

BRINGS REALITY THROUGH VIRTUAL REALITY: IMPACT STUDY OF FESTIVAL FILM DOKUMENTER'S VR SHOWCASE ON THE ISSUE OF DISABILITY

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ABSTRACT

Film festival is a place to convey specific film for specific purposes. Festival nowadays were broaden their medium, not only on screen but also involved more audience with new technology mobile devices. As the longest running documentary film festival in Indonesia, Festival Film Dokumenter (FFD) have been concern about the impact of film screenings to the audience. Since 2016, FFD have been intend to using several medium to convey disability rights awareness. FFD conducted the program Virtual Reality (2016) and The Feelings of Reality (2018). Both of those programs were using Virtual Reality (VR) technology during the festival showcase. In 2016 program, the audience even placed in the replica setting to have a similar situation with people with epilepsy.

VR is the new attempt to brings the new documentary experience. This technology lead the impression of reality to the audience. VR known as a device that can enhance the audience cinematic experience. In documentary filmmaking, which always closely associated with the depiction of reality - in a way, the VR technology can provide different perspective on perceiving documentary. In documentary screenings, VR have a powerful strength on bringing the reliable reality which closer to the audience.

Festival offers the discourse on watching the documentary into experiencing the documentary using VR. This paper will discuss about how festival provide alternative medium to present disability issue to the public. Vice versa, how audience raised their awareness through VR technology. This study conducted in qualitative impact study that focused on in-depth interview with both festival

organizer/programmer and audience. This study found out that VR technology identically constructed the reality. This method is the most effective way to raising the awareness because people would feel how to live with disability closely and clearly. Rather than just watching a film, experiencing disability through VR prove a different impression to the audience. By presenting the actual condition of people with disability, VR succeed to give more heightened impact and awareness on this issue.

Keyword: Virtual Reality, Disability, Festival Film Dokumenter, Impact Studies

INTRODUCTION

Virtual reality (VR) is strongly associates with the development of personal computer and digital simulation. This mechanical machine allows spectators to watch short movies while having multiple senses involved (sight, hearing, touch, smell). The using of VR in documentary festival is not a new ways of documentary showcase. Betsy A. Mc Lane share her VR experience and observations at International Documentary Film Festival Amsterdam (IDFA) 2014 as an obsession. She continued, “In the DocLab VR Screening Room, one could make a day-of appointment to sit down, put on the headset/earphones and enter a filmmaker’s universe”. During my visit to DMZ (Demilitarized Zone) Documentary International Film Festival, South Korea 2018, this festival brings the issue of war by using VR documentary. Through VR, I was able to travel to many places and saw uncomfortable scenery of wars. Wiedle (as cited in Aston and Gaudenzi, 2012) said that in the context of aesthetic hybridizations between films, games and events, the documentary form is undergoing significant transformations resulting in a distinct relationship between content and audience. As one of the keywords, interactivity in its different modes (Gaudenzi, 2013) and dimensions (Nash, 2014) promises an opening of documentary artefacts to engage users (formerly known as viewers) actively in the process of negotiating individual experiences and perceptions of the world.

Festival Film Dokumenter (FFD) is the first and the longest running documentary festival along Asia Pacific since 2002, located in the centre of cultural and art Yogyakarta, where no other kind of initiative before. FFD initiate by a group of activist student as their respond to democratization after the falling of new order regime. This festival aim to give alternative perspective from mainstream media and journalism through documentary. FFD brings the spirit along their journey to recording the remnants, searching for the unseen and finding insight as their jargon. This festival always taking an alternative view and stand for marginalized society.

FFD have been concern about the impact of film screenings to the audience. They spreading the unpopular issue and raising people awareness. Aside from that, FFD also support the development of documentary medium in Indonesia. FFD starts to exploring VR at 2016 with the program *Virtual Reality* and continues the idea of bringing reality through VR with ongoing project *The Feelings of Reality* started at 2018. Their belief to give a different perspective and support the abandoned will be implemented in this new initiative. This study will analyze how their focused on impact to the audience effectively adapted by using VR on specific issue.

According to Jerald (2016), VR has been tied by bridging concept like “mixed reality” (Bower, Lee & Dalgarno, 2016). As Nardi claims (2015), reality and virtuality are merging indeed, and they are several grey zones in between the two approaches (e.g., 360-degree videos on mobile devices). VR has been used for addressing condition and situation that are challenging to experience in real life (Lau & Lee, 2015; Webster, 2016) and allow for the acquisition novel perspective (Hoffler & Leutner, 2011; Lee & Wong, 2014). VR can support an immersive “liveness” (Auslander, 2008) - i.e., a mediated experience that aims to highlight the “here and now” rather than stage post-product content. The former VR relies on an alternatives setting to experience, while the latter improves existence elements with additional layers of meaning.

Another study on VR has been explored through technology (Ahn et.al., 2001) and education perspective (Aananthan, 2018). The important study of VR was found on “The VR Book, Human-Centered Design for Virtual Reality” (Jerald, 2016) that using the term as a computer-generated digital environment that can be experienced and interacted with as if that environment were real. Here, the term “real” refers to the hypothesis about VR that aim to extend sensorial environment of an individual by mediating reality through the technology. Another study of VR conducts the essential of VR and AR on the education and pedagogical impact (Gandolfi, 2018). This study gives the overview how VR technology could improve the teaching system and its shows that VR could give a sense of “realness” on the class. This study is important to see how the technology intervention changes human environment. This research will take the same path, shows that VR changes human perspective. This paper will not just explore VR as a medium but also how its deliver the issue to the audience.

FFD offers the discourse on watching the documentary into experiencing the documentary using VR. This paper will discuss about how festival provide alternative medium to present disability issue to the audience. Vice versa, how audience raised their awareness through VR. This study begins with the hypothesis that VR brings the new way and

trustworthiness on experiencing documentary. VR assume will lead the impression of reality to the audience. As a device that enhance the audience “realness” cinematic experience, this term is closed with the documentary film characteristic. In documentary filmmaking, which always closely associated with the depiction of reality, VR can work closely to represent the reality. In documentary screenings, VR is the best way to brings the reliable reality into the audience. VR even makes the audience in the real condition with virtual representation.

MATERIALS & METHODS

This study explores FFD practice on VR documentary in two different years at 2016 and 2018. Instead of comparison study, this research will observe the two different program, concept, and showcase within the same issue on disability. On the latest festival, this study expand to the audience impact study to getting know how VR effectively convey the issue. The impact study on the 2016 festival would not be possible because of the years gap and the possibility to access the audience.

FFD 2016 VR program entitled *Virtual Reality* consist of several events, exhibition, presentation, and interactive performance. This year VR program was supported by British Council. Before the festival begin, FFD held the pre festival event and I was involved in the presentation about advocacy activities that had been done by the filmmaker who having neurological disorder (epilepsy). After the discussion, audience invites to experiencing life of being suffered from the complexity of filmmaker’s illness through VR interactive performance. Besides the VR showcase, FFD also screened *Notes on Blindness* a prestigious film about journalist who lost his sight with highly cinematic and sound crafted. Interestingly, this film adapted to a documentation of journey in the outside of human vision, touching testimonials of the journalist phase of loss and his rebirth by using VR on *Notes on Blindness: Into Darkness*.

The 2016 FFD VR showcase is important to this study because of its impact on how festival improve the using of VR in the next three years. At FFD 2018, festival coming up with the bigger project of VR by develop the new way of documentary exhibition and filmmaking. Together with Voice Global, FFD initiate two years project of VR exhibition, workshop, and implementation. This research will focus on the first phase of VR exhibition and program launching entitled “The Feelings of Reality”. At FFD 2018, they introduce the technology of VR to the filmmaker and audience during the first phase. Besides the VR showcase, FFD also invites the people with disability key person and stakeholder to launch and continues this project on the following year. The launching started with film screening

So-Ina (2008) and continued with focus group discussion (FGD) between audience and invitations.

This study will limit the research scoop on the only VR showcase to have clearly impact of using VR for specific issue. Another program such as discussion, screening and FGD will not be covered on this study. With the snowball qualitative ethnography approach, this research starts from my participant observation during FFD 2016 as an audience and FFD 2018 as a committee and one of programmer. The snowball approach gives me independency to observe the important evidence during the years gap. This research became interesting because I engaged in two different stage/position within period of data collection. I was just an audience back at 2016 and became a programmer at FFD 2017-2018. Even though, I have responsibility in another program aside this VR showcase. To keep the objectivity of this study, I am not involved in both programming and arranging the program of “Feelings of Reality” at all.

This research conduct on several in-depth interviews with audio-visual background audience; film lecture and film student. Their background on audio visual medium gave more comprehensive interview data about “realness” perception and its impact to delivering issue, instead of technological gap impression. Not only audience, programmer and committee who conceptualized and realization this project were include as informant in this research. The combination of audience and committee in this research would give the complete data on how VR expect to be a medium for conveying issue and how its effectively transferred to the audience.

RESULTS

This research started with the observation in both VR showcase at FFD 2016 and 2018. VR showcase at 2016 is the first encounter for me to experiencing VR, especially for specific purpose. VR before was just an equipment to playing games in my mind. I start to triggered by this technology by firstly join the presentation from Jane Gauntlett, a filmmaker who made interactive VR, *In My Shoes : Dancing With Myself* (2015). This VR takes me to the imaginative world. I was disturbed by its visualization and suffered from strange feeling. I was never imagine how technology could bother my comfort zone before this VR interactive section.

Like the astral explorer, collaboration program between FFD and British Council through series of program UK | ID 2016 invites audience to do displacement, getting out of the body, then perch in another body with the representation of Jane Gauntlett, a VR

filmmaker. Jane is a person with neurological disorder who is experiencing life full of surrealism, embarrassment, and affections over epilepsy that she suffered. The complexity of Jane's illness seemed to present a 'beast' that makes her seem like unable to controlling her minds, words, and what she is doing. The attempts to incarnate as Jane was presented on Exhibition, Presentation, and Interactive Performance in Melting Pot Café, Suryodinigratan on Wednesday (11/23/2016). This program was opened for the public so then the audience could take part on discussion <https://ffd.or.id/2016/en/program-highlight/virtual-reality-vr-experiencing-the-reality-of-disability/>.

After the discussion, audience invites to sit on the chair and faced round table. Two people arranged to sit face to face then using VR head-mounted display (HMD). During the 13 minutes 3600 VR video, audience seated in a virtually set of restaurant with partner in front of them before they felt the epilepsy attack. Just before virtually fainted, this showcase arranged the audience to smell strange fragrance to give similar feeling of dizziness during epilepsy relapse. This interactive VR placing the audience in the simulation of being disability.

At FFD 2018 *The Feelings of Reality*, four VR documentary selected in this program. According to FFD official website, with the support from Voice Global this program aim to expand the influence of films voicing disability issues by means of VR-based documentary. VR is chosen as a medium because its speciality to invite audience into experience reality within an immersive environment (<https://ffd.or.id/en/ffd-2018/the-feelings-of-reality/>). A bit different with FFD 2016 that using interactive VR, this year they choose all the VR with documentary approach. This approach invites the audience into the actual subject's condition and location. Audience is more like an observer than an active performer as shown at *In My Shoes : Dancing with Myself*. Through *The Curse of Palm Oil* (2018), VR presented the lives of indigenous peoples in peninsular Malaysia amidst the development of the oil palm industry which further narrowed their living space. *Cuba's Blind Baseball* (2017) capture the story of baseball fever that hit the blind community in Cuba. *Gaza's Amputee Football Team* (2018) presents how sports continue to live amidst the obstacles created by the annexation of Israel in Gaza. *Only Living with Disability* (2018) that placing audience in front of the subject so we could feel how challenging is playing basketball in wheelchair. This VR records Kim Bany the founder of the basketball association for wheelchair users in South Sudan. Located in the lobby of festival main venue, Taman Budaya Yogyakarta, this three VR installation were success engaged festival audience.

This study also explores program description based on program book to look what is VR showcase aims to the audience. At 2016, FFD noted that

“we want you to join us to discuss how VR technology can give **significant impression** to our compassion. Two works in this program present an **alternative finding on how the disabled can overcome their disabilities**. The interaction with Jane Gantlett’s *In my Shoes : Dancing with Myself* will offer special experience and POV; how **the mixture between cinema, theatre, and technology** all blended into the VR medium” (FFD program book, 2016).

FFD 2018 explores more on their effort to not just introduced the VR on raising the awareness, but also their extended program to facilitate the making of VR on disability issue. As read on FFD 2018 program book, they actually bring the same 2016 anxiety but with one step ahead to introducing VR documentary into Indonesian context.

“The walls limiting the mobility of the disabled community is getting thicker and stiffer. Unequal accessibility, lack of infrastructure, on top of the ableist ideology, emphasize that there is a clear difference between the able and the disabled. With the support from Voice Global, FFD holds “The Feelings of Reality” to **expand the influence of films voicing disability issues** by means of VR-based documentary. VR is chosen as a medium because **its specialty to invite audience into experience reality within an immersive environment**”(FFD program description, 2018. <https://ffd.or.id/en/ffd-2018/the-feelings-of-reality/>)

I put the bold on the important notes that explores how organization expectation through this program and how audience react to their initiative in the discussion. From FFD 2018 program book, we could see their commitment to maintain VR as an important medium of change. Aside from program book, the interview with programmer is giving significant data about what is the insight from bringing VR to convey the issue of disability. As the festival commitment and concern about impact, this interview data is starting point to getting know how the programmer meet their expectation. At FFD 2016, the informant says,

“Everyone can have any form of disability, it might be physical, cognitive, mental, sensory, emotional, growth, and even the combination of those. Even though we might be familiar with that, there are tendencies to ignore them. We are **trying to invoke consciousness inside all of us while trying to give a picture on how hard people with disability to access public spaces**. We realize that the effort to

provide access or to remind public the rights of the disabled has been very little to give significant affect” (Interview with programmer, November 23th 2016).

At FFD 2018, festival brings the same issue with some technology exploration. Also, they scale up the expectation to the impact of VR between audience as stated,

“FFD have been familiar with the issue of disability. This is one of important topic for public. We believe that film is a form of social intervention which offers different perspective and impact on the issue. Through this background, we are encouraged by **how documentary itself can be a tool to amplify this impact?** Hopefully, VR will able to bring us closer in experiencing people with disability position. There will be **a post-experience effect that is completely different to the audience.** The most important thing is **how this experience could changing people's perspectives in seeing disabled and disability issues**” (Launching Speech “Feelings of Reality”, 9th December 2018).

From the citation above, the programmer aware that the technology intervention on experiencing VR would give alternative perspective to invoke (normal) audience. It will raised their impression by making the reality of disabled virtually realistic. Besides their inferiority of giving significant effort at 2016, the launching speech at 2018 shows their effort on giving the VR experience to change audience perspective.

VR Audience impression are the crucial thing to discuss in this research to know how its exactly the impact from the audience point of view. Two of the audience here were already familiar with documentary form, but not with VR technology. They overall feels a sensation of being in the same environment with the subject. Both of them even mention about the fourth wall that build in conventional cinema was broke on VR. One of them feels it was strange, in contrary one another reaching out the program objective, the feelings of reality.

“I feel strange. I feel that fourth wall when I am being conventional audience was blurred there. Because there’s a position where I watching a room that not completely I can watch. **I am being somebody on the film and confined by the reality wall of the film itself.** It feel strange to be an audience with those kind of limitation” (interview with Annisa, film lecturer, Universitas Dian Nuswantoro, Semarang).

“Watching VR extremely giving me a new experience. I used to be seen the film setting from in front of camera, but **here I can see the screen from every space**

from every space dimension. I could follow the people with disability turning around, seeing their everyday life and living space condition. Even though, I feel dizzy when I'm watching for some times. The most favourite thing from this program is that **I really having the *feelings of reality* on watching film, especially this documenter. It is like I am entering the world of the subject"** (interview with Riri, film student, Institut Seni Indonesia Yogyakarta).

The interview below shows that the used of VR mostly influence the audience's vision about technological innovation. Audiences tend to capture VR technology as an important finding rather than an issue that trying to conveyed through VR. From both of informant, VR was not directly changing the audience perspective and the impact of disability issue was minor. Instead of the issue, Riri a film student is tend to used VR as her exploration in artwork and an alternative film screening.

"After watching VR, I am thinking that in this modern era, film could used various media, such us VR. It's far from mainstream film using detail close up shot, long shot, etc **because from just using VR it will construct the effect of reality.** Even, **we really could breaking the fourth wall because of unlimited space dimension.** As a filmmaker I am thinking to making a film with this technology. I am **curious to tell the experience of anxiety disorder or the effect of people with mental illness by using VR as subject's eye.** At FFD, people could turn around with the wheelchair, but I'm also curious with interactive method that explore movement or action. So people could walk or even trapped inside the room. It will be very cool that this kind of screening could widely circulated to the society for another option on watching 2D screen. Forget 3D, 4DX, VR cinema is the new wave of cinema." (Riri, film student, Institut Seni Indonesia Yogyakarta)

The term of "glorification" on VR as a medium stated by Annisa. She declare that VR could giving the same experience with disabled, but not enough to change her perspective to more involved in this issue. Her pessimistic on VR as a proper way to convey the issue of disability is cited below.

"For the issue of disability, yes I feel **it's works to show limitation of movement for the audience.** But, I could not find better value from this issue, because I don't have any experience on watching VR in another issue. **I am not sure about disability "glorification" well properly suited with VR.** I am in doubt with the impact from this initiative. **It was not changingmy perspective on disability issue. I think there's no urgency to talked about this issue through VR."** (interview with Annisa, film lecturer, Universitas Dian Nuswantoro, Semarang).

This results shows similarity between my experience during participant observation and the interview data. In contrary, there is a contradiction of assumption that there would be significant impact from VR to the audience's response. In the next chapter, this study will discuss about that by gathering all the data to answer the research question. The argumentation about realness characteristic of VR and how its implies audience perspective will explore later.

DISCUSSION

I begin the discussion in this chapter with the concept reality. The reality through VR technology makes this study more useful. This research aim how the reality perceive through the audience. Is the reality reflect on the VR and how it's impact perception further about the issue. Here, I used the term of "realness" to determined the real feeling within virtual tools.

The contemporary understanding about reality has been broader that takes many forms and can be considered to range on virtuality continuum from the real environment to virtual environment (Milgram & Kishino, 1994). The real environment is the real world that we live in. Although creating real world experiences is not always the goal of VR, it is still important to understand the real world and how we perceive and interact with it in order to replicate relevant functionality into VR experiences. The virtual environment are artificially created without capturing any content from the real world. According to Sutherland (1965) the reality system in VR works with the screen is a window through which one sees a virtual world. The challenge is to make that world look real, act real, sound real and feel real. Ideally, the technology will not be perceived so that users forget about the interface and experience the artificial reality as if it is real (Jerald, 2016).

VR documentary is the effort of presenting the real environment as same as virtual environment. Documentary approach in representing reality blurred the concept of real environment and virtual environment that typical on VR. It means VR documentary actually could overcome the VR challenge to make the world look real, act real, sound real and feel real (Jerald, 2016). Based on FFD committee objective and audience experience, the question about how VR transforming the reality confirmed by taking the viewers into the same environment, both real and virtual with subject. In *The Curse of Palm Oil*, audience were travel to the real (but feel surreal) wide part of land deforestation, takes them to be the indigenous people who losing their land of life. As mentioned by Riri, she even could follow the people with disability turning around (*Living with Disability*), seeing their everyday life (*Cuba's Blind Baseball*) and living space condition (*Gaza's Amputee Football Team*). She even could feel the joyous being disabled.

Based on the interview, both of informant successfully crossing the fourth wall and entering limitless space of the real condition from people with disability. This data is suited with the reality system works by VR that explain the screen is a window through which one sees a virtual world (Sutherland, 1965). It means that VR as virtual world representation could perform the expectation of “realness” to the audience. This finding shows that VR could provide the alternative medium of reality which is suited with documentary festival objective. But, is this finding directly effect audience perception of disability world? Is the “realness” effect on VR will construct the effect of audience reality?

Unfortunately, awareness of disability issue through VR is cannot be prove from the response of FFD 2018 audience. From the data above, this study found that VR could successfully giving significant impression and perform as alternative documentary exhibition. Audience could pictured how hard people with disability access public spaces and they got the immersive virtual environment, but those were not be enough to invoke their consciousness. The study failed to find the festival objective to changing people’s perspective in seeing disability issue that match with audience impression on VR. Audience could not find another value on representing disability in VR than just showing the reality of disabled. Annisa even in doubt about this idea and argue that glorification of “realness” on VR was not not changing anything on her perception about disability.

Then the discussion explores reason on why VR documentary does not meet the expectation as a tool to amplify the impact? And how a post-experience effect could not completely makes a different to the audience? This study found that VR actually creates the technological gap between audience who not commonly used this technology. FFD success to expand the voice of disability through VR, but it was not influence a lot. The audience could feel the immersive environment creates by VR, they experiences reality even its virtual, but it was all shows VR as the new innovative technology. The mixture between cinema, theatre and technology on VR showcase at FFD could make an impression of alternative documentary screening but not more than that.

Based on this study finding, VR failed to raised audience awareness on disability issue, but success to invites audience to the real environment of disabled through virtual environment. This could be a technology that actually challenging. Audience are still stuttering with the difference of VR visual representation. Their euphoria while enjoy being at the same setting with subject place themselves as an observer but not yet involved in subject’s problem/s. Audience were not role as an active performance on VR documentary. This might be different than what happened at *In My Shoes : Dancing with Myself* where audience acts as subject with neurological disorder. Unfortunately, this study is not taking

the path that go through on the content and style of VR and how it's impact to the audience. This limitation makes the result of this study similar with the study of VR utility on education which claim that technological gap limit the used of VR, in this case social change.

On the theory of communication within VR, this study shows that VR documentary showcase at FFD success in delivering direct communication in VR but failed to build indirect communication in VR. This theory was found by Jerald (2016) that argue VR as intuitive communication with the human. Communication can be broken down to two different way. In VR direct communication developers insert an artificial intermediary between the user and carefully controlled sensory stimuli (e.g., shapes, motions, sounds) that users fell like they have direct access to those entities. If that can be achieved, then users will perceive, interpret, and interact with stimuli as if they are directly communicating with the virtual world and its entities. Indirect Communication in VR includes the user's internal mental model of how VR world works (e.g., the interpretation of what is occurring in the VR world) and indirect interactions. Based on both VR communication understanding, the developers or in this case the festival have been involved the audience to fell like they have direct access to disability entity. Audience understanding on disabled life proved their response on communicating with the virtual world as it is real. But in another hand, audience failed to understand the indirect communication designed by FFD programmer and committee. Because of technological gap, audience could not perform the interpretation of what is occurring in VR world. VR documentary showcase at FFD could not build the new interpretation and interaction outside the VR world regarding disability issue.

CONCLUSION

From the findings above, it conclude that using VR documentary in festival is still at the early phase. Despite their growing popularity and immersive sense its create to the audience, how to use VR for social change is still a complex challenge to address. It means that the effort to convey issue through VR still not implemented. But this conclusion take a new challenge to improve VR as an alternative medium for screening. However, audience response on VR are positive and using this technology brings the new opportunity on developing documentary medium.

REFERENCES

- Ahn, Sang Chul, Ig-Jae Kim, Hyoung-Gon Kim, Yong-Moo Kwon, Heedong Ko. (2001) *Audience Interaction for Virtual Reality Theatre and Its Implementation*. VRST '01 Proceedings of the ACM symposium on Virtual reality software and technology Pages 41-45. Baniff, Alberta, Canada — November 15 – 17.
- Aananthan, M. (2018). Augmented Reality and Virtual Reality. *Journal of Engineering Research and Application* www.ijera.com ISSN : 2248-9622, 8(6), (Part -V), 38-45.
- Aston, Judith & Sandra G. (2012). *Interactive documentary: setting the field*. *Journal Studies in Documentary Film*, 6(2).
- Auslander, P. (2008). *Liveness Performance in a Mediatized Culture*. London: Routledge.
- Celine. (2018). *Virtual Reality Filmmaking: Techniques & Best Practices for VR Filmmakers*. New York: Routledge.
- Diana, Bernadeta & Ellyta R. *Virtual Reality (VR) : Experiencing the Reality of Disability*. Diakses pada 20 April 2016. Didapat dari [https://ffd.or.id/2016/en/program-high light/virtual-reality-vr-experiencing-the-reality-of-disability/](https://ffd.or.id/2016/en/program-high-light/virtual-reality-vr-experiencing-the-reality-of-disability/).
- Gandolfi, Enrico, Richard E. Ferdig, & Zachary Immel. (2018). *Educational Opportunities for Augmented Reality* on Second Handbook of Information Technology in Primary and Secondary Education. Springer International Handbook of Education.
- Gaudenzi, S. (2013). *The Living Documentary: from representing reality to co-creating reality in digital interactive documentary*. Doctoral thesis, Goldsmiths, University of London.
- Dalgarno, J., Mark J., & Gregor K. (2014). *Handbook for Educators About. The Blended Synchronous Learning Project*.
- Höffler, T., N, Leutner. (2011). The role of spatial ability in learning from instructional animations—Evidence for an ability-as-compensator hypothesis. *Computers in Human Behavior*, 27(1), 209-216.

- Jerald, J. (2016). *The VR Book : Human-Centered Design for Virtual Reality*. Morgan & Claypool.
- Mc Lane, Betsy, A. (2014). *Everything Changes but The Question Remains The Same: Observations at International Documentary Film Festival Amsterdam*. Unpublished.
- Nash, Unsworth, Keisuke, F., Edward, A., & Edward, K.,V. (2014). *Working memory and fluid intelligence: Capacity, attention control, and secondary memory retrieval*. *Cognitive Psychology*, 71, 1-26.
- Sutherland & Ivan, E. (1965). *The Ultimate Display*. Proceedings of IFIP Congress, 506-508.
- Wiedle & Fransizka. (2018). How to reconcile that flinch: Towards a critical analysis of documentary situations in 360 and VR environments. *Participations Journal of Audience & Reception Studies*, 15(1).
- Program Book. (2016). Festival Film Dokumenter 15: Displacement.
- Program Description, Festival Film Dokumenter 17. (2018).
<https://ffd.or.id/en/ffd-2018/the-feelings-of-reality/>.

INTERVIEW LIST

- Alia Damaihati. Melting Pot, Suryodiningratan, Yogyakarta. November, 23rd 2016
- Aditya R. Pratama. Launching Speech at Taman Budaya Yogyakarta, December, 9th 2018
- Annisa Rahmatika. Festival Film Dokumenter Yogyakarta, March, 10th 2019
- Riskya Vania. Institut Seni Indonesia Yogyakarta. April, 23rd 2019