

# 360-Degree Attention: Comparing Methods

Exploring Ways to Direct Viewers Attention in 360 Degree Films

## PROBLEM AND RELEVANCE

Attracting the audience's attention is key in narrative storytelling. With the emergence of immersive technologies one of the challenges is developing narrative engagement. Focused attention is a key component of narrative engagement and a key determinant of enjoyment of the narrative. The industry challenge is to keep the viewer engaged, immersed, and focused on the main action in a 360-degree film while also allowing the viewer to decide where they want to look without restricting them. For commercial communications, knowing how to direct viewer attention is crucial for engagement, emotional impact, and effectiveness. A commercial message needs to grab and hold the viewer's interest in order to be effective. Part of immersive advertising, this research can be beneficial for tourism and travel, real estate, fashion or entertainment industries.

## GOAL

360-degree film enables what appears to be an exciting new way for audiences to experience stories, by providing a full 360-degree perspective of filmed events and allowing the audience to decide where they want to look, in contrast with traditional films (Moody, 2017). This study compares Action Units (diegetic) with Pointing Arrows (non-diegetic) in their capacity to direct the viewers' attention to the POI of a narrative, attention, immersion, narrative engagement, and enjoyment of a short 360° film. The study aims to find a solution for 360 degree narrative filmmakers to be able to control of space and the complete viewing experience of their audiences. The goal is to ensure effective storytelling, enhancing viewer experience, adjusting traditional methods to emergent technologies, maximising interactivity and engagement with content.

## METHODOLOGY

### DESIGN

A between-subjects experiment with 2 conditions (Action Units vs. Pointing Arrows).

### PARTICIPANTS

71 people were recruited aged 15-55, mainly between ages 18 and 24 (51 participants). The Action Units condition had 36, the Pointing Arrows condition had 35 participants.

### MATERIALS

Two versions of the same thriller 360° film were produced for this study: one of them directed the attention of the viewer with Action Units and the other one with Pointing Arrows.

### MEASUREMENTS

1. self-report measurements (demographic, prior experience, attention, immersion, narrative engagement, enjoyment, appreciation)
2. objective measurement (Eye Tracker data, HTC Vive Pro Eye HMD)



## RESEARCH GAP

Previous studies focused on visual guidance techniques, diegetic cues, non-diegetic cues, editing, artificial-graphical elements in virtual narratives, but Action Units and Pointing arrows have not been statistically correctly tested on a narrative story before. Therefore, study focused on how to direct viewer attention to limit the viewers missing out on important information in the scenes and maximise narrative engagement, immersion and enjoyment while using diegetic, visual cues only, called Action Units. Suspense, attention, emotional engagement, and narrative engagement have a complex relationship with each other and work closely together to provide the best possible viewing experience, aiming to convey the message to the audiences. The study intends to find a solution for the challenge of 360-degree filmmakers, which is to keep the viewer engaged, immersed, and focused on the main action without being too artificial or restrictive.

## RESEARCH QUESTION

How does the Action Units system direct viewer attention and influence narrative engagement, immersion, and enjoyment in 360-degree films?

The study also focused on testing the following hypotheses:

- H1: The Action Units direct viewer's attention to the POI more efficiently than the Pointing Arrows in a 360° narrative.
- H2: The participants who watch the Action Units 360° degree video have more focused attention on what they find relevant information for the story than the participants who watch the Pointing Arrows video.
- H3: The viewers of the Action Units version of a 360° narrative are less aware that their attention is directed than viewers of the Pointing Arrows version.
- H4: The 360° narrative with Action Units lead to more narrative engagement than the version with Pointing Arrows.

## FINDINGS AND RECOMMENDATIONS

The results indicate that directing attention in a complex 360° narrative remains a complex issue. It is not easy to identify one technique that proves to be significantly better than the other. Our hypotheses were not confirmed, with data pointing to the opposite of what we were expecting; data shows that non-diegetic, explicit attention directing techniques appear to be more efficient in directing attention in a complex 360° narrative. When looking at the eye-tracking data, an interesting trend can be noticed: the POI from the beginning of the narrative attract more gazes in the PA condition than in the AU condition, but this trend changes towards the end of the narrative, and actually the final POI attracts more gazes in the AU condition than in the PA condition. Audience seems to show that in the beginning of a 360° movie they need more guidance, there is a newness effect, the moments of figuring out what is going on. In this phase, the more the attention is guided the better for the viewer. However, during the climax of the narrative, the attention of the audience was the highest and the Action Units became more efficient in directing attention than the Pointing Arrows. The study therefore concludes that the ideal attention directing technique in a 360° narrative depends on the moment of the narrative and the level of investment in the narrative at that moment. Therefore, the researcher recommends for the industry to study this topic more extensively, considering the above-mentioned recommendations and the limitations. Future studies should explore these temporal dynamics, the relationship between narrative complexity and attention techniques, explore other diverse and adaptive attention-directing techniques, and the potential for adaptive narratives that adjust techniques in real-time based on viewer behavior.



Top right Pointing Arrow condition and participant.  
Bottom left Action Units condition and participant.