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Article

The Silent Researcher: A New Method for Obtaining a Critical Response to a Holographic Artwork

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Abstract: A critical context is an essential aspect of practice-based research; however, a lack of structure exists to obtain and evaluate criticism from peers. This paper presents a case study of how the 'silent student' critique method used in Higher Education settings in the UK (Elkins, 2014) was adapted for a holographic arts research study. A 'silent researcher' critique session with nine experts was held in Aveiro, Portugal, June 2018 to evaluate the author's digital holographic artwork, on display at the City Museum. The experts asked the author critical questions about the artwork while the author remained silent. The session was filmed, transcribed and processed using a general inductive approach for analyzing qualitative evaluation data (Thomas, 2006). This paper outlines the benefits and drawbacks of using this new critique method for research. The benefits included; participant's careful response to the artwork avoiding engagement of egos of critic and researcher, the drawbacks included the difficulty of evaluating against a pre-determined research question when the discussion could not be steered. This paper evaluates the artwork critiqued describing how the work contributes to the aesthetic development of the medium of holography; which used the Z-axis of holographic space to depict a chronological narrative.

Keywords: Holography; holograms; digital animated hologram; holographic space; practice-based methodology.

1. Introduction

A critical context is an essential aspect of practice-based research; however, there is a lack of a formal method to obtain and evaluate peer criticism at doctoral level. This paper presents a case study of how a Higher Education 'silent student' critique method (Elkins, 2014) has been adapted for use in a holographic arts research study (John, 2018). A 'silent researcher' critique session with nine experts in art and holography was held in Aveiro City Museum, Portugal, in June 2018 to evaluate the author's digital holographic artwork then on display. The author obtained the experts' responses to the research through an analysis and evaluation of the critical questions they asked and she didn't answer. The silent researcher session was filmed; questions transcribed and processed using a general inductive approach for analyzing qualitative evaluation data (Thomas, 2006). This paper outlines the process used with this new critique method for research and discusses its benefits and drawbacks. The paper also presents the analysis of the artwork critiqued during the session; the artwork uses the z-axis of holographic space to depict a chronological narrative, contributing to the aesthetic development of the medium of holography.

2. Rationale: Why evaluate audience experience?

> 'It is impossible to directly observe the inner feelings of the audience…being able to explore the "interaction space" involves some form of evaluation with audience cooperation' (Edmonds, 2011, p.2).

The author's Ph.D. research relied both on the production of interactive artworks and an evaluation of audience experience of the work. The contribution to knowledge was in part a new use of the z-axis of holographic space in which the audience was implicated. Holographic space was defined graphically by Andrew Pepper in his Leonardo journal paper 'Holographic Space: A Generalised Graphic Definition' (1989. p. 298) which illustrates the space in which a holographic image can appear, that is: behind the holographic plate; floating in front of it, or crossing the image plane.

It has since been argued that the artwork can be said to include other spaces; Jacques Desbien describes the Dispositif of holography which includes;

> "the wall, room, ambient light, the specific optical characteristics and also the viewer". (2018, p.).

Artist and holographer Isabel Azevedo included time, as well as space, within her description of her animated digital holographic artworks (2014); there is a performative element in her artwork which includes the time taken for performance preparation, her collaborator's performance captured in her hologram and the time taken for the viewer to replay the hologram with their own performance swaying to and fro in front of the hologram. Other spaces include psychological and intellectual concepts: Martin Richardson noted that holographic portraits can push or break the proceoceptive boundary of the viewer, entering into their personal space when the holographic image escapes the frame of the hologram (1992); In her Ph.D. thesis Martina Mrongovius (2011) describes the affective impact holograms can have causing physical responses in the viewer who are compelled to move to animate the holograms. The author's research included psychological and intellectual spaces, producing a new affective geometry in a holographic artwork depicting a chronological narrative. The farther back in holographic space the image sits; the further back in time as depicted in Figure 1, shown below. The dotted line depicts the present moment.

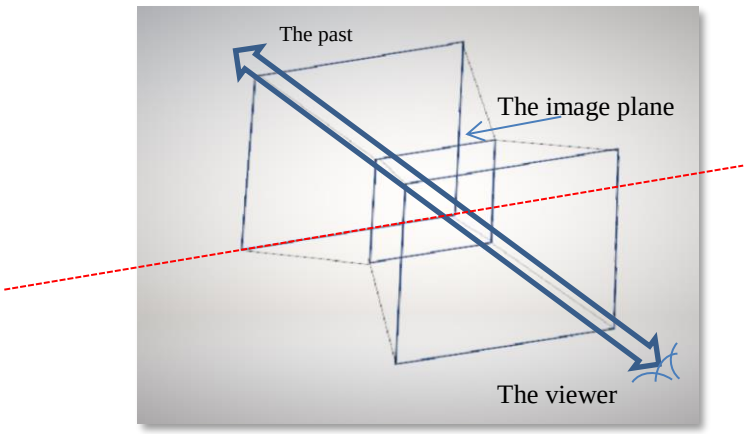

Figure 1. Depiction of holographic space including the Z-Axis marked with an arrow to delineate the structure of a chronological narrative.

The research evaluated the audience experience to determine whether the viewer was moved physically and emotionally by the artworks and could comprehend the new application of holographic space. A group of nine experts in art and holography attending the International Symposium on Display Holography in Aveiro, Portugal (ISDH2018) critiqued the holographic artworks shown below in figures 2,(a) and (b) and 3. Figure 2. a. depicts a WWII compass in which

an image of a man striding along with a walking stick appears to recede beneath the glass of the compass face. The hologram is transparent with the compass needle clearly visible beneath it. Figure 2 (b) depicts two portraits of the same woman with 50 years between them. A transparent hologram sits on top of a photographic portrait. The earlier holographic portrait is sunk beneath the surface of the later photograph.

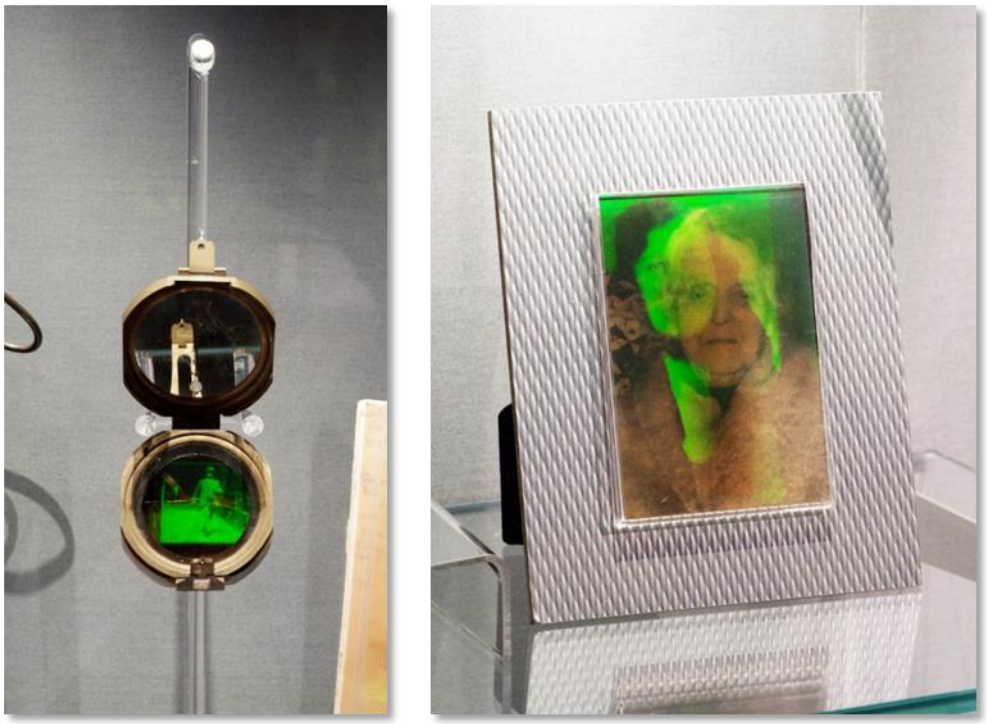

Figure 2 (a) Great Grandfather and (b) *Great Grandmother,* 2014, mixed media artworks created by the author.

The third artwork critiqued was *Passing Time, Distant Memory*, a digital hologram shown overleaf in Figure 3. As the viewer moves laterally in front of the hologram from left-to-right the photographs move to show space between them. The images furthest from the viewer on the left-hand-side of the image were the oldest. The image on the far right-hand side is taken from a video which animates as the viewer moves.

The first two holograms were handed to the experts to view under overhead lighting in the Aveiro Museum Gallery space; this required the manipulation of the objects to light the embedded holograms at the correct viewing angle. The third hologram was framed and lit as part of the exhibition.

Figure 3. *Passing time, a distant memory*, 2018, digital animated hologram, 65cm x 25cm, created by the author.

3. The silent researcher critique method

The silent critique feedback method was introduced to the author in 2014 by the facilitator of an informal professional artists networking group called 'Questions'. A 'silent student' method for the critique of artwork is used in a further education setting (Elkins, 2014), however the Hampshire based group of artists working in fine art and film, who met monthly to consider the work of different members of the group at each event, used the process in a professional context, rather than an educational one. A small group of three artists analysed and evaluated the author's artwork (including the works shown in figure 2) during a Questions session held on 13 October 2014, lasting for one-and-a-quarter hours. An audio recording was made of the session by the organiser and the discussion transcribed verbatim by the author (as recommended by Elkins [2014]). This process resulted in a wealth of qualitative data, which was coded, and themes generated and analysed using a general inductive approach. The purpose of this approach was to make links between the evaluation aims and the results gleaned from raw data (Thomas, 2006). NVivo Qualitative data analysis software was used to speed up the coding process with evaluation objectives providing a focus for the analysis.

The process and methods of coding and evaluation was developed throughout the study. In the pilot 'Questions' silent researcher critique evaluation, the validity of the coding was not established as the codes were developed by the author alone. There were a number of valuable lessons learned from this pilot critique and the process was modified and repeated later on in the research process using the group of experts in art and holography. Tove Dalenius, a De Montfort University researcher from the author's own group, was trained in rudimentary social science methods of coding and assisted with the holography critique. Delanius checked both the transcript and the coding produced by the author as a result of the silent researcher critique in Portugal and wrote a statement to confirm the authenticity of the process: "The transcript correctly describes the discussion and individual contributions and the coding process undergone by the author" (Dalenius, 2018).

The silent critique group differed from a focus group in two ways: firstly, the researcher did not speak during the session and was therefore unable to guide participants to answer research questions. Secondly, participants are encouraged to address the researcher only, rather than each other (however, in practice this was not always the case), whereas discussion between focus group participants would have been encouraged.

i. Silent Researcher Critique Participants

Artists working with holography at the ISDH2018 responded to a general invitation to assist with the evaluation of three artworks produced during the study, one of which was displayed on the wall as part of the exhibition Art in Holography: Light, Space & Time at the City Museum in Aveiro. The criteria for the selection of 'expert' participants or peers (Costello, 2009) included those with doctorates; doctoral candidates; long-standing or award-winning artists working with holography; and university or college teachers working in art and holography. The group who agreed to help consisted of three men and six women. Two members of the group had English as a second language. The author provided transport to and from the symposium to the City Art Gallery and refreshments after the session to recompense participants for their valuable time taken up by the research, which took them away from important networking opportunities at the international symposium.

The author gave the group an introduction to the questioning technique and the structure of the critique as it was largely unfamiliar to the participants, and at times they found it difficult to phrase their comments as a question. It proved almost impossible for one researcher who did not speak English as a first language; however it was unclear whether it was a language barrier that prevented the person from doing what had been asked of them. Despite being asked to address questions to the researcher only, the group did discuss the work with one another on occasion.

The session was filmed and audio-taped. The filming enabled a better understanding of artists' views through observation of their body language and gestures, which became an important part of one participant's method of communication as English was not their first language. Filming and recording were done by fellow researcher Tove Dalenius.

ii. Ethics

The study required ethical approval from the Art, Design and Humanities Faculty Ethics committee of De Montfort University as it used archival images which individuals are identifiable. Permission was obtained from family members to use their photographs, film footage and precious objects in the artwork and to retain the photographs indefinitely. Areas of concern regarding the ethics of the study as a whole included the gathering of information from or/and about human beings through on-line questionnaires, observation of human behaviour and focus group (critique) sessions. The critique session participants were notified of the following in an introduction:

- *that recording equipment would be used and that the discussions were to be transcribed.*
- *That anonymity was strictly preserved.*
- *whom the information they gave would be supplied and the purpose for which it would be used*
- *their co-operation in a research project was entirely voluntary at all stages.*
- *that the film and audio recording of them was to be destroyed after five years.*

Participants signed forms to agree to take part in the research process. All the participants were given the author's contact details and were made aware of how to see the results of the research process. The comments of the participants were anonymised and each person was given a letter of the alphabet to distinguish their contributions from oneanother.

4. Results

Purpose of the evaluation was to determine whether the artists could understand the concept that the Z-axis of holographic space depicted a chronological narrative; whether the viewers had a new experience in viewing the work; and whether it had authentic, affective impact. The results are as follows: the experts thought that the artwork was novel, depicted images and memories within

holographic space in a new manner, and had affective impact. They described their experience of the work was as follows:

> "A new way to present the past." (Expert I); "You are sinking memories into holographic space." (Expert G); "I felt sad when I looked at the image." (Expert A).

The audience of experts recognised that they were part of the time line and that the Z-axis of holographic space included their own present time and space:

> "…if we're thinking we're dealing with a timeline are we were part of that line by viewing the work?" [Laughter] (Expert B); "Okay. I mean it's about this moment. It's about this very particular moment." (Expert D).

The experts discussed different concepts of time inherent in the work they were shown, and included their felt experience of time and the concept of linear time.

4.1 Emotional impact

One of the research study's aims was that the work should have an affective impact. During the silent researcher critique participants reported feeling sadness and nostalgia. However, as the critique continued enabling people to talk without discussion, other emotional responses to the works became evident: there was slight discomfort, and then when the group broke the 'no discussion' guidance there was disagreement. Two experts expressed that they distrusted that the family history presented in the artwork was authentic. A sense of tension during the silent researcher critique was relieved with laughter when there was a suggestion by one expert that the family presented was not actually the author's and that the narrative presented as authentic was fictional. Another area of discomfort was due to three of the experts disagreeing with one another regarding issues of metaphysics and physics. Two participants shared concepts of objects containing memories, or the essence of the person that they related to. One expert jokingly referred to as the objects containing ghosts, and another, whose training had been rooted in science, firmly disagreed.

Two artists in the pilot evaluation had discussed the same issue of objects containing memories; however, the artwork does not contain many memories for the artist, as most of the photographs included in the works were taken before the author was born. Instead, the photographs suggest memories, someone's memories.

In evaluating audience responses to the work by professional artists in the pilot, it became evident that participants' inexperience with the media influenced their ability to read the work. One of the three who took part was unable to recall the different between monochromatic static holograms and full colour animated lenticulars. The audience either could not perceive differences of depth within the holograms, or just did not refer to them in the questionnaire responses. The depths were too subtle to be comprehended. The author adapted future artworks to greater depth in the Z axis in order to make the spatial aspect of the work more evident to the viewer and chose an audience of experts in art and holography to critique the artwork.

5. Benefits of the silent researcher critique method

Silence is recognised to be a useful interview tool when used by a facilitator, enabling the participant to complete their response (Lerpiniere, 2015). The benefits of using silence during the critique session was evident; members were given the opportunity to finish their thoughts when the researcher did not answer back, and when posed as a question, participant comments were carefully considered and formed. The silence avoided the need of either participant or researcher to feel defensive in preparing a response and the researcher was able to concentrate on listening. The

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process enabled a greater depth of engagement between the artwork, the researcher and the participant in the critique than is usually experienced. Lastly, the process ensured that the viewer was in control of describing their experience, even if it didn't relate to the evaluation aims and this was both a benefit and drawback of the method.

6. The silent researcher critique method drawbacks

A number of drawbacks of the silent researcher critique method were noted along with other more general limitations of the process of evaluating audience experience. The main drawback of the silent researcher critique method used in the research project was that the researcher was unable to steer the discussion when evaluation topics relevant to the aims and objectives of the project were not being covered, as is possible with a focus group. The length of time for the critique was also an issue: In his Art Critiques: A Guide Elkins describes appropriate timings and structure for a critique; which has, he argues, a recognisable start, finish and end:

> "A very simple reason why some critiques don't make sense is that they are too short. Even an hour can be barely enough to get acquainted with an artwork." (2014, p.27)

The critique participants consisted of international experts in art and holography who were gathered at the four-day International Symposium on Display Holography 2018, Aveiro, Portugal where the artwork was exhibited. The symposium had a packed schedule and time off for the participants was very limited. The symposium was triennial, with many participants only seeing one another every three years and, as such, the networking time was very precious for participants. The author arranged for a specific audience to gather for one hour during a symposium lunch time to evaluate the artwork, however the symposium time-table changed limiting the critique session to only 25 minutes. However Elkin's critique describes a situation between a teacher and students, which is a very different situation to when professional artists and researchers analysed works and the timing didn't prove too problematic.

Other drawbacks to the evaluation process are more general: Social Scientist David Thomas points out that the interpretation of qualitative data is influenced by the evaluators:

> "Inevitably, the findings are shaped by the assumptions and experiences of the evaluators conducting the study and carrying out the data analysis." (2006, p. 240).

The author had to upskill in social science approaches to ensure a robust method for the research process.

7 Conclusion

The artwork produced in the research study described uses the Z-axis of holographic space to depict a chronological narrative, contributing to the aesthetic development of the medium of holography. Questions asked during the research included whether an audience had been given a new experience with authentic, affective impact when viewing the new artworks. An evaluation of audience experience was found to be necessary because an audience was integral to producing the animated artworks. The aim of the summative evaluation was to determine whether the research study's questions had been answered and a contribution to knowledge confirmed. (Edmonds, 2006). The silent researcher methods used to evaluate audience experience of the artwork produced described in this paper proved successful in confirming that the research questions had indeed been answered. The benefits and drawbacks of using this new critique method for research have been outlined. In conclusion the critique method was found to be a successful tool and will be used by the author during future projects and exhibitions.

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References

Alarcon-Diaz, X. et al. 2014. Evaluation in Public Art: The Light Logic Exhibition. In: Candy, L. and Ferguson, S. (eds.) Interactive Experience in the Digital Age: Evaluating New Art Practice. London: Cultural Computing Series, Springer, pp.187-208.

Azevedo, I. and Richardson, M. 2014. The Place for Performance in the Digital Holographic Space. In: *Proceedings of SPIE – The International Society for Optical Engineering 9006*, San Diego, January 2014.

Desbien, J. 2018. The Dispositif of Holography. Arts 2018,7. MDPI. Available on-line: [Accessed 19/07/19].

Edmonds, E. 2010. The Art of Interaction. In: *'Create 10' Proceedings of the 2010 international conference on The Interaction Design*, UK 30 June – 2 July 2010. Swindon: British Computing Society, pp.5-10. Available from: https://www.bcs.org/upload/pdf/ewic_create10_keynote3.pdf. [Accessed 22/07/18].

Elkins J. 2014. *Art Critiques: A Guide*. Washington DC: New Academic Publishing, p.62. Available on-line: https://www.academia.edu/3315720/Art_Critiques_A_Guide_second_edition_chapters_1-7 [Accessed 19/07/19].

John, P. 2018. *Temporal and Spatial Coherence: chronological and affective narrative within holographic and lenticular space*. Thesis. (Ph.D.) De Montfort University. Available on-line: https://www.dora.dmu.ac.uk/handle/2086/18127 [Accessed 18/07/19].

Lerpinier, C. 2015. *The Textile Archive: curating personal histories and family narratives* (Ph.D Thesis) De Montfort University. Available on-line: http://hdl.handle.net/2086/11438 [Accessed 18/07/19].

Mrongovius, M. 2011. *The Emergent Holographic Scene: Compositions of Movement and Affect Using Multiplexed Holographic Images*. Unpublished Thesis (Ph.D.), RMIT University.

Onwuegbuzie, A, and Dickinson, W., et al. 2009. A Qualitative Framework for Collecting and Analyzing Data in Focus Group Research. *International Journal of Qualitative Methods*, 8 (3). Available from: http://journals.sagepub.com/doi/abs/10.1177/160940690900800301 [Accessed 28/08/18].

Richardson, M. 1992. The Invisible Engineering of Holographic Illusion. *Holographics International*, SPIE, 1732, pp. 444-446. Available from: https://vimeo.com/46436335. [Accessed 19/03/2019].

Pepper, P. 1989. Holographic Space: A Generalised Graphic Definition. [illustration]. *Leonardo: Journal of the International Society for the Arts, Sciences and Technology. Holography as an Art Medium*, 22 (3/4), p. 298. Available on-line: http://www.jstor.org/stable/1575382. [Accessed 29/09/17].

Thomas, D. 2006. A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27 (2/June), pp. 237-248.