the topic and exchange ideas with other participants.
- **Contribute your creativity.** After interview, you will be invited to join a brainstorming and prototyping. You will collaborate with other participants to create a prototype demonstrating your ideas and thoughts. You are free to give your opinions and creations with handy design tools.

When prototyping, you will join a team of two or three with other participants. Agreeing to participate in this meeting, you consent to the researcher to reproducing your ideas, designs, and creations for educational, research, and reporting purposes. This may include featuring your work in the researcher's PhD thesis, research reports and presentations. However, for confidentiality purposes, you will remain anonymous as a contributor in this study.

- **Gather your reflections and feedback.** You will be supported to play an important role in the workshop to provide critical reflection on what the study finds and what we have done or should do during the process. You are encouraged to give feedback and questions or problems you see on all the prototypes and discuss your opinions with other participants. The researcher can use these insights and questions from you to develop the study in depth further.

This study will be conducted face-to-face on the Glasgow School of Art campus, and some refreshments will be provided during the session. You do not need to dedicate additional time or preparation for this session.

What are the possible benefits and risks of taking part?

As a producer or consumer of digital media, your knowledge and insights and active participation in reflecting on the content you regularly engage with can be a positive and valuable experience. You can help the researcher to build something new and innovative. And hope you can find that participating in participatory design is a fun and creative experience. It relies on the experiences and contributions of individuals like you, who represent the wider audience, to gain meaningful insights and perspectives. Your involvement in this study is greatly appreciated and will contribute to a more comprehensive understanding of the subject matter.

However, Covid 19 infection is a tangible risk due to the study is a face-to-face session. Although there are no government or campus regulations, researcher will try to avoid the risk of covid-19 transmission by taking following procedures:

- The researcher will take lateral flow tests before and after the in-person activities and the physical equipment (e.g., pens) will be disinfected before and after the workshop to reduce the risk of transmission.
- If you or a family member has developed symptoms of COVID-19 in the last 7 days, please do not attend, but get in contact and I will arrange another time to meet.

Please discuss any transmission mitigation you wish to take with the researcher before you participate.

Will my taking part be kept confidential?

The information that you share in the research sessions will be included in research thesis, publications and presentations, which may be made available to the public. However, your name will be removed so that you cannot be recognised.

The session will be recorded (audio) so that the researcher can gather any helpful information that is not included in researcher's note. The full recordings will not be shared.

If you agree, quotations (words that you say) during the session from the recording of the session may be used in the research thesis, publications and presentations. However, I will not identify you by name and use pseudonym instead, and I can edit audio recordings to change your voice if you do not wish to be identified in them.

All data collected during the study will be dealt with in confidence so that anonymity will be preserved. The personal data you provide will be kept secure and anonymous for the duration of the study, the paper files will be kept in a secure filing cabinet accessible only to the researcher, and digital data will be stored on the personal drive of the researcher on the GSA network, which is only accessible by the researcher and researcher's supervisor team (the access of data for supervisors is complaints handling or for examination purposes).

Up to a maximum period of six months after the end of the project, any identifiable data including consent forms will be removed and destroyed. Anonymised extracts from the recordings or notes may be quoted in my dissertation or other published works for this study. The fully anonymised research data will be held for a period of ten years, accessible by the researcher and GSA supervisor team, in line with the GSA Research Data Management Policy.

What will happen to the results of the study?

You and other participants will be provided a summary of the results if you indicate on the consent form, it will confirm that you would like to receive the summary.

How is the project being funded?

My PhD is self-funded.

Who should I contact for further information?

**PARTICIPANT INFORMATION SHEET**

If you have any questions or require more information about this study or if you wish to make a complaint about the conduct of the study, please contact me or my supervisors using the following contact details:

Lead Researcher: Shangshu Wang, [REDACTED]

Primary Supervisor: Andrea Taylor, [REDACTED]

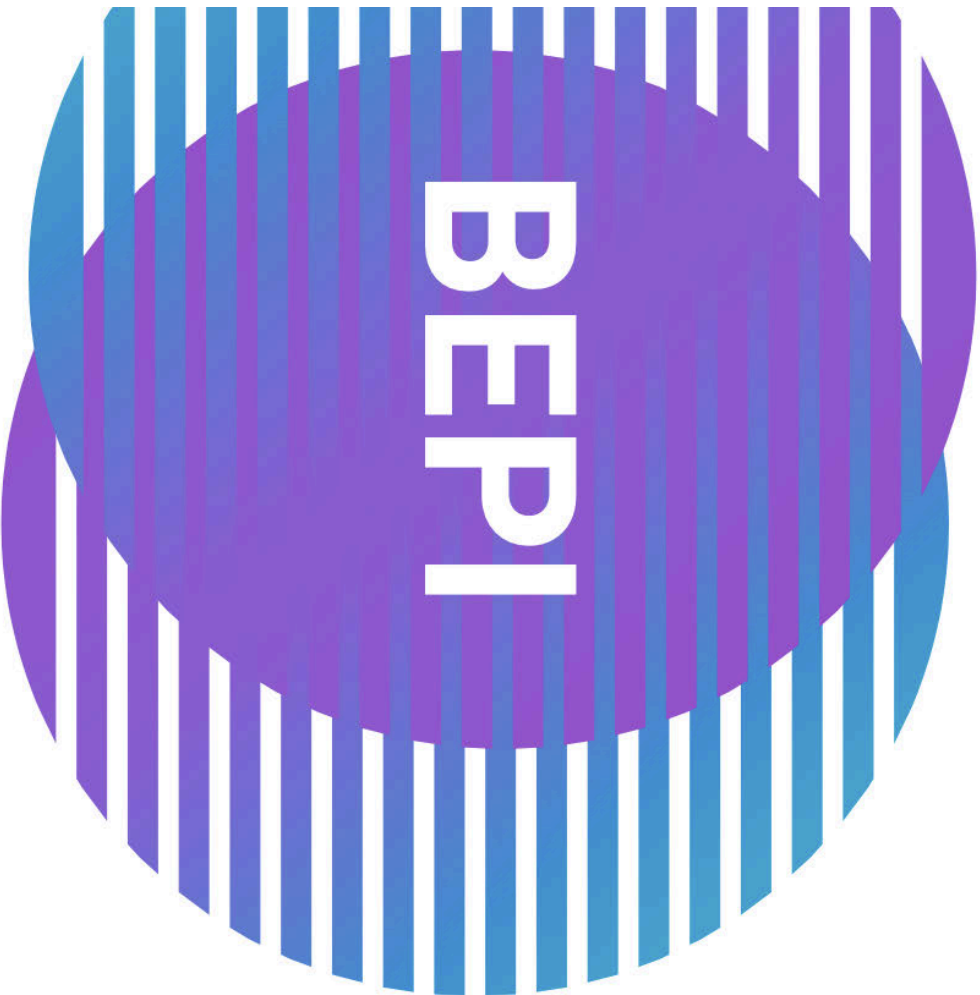
Co-Supervisor: Dr Jay Bradley, [REDACTED]

Thank you for reading this information sheet and for considering taking part in this research. Please keep this sheet for future reference

15. Card set

M Interactive TYPES M	M Hybrid TYPES M	M Story-telling EVENTS M	M Skills LEARNING IA	M 2D TYPES M
M Visually EXPERIENCE M	M Emotionally EXPERIENCE M	M Context-building EVENTS M	M Knowledge LEARNING IA	M 3D TYPES M
IA Techniques SYNTHESIS IA	IA Inspirations INNOVATION IA	IA Ideas INNOVATION IA	IA Experiments INNOVATION IA	IA Techniques LEARNING IA
SR Efficiency DEMAND CHANGING SR	SR Attention DEMAND CHANGING SR	SR Various Outputs DEMAND CHANGING SR	SR Blurry Boundaries ROLE CHANGING SR	
M Technology MEDIA M	M Common MEDIA M	M Eye-catching MEDIA M	M Narrative ORGANISE U	
E Attention VISUAL E	E Transparency VISUAL E	E Expression CONVINCING E	E Intellectual ENGAGEMENT E	E Emotional ENGAGEMENT E
U Symbols RECOGNISE U	U Events RECOGNISE U	U Imagination RECOGNISE U	U Intuitive REASONING U	U Analytical REASONING U

16. Workbook of BEPI process



**DESIGN
BOOK**

Brainstorming
Emergence
Prototyping
Iteration

A team for Quest...

BEP!

TEAM MEMBERS

TEAM NUMBER BETWEEN 1~4

NAME

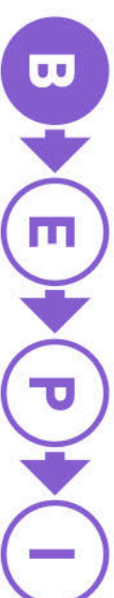
NAME

NAME

NAME

YOU'RE READY

Tell us how you think...



Circle the topics that you might have something to say.

1. How do you consider the balance between aesthetic appeal and conveying a clear message?
2. Can you recall a specific motion graphics piece that left a lasting impression on you? What aspects made it memorable?
3. How do you feel about MGs that you make/see?
4. How do you think motion graphics impact people's understanding or retention of information compared to static graphics or text?
5. In your opinion, how has the role of motion graphics evolved in enhancing audience engagement over the years?
6. What strategies do you think can engage the audience emotionally or intellectually?
7. How do you think advancements in technology, such as augmented reality or virtual reality, will influence the future of motion graphics in communication and engagement?
8. Can you provide insights into the ethical considerations in using motion graphics for communication, particularly in terms of influencing opinions or emotions?
9. In your opinion, what role do motion graphics play in holding your attention in a digital environment with dynamic visual content?
10. In your experience, how does the choice of music or sound affect the overall impact of motion graphics in conveying a message or story?

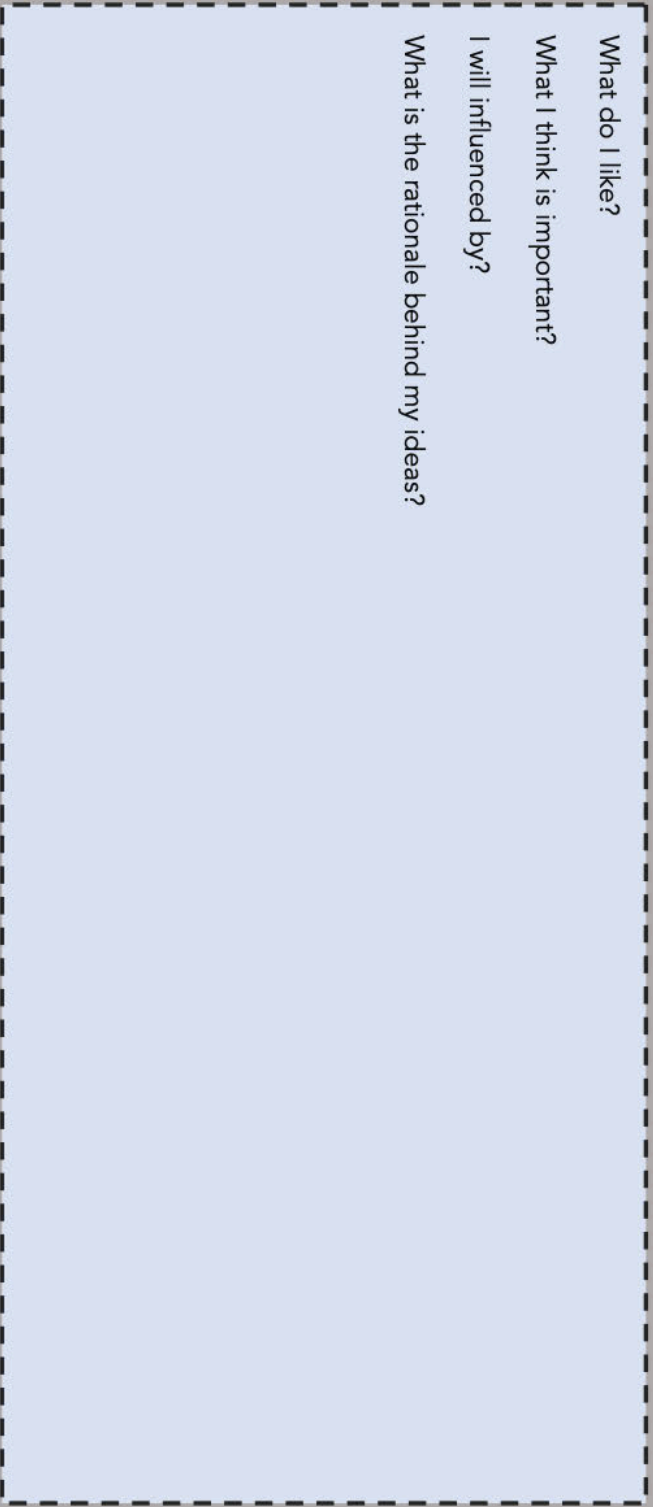
Get to know your team...



Each member shares ideas about 3 topics. Our topics are...

TOPIC	TOPIC	TOPIC
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From your perspective...



What do I like?

What I think is important?

I will influenced by?

What is the rationale behind my ideas?



Gather your ideas...



Main Ideas		Subjective	
Influential		Other	





Shaping a way...

What do you expect to produce/see?

What do you like to gain?

How do you define a good communication?

Other (your experience/ideas...)

Share with your team...

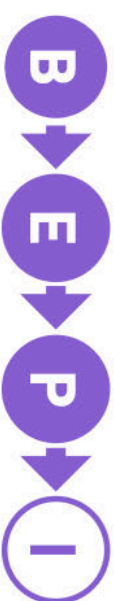


Share your ideas to each other. Group similar ideas together.

New insights?

What did your teammates see that you didn't see?
How might you build on the ideas of others?

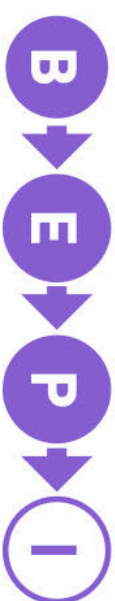
Refine into one...



Your main idea

Based on

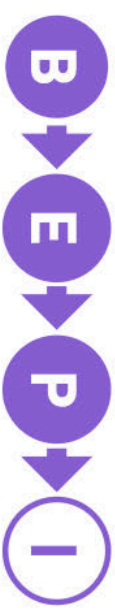
Turn it into a map...



Build a map to connect all your ideas.

A large dashed rectangular box intended for drawing a map to connect ideas.

A bit of Pros & Cons...



Pros

A large dashed rectangular box for writing pros.

Cons

A large dashed rectangular box for writing cons.

We agree that...



What works

--	--

Questions we have

--	--

What doesn't

--	--

New ideas

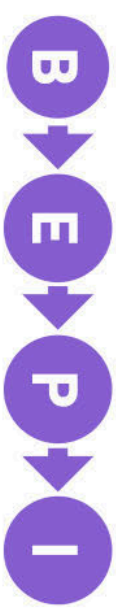
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Iterate prototype...



Based on the feedback you got.

Tell us about...



What is the main idea about this way of communication?

What do you think the underlying potential of this way of communication?

What rationale behind my ideas?

Do you have any reflections on the design?