Narrative Techno-enhancement: The Impact of The Digital Visual Effects (DVFx) in Creative Narrative Performance

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ABSTRACT

Globalization of technology primarily in the field of film, media and communication studies has also impacted the creativity in visual presentation and storytelling. The occurrence of technological changes that involve creative work will undoubtedly lead to a new assessment of creativity. Hence, technology and creativity are likely to represent a new creative possibility and measurement in the field of film production. Digital Visual Effects (DVFx) provides new kind of creativity based on technology to the creative visual presentation and creative narrative enhancement. We have learned that story and narratives are the priorities that need to be secure in a movie; however, the spectacular element produced by using DVFx show the progress and development of technology used in the film production process, especially to the creative narrative. Hence the question that needs to address is; how these elements of technology integrated with the story and narrative filmmaking? Generally, this article will focus on the role and impact of DVFx as narrative techno-enhancement in the storytelling, and narrative presentation compared the technical visual presentation aspect. Precisely, this article analyses the impact on DVFx among professionals in Malaysia, India, and Australia's film industries to enhance creative narrative performance. Narrative interstate relies on our understanding of the use of technology to create and convey stories. Presentation of stories also means communicating and transferring the meaning to the audiences. In addition to functioning as narrative technoenhancement, DVFx opens the exploration of value in creative storytelling such as digital narrative and digital interactive storytelling for the audience in the 21st century.

Keywords: Digital Visual Effects, Narrative, Digital Storytelling, Interactive, movies.

INTRODUCTION

According to Kelly (2018), story and narrative are two different fundamentals element in film studies but interrelated with each other. The story is the content that people are trying to deliver and convey to the audience. The elements that structured the story consist of events (including actions and events in the plot), characters (including the aspects of acting, and character) and settings (including the aspects of the background, place, and props). Bryan (2017) described the *Freytag* triangle (which includes sequence introduction, rising action, climax, falling action, and a denouement) as the primary foundation in the formation of a story. It is not easy to produce a terrific story because great many more on the qualities are needed. The narrative also refers to the presentation of stories and expressions in visual form. In other words, the narrative is how a story is presented or told to the audience.

Stories and narratives do not rely merely on the field of filmmaking. Both of these concepts exist in other art fields such as stage performances, music, novels, and others. However, in the area of film studies, in particular, a story can have a sense of narrative style that relies on the creativity of the director and the production team. This narrative-style presentation also present through the plots that structured the story. According to Kim et al. (2018), the narrative serves to explain how the events told in the story. To explain the event, narratives were divided into narrative linear and narrative nonlinear. Narrative linear or

classical Hollywood narrative is an easy-to-understand narrative, with linear storytelling involving cause-and-effect structures, a goal-oriented protagonist and a simple solution at the ending. In a purer sense, linear narrative involves three phases; beginning, middle and ending. Previous scholars such as David Broadwell, Janet Staiger, and Kristin Thompson classify narrative linear as a narrative that tells the story clearly, vividly and has some element of entertainment. However, a movie should not follow the linear narrative arrangement, and it is not something that becomes standard in the worldwide film industry.

Nonlinear narrative widely used in the 21st-century filmmaking as the storytelling pattern in this narrative is more challenging than the linear. Nonlinear narrative is a technique that portrays events in a story without linear chronology. This technique means that the beginning of the story can start with ending, climax, or in any other way. This narrative technique is widely used in horror, action and mystery movies, as it is capable of curiosity and hook to the audience. The use of this technique also often involves special impression techniques such as flashback, flashforward, and retrograde narratives. The development of today's film technology has enabled the stories narrative presentation using these techniques intensified through the use of DVFx. Additionally, the use of visual images, texts, and music backgrounds is an additional technical element that helps narrative performances in a film. This narrative presentation is an element that the director should aware most, as the narrative will also influence and determine the perception and acceptance of DVFx had some indirect impact on narrative performances of a film primarily involving visual presentation aspects and character development.

Carmona (2017) states that narratives in a story can be understood as a form of communication through the experience of the filmmakers to the audience and vise-versa. Communication in this visual form is not as secure as the story transferral process from the director to the audience needs to be presented on the screen or in other words in the form of audiovisual presentations. Unlike narrative-written novels, Metz (1991) states that narrative in the film is dependent on a group of images presented in a structured form that may involve different sounds, pictures or images and arranged according to the sequence. In other words, the sequence and scenes in a movie create a narrative chain for a story. The production of this sequence and stage will also be more attractive through the help of production elements such as acting, character, a setting of time and place and props as well. Bordwell (2008) described the narrative as the activity of selecting, organizing, and rendering story material in order and the primary objective of the narrative is to convey the story to the audience. Bordwell characterized the three principles in the film narration process of *fabula*, syuzhet, and style. Fabula can be understand as a story that combines action as a chronological effect, and that occurs within a particular time and space while syuzhet refers to the plots that structured the story, which is *fabula*. Hence, the approach of DVFx technology in enhancing narrative quality can attribute to Bordwell's third principle of style. In this principle, the style refers to the technical processes involved in story presentation, plot, and sequences such as the use of cinematic elements such as composition, cinematography, editing, and sound. Bordwell argues that the combination between the syuzet and the style will shape the narration.

LITERATURE REVIEW AND RESEARCH BACKGROUND

The expeditious of narrative progress has evolved from the aspect of presentation and presentation platforms, starting from conventional methods to more modern methods involving digitization. This technological innovation has also facilitated the diversity of audiovisual narrative especially involving the digitization (Overbergh, 2014). Technology also creates the potential of diversity production and narrative format as well as the story delivery methods. Digital narratives arise as a result of the development of the first generation of storytelling involving such as speech and writing method to more modern generations involving digital platforms such as the use of web and software. The 21st-century movies digital era challenges us to the understanding of the 'medium' especially when it comes to the platform changing aspects. Hence, the use of DVFx in the 21st-century movie production process also challenged filmmakers to equally think of the new creative narrative enhancement and presentation methods to the audience. How can DVFx function regarding creative narrative performances? According to Mcclean (2007), the DVFx used in the creation of computer digital imagery and had become part of the story-development process primarily on the pre-production stage. Digital generated images such as through the creation of characters, virtual camera movement or the narrative use of flash-forward in most of the 21st-century films have now demonstrated the integration and exploitation of DVFx for storytelling purposes. Consequently, through this dimension, it will enable the study of DVFx and narrative relationships to be carried out in conjunction with the functional creative film production industry structure.

According to Prince (2012), DVFx proved to filmmakers and audiences that digital imaging could transform narratives in a new way and shows a future space of movie production considering that film production stages of this century have begun using digital methods. Prince also pointed out in the book entitled "Digital Visual Effects in Cinema" that the use of DVFx in film narrative reinforces the formal design and function of a film structure especially after the transition from analog to the digital era. Based on studies conducted by Lamm (2018), the use of DVFx on film narratives includes the elements of enhancing cinematography and juxtaposing the characters within their environment especially in the visualization process. The use of DVFx against film narratives has been used in the professional industry since the 50s through sci-fi genre movies. At that time DVFx technique was known as special effects involving the techniques such as stop motion, the combination of miniatures, pyrotechnics, matte paintings, and computer graphic. Directors use all of these special effects techniques to improving and enhance the narrative performances in the stories. Starting from this era, DVFx is known only through certain genres of films, especially sci-fi, action, thriller and used deficiently in the narrative of other genres such as drama, romance, and comedy. It is not too much to say that there are also movies of this century that use 100% of DVFx in the production due to the development of this technology.

The development of this technology has not only changed the narrative storytelling from conventional to digital but also impacts the aspects of digital narrative presentation or style. The use of DVFx is one of the examples of digital narrative presentations in the creative industry. As previously mentioned, DVFx is used as a narrative presentation tool through the creation of character, props, setting and time backgrounds. All these generated through computer digital images, 2D, and 3D animation using the creative support tools or CST. Indirectly through the use of this technology, digital narrative performances have created the

aspects of interactivity or interaction of digital communication both to the creator and the audience. Cover (2006) argues that interactivity is a term used to describe all digital communications in general. Sometimes interactivity is used to describe the 'digital' aspects that cover the technology-based communication and media engagement that involve the user's ability to carry out activities rather than just texting but have a right to choose, getting the information, provide feedback and joining together with the media. Cover & Doak (2015) also pointed out that the opportunities for the idea of digital communication and thinking would widely open through interactivity and the emergence of digital cultures. This implication will also lead to thinking about the concept of authorship, co-creativity or co-participation in the presentation of text production such as film. Hence, through the use of DVFx in the process of narrative presentation, have created an interactivity that is also known as an interactive narrative.

Digital cultures in the narrative are something that is significant with the development of film technology that shifts from a form of 'immersive' attraction to one that offers a degree of 'interactivity.' King (2000), thinks that the level of interactivity that integrated into the narrative depends on the ability, expensive technology, and more time-consuming experiences. One example today is the use of virtual reality technology or VR in narrative presentations. Virtual reality provides future possibilities for immersive and interactive entertainment, especially in a film. Through this technology, audiences will define narratives according to their imagery. In Dooley's (2017) study, there are two differences of earlier scholarly views on the concepts and features that must be present in interactive narratives in the storytelling. However, the basic principle of the interactive narrative should be as equally important with the classical narrative. The first view of narrative features in interactive narratives should base on a classical narrative feature that emphasizes 'cause and effects' aspects. The second view also looks at interactive component and computer-based that need to exist in interactive narratives. Aylett & Louchart (2003) propose the term 'emergent narrative' to understand the situation. In this terminology, the interactive story authored in conventional form, and in some situations, it will interact with different protagonists. Emergent narratives also allow interactivity between dramatic structures to create tension elements for audiences.

According to Kelly (2018), the interactive narrative offers highly context-dependent experience to the audiences as it involves the interactive aspects such as text input, graphical presentation, and even visuals. Kelly (2018) looks at interactive narratives forming interactions with each other. Each of these interactions has a different impact on the story as it relies on narrative design. However, Bryan (2017) looks at the interactivity aspect in the narrative from a different angle. According to Bryan, a good story and narrative are a story that enchanting the audience through the use of elements such as concealed in the story. Concealing the matter of a story is to attract the audience to keep up with the story. Thus according to Bryan, concealing and attraction are fundamental to the concept of interactivity and co-creation. The digital narrative is also a part of a digital storytelling concept inherent in the development of digital technology in the film industry. These two concepts, digital narrative, and digital storytelling are meant to convey or present a story or narrative using digital technology in cyberculture (Bryan, 2017). Digital narratives or storytelling are stories produced using digital tools for large-scale audiences. In this study digital technology refers to the use of DVFx. This article will answer the question of how the globalization of technology

can have an impact upon the ideas, practices, and outcomes of creative narrative and digital visual presentation in film production among practitioners in Malaysia, India & Australia.

METHODOLOGY

I was able to obtain informants from several film production and digital visual effects companies in Malaysia, India, and Australia, which involved in the use of DVFx. The informants comprised of three main groups; academicians, producers and directors, visual effects supervisors and visual effects artists. All informants have more than five years of experience in their respective fields of expertise and have a record of national recognition awards for film projects they produced. The interview sessions were conducted between June and August 2017 for both Malaysia and India while interviews in Australia conducted in April 2018. The interviews questions conducted in semi-structured at the respective informants' premises. All interviews recorded in audio format. Subsequently, interview recordings transcribed and divided into several major themes, basic themes, and keywords based on the analysis conducted through NVIVO 11 software. Subtheme narrative enhancement looks more closely at how informants use DVFx in a storytelling and narrative presentation primarily in the aspect of visual transformation to the screen.

RESULTS AND DISCUSSION

Bal (2009) assumed that the narrator was the center in making text narrative analysis. To understand this, he introduced the concept of focalization. According to Bal, focalization refers to the perspective angle of the narrative elements. This perspective includes elements in the story as well as the third person view narrator. Narrative perception depends on the process of focalization and the elements that determine the narrative situation. As such, focalization in the art of cinema world depends on the content of photography, compositions, acting and any cinematic creation elements that help to enhance creative narrative performances. The development of today's digital media technology should be more helpful in the way of delivering a story through creative narratives (Buell, 2017). Hence, regarding Bordwell (2008) and Bal (2009), the use of DVFx can enhance creative narrative performances through the digital creation of the cinematography, composition, editing, character, and character elements. This digital narrative creative presentation meant by the narrative techno-enhancement concept. DVFx can enhance narrative through the elements of storytelling technology and directorial creativity elements as well as DVFx artists. This statement is further described in detail by inputs from all the following informants.

King (2000) states that a story that uses the elements of the prevalence of spectacle and DVFx has developed a demand for technology exploitation in the film production. Indirectly, this request also led some to announce the imminent demise of narrative as central or at least it is dominant spectacular form. The power of a story also depends on narrative performances which capable in developing a plot. As such, DVFx can impact narratives such as the creation and development of characters, setting, and props of a story. In other words, DVFx has also opened the imagination space and creativity in the presentation of a story and narrative. Based on the findings, most informants from all three countries are of the opinion that DVFx greatly influences the creative narrative of a story. The first impact provided by DVFx is from the point of development and structure of the story. Interesting story selection is the most critical factor before DVFx does the narrative development processDVFx. They argue DVFx's capasity or technology in the film helps to enhance narratives. Malaysian Informants MPD2 earning any use of technology including DVFx in the film production should be helpful to enhance and support narrative. He said;

Technology should be used to enhance, to help and to support the narrative (Informant MPD2).

This opinion supported by informant MAD1 stating that;

When you talk about narrative, you talk about how technology enhances narrative, and I think I have been talking about it in the sense that, it extends the imagination, it gives different dimension to the narrative itself without actually disturbing narrative, and it allows the filmmakers to venture into possibilities of telling a story. So it enhances the narrative (Informant MAD1).

Informants AUS2 from Australia approved this finding. He states that DVFx can act as a narrative enhancement tool through the rotoscoping process. In this process, DVFx artists can manipulate the background where a location that has been recorded to fit narrative will only use 'plate.' According to AUS2;

Let say you want that building there and you want the same building to be a whole different city in the story. So we shoot that 'plate' and the artist will trace around that building. That is called rotoscoping, and there is much expertise in India. So this process will rotoscope out that building and you would have a match with any background (Informant AUS2).

Rotoscoping has also helped the production of 'Tanda Tanda' in the Malaysia' case study. DVFx used in the production of several important scenes in the film. According to MPD2, the scene should be done using the proper place because the scene was very emotional especially to the two main characters of the film, which involved discussions of two respective Malaysian leaders. According to her;

Thank goodness for DVFx we recreated many scenes because the late Tun Dr. Ismail (Malaysia former Deputy Prime Minister) had a significant moment by the swimming pool. For the story, some of the important scenes delivered there... I said to my team whatever it is I need the swimming pool, so they created the swimming pool by DVFx. At the end of the day, the swimming pool was CGI. It is a very emotional scene (Informant MPD2).

Based on these findings, the rotoscoping process is an example of how DVFx works to foster narrative through the creation of a background setting, which is one of the elements in the creative narrative presentation style. This statement means that the use of DVFx also provided a new extent primarily in the aspect of visual imagination to filmmakers especially the director to present their story creatively. This visual aspect of imagination by informant MPD2 refers to 'special moment' in the visual presentation of the film. He explained that:

The best thing about the movie is always the special moment. It could be a dialogue, scene, expression or nice beautiful scene and it was only made possible because of DVFx, and people remember it for that (Informant MPD2).

These findings have shown that the use of DVFx that helps the director's exploration of narratives contribute to the element of satisfaction with the audience. Ricci (2015) conducted a study on how the use of new media technology relates to the narrative through artistic cinematic performances. He focuses on three main aspects of analysis; dialogism, heteroglossy, and chronotope. These three concepts primarily chronotope closely related to the informant's view of the visual imagery and the particular moment in the movie that allows the audience to explore the time in the film through narrative performances with the support of DVFx. According to Ricci, chronotope serves as space-time representation of narrative cinematic. This situation occurs when the resulting narrative creates space and time against the audience through a good storytelling effect. As such, based on Ricci's view, improvements to narratives and storytelling can be enhanced by using DVFx and at the same time also impacting the audience. Chronotope is very important in the cinematic world because it allows the audience to emotionally involved in the setting of the movie. This statement supported by informant MSV2 stating that the use of DVFx will further enhances the story presentation;

From my point of view, DVFx is enhancing the narrative. It is polishing the story make it better and look nicer for the audience (Informant MSV2).

Hence, the technology in the film industry especially DVFx should be best used by the filmmakers and artist to ensure that the quality of work produced is superlative. However, DVFx should not be used arbitrary and vigilantly. DVFx will only work if it used properly and juxtaposed with the narrative. According to MPD1 informant;

DVFx should paralyze with the storyline, and you cannot depend on DVfx itself. The storyline should be strong as well, but we cannot deny technique and technology nowadays (Informant MPD1).

The use of DVFx that does not fit the storyline will only pull a negative representation to the story. To ensure the use of DVFx is appropriate to the story, the director needs to make sure its use is suitable to the genre. Stories and genres are two elements that are interconnected and have similar interests. Informant MA1 explains this;

It also depends on the genre as well. Storytelling is important as well. If the audience understands the storytelling, they will go and watch the movie in the cinema (Informant MA1).

An informant from Australia perceive the importance of choosing a strong and compelling story is the thing to be given priority before the use of DVFx. Additionally, with the development of today's film technology, the use of DVFx provides good quality shots and scenes to a film. According to AUS2;

It depends on the story. I do not think there is an excuse for having bad visual effects these days because the technology is there, in the sense of software and hardware are so good and there so much talent out there; it is hard to get bad shots in a film (Informant AUS2).

Informant AUS2 also explains in more detail how DVFx can help to improve the narrative and suit the genre. According to him;

I think the films are not so many visual effects into it. Depend on the story. DVFx can enhance the film. So much you do not say, particularly war films are not visual effects film even it would not notice the film has visual effects. They can do the film without visual effects. You know the main marcoba, gunfire in there, explosions, lots of stuff; it enhances the story because you cannot do that in camera, it can but look very choosey (Informant AUS2).

Good stories and blended with the excellent use of DVFx will give a more creative impact on the development of a movie narrative. Hence, in order to achieve these two perfections, the main thing to emphasize is the story rather than the technical aspect. Informants AUS6 explain this;

Story is more important than the technical part. If you do not have a good story, then you cannot make a film. They do not have a good story; you can pack it together with the visual effects. It is boring. I get bored with some of those Marvel's films. Without a story, you get bored (Informant AUS6).

Informant AUS7 also argued;

I think the story is most important for most people and nowadays the technology that people were talking about, I think getting good quality of DVFx is not that sort of like fast age... I have seen lots of people that put in that effort, and you can still get some results (Informant AUS7).

According to AUS4, the use of great DVFx would not be meaningful and could not save a bad story. This problem shows how the story plays a significant role while DVFx serves as a tool. According to AUS4;

Visual effects are not can save a bad script, and that is not a visual effect of blaming. I will not blame the DVFx doing it (Informant AUS4).

Informant AUS5 stated that DVFx should be a tool to enhance the story and narrative performances;

Well, I always believe that if you want to use a DVFx, it should sort of add to the story or the live action because I think that is where the DVFx at the moment does really for (Informant AUS5). Informant AUS5 also added;

If the story was not good, no matter how good or bad the DVFx was, that not going to the matter but say if the story is good but the DVFx is crap, I reckonable at some level sort of made the people sort of question 'I'm sure they could do a better job at it (Informant AUS5).

Most of the informants from India are assuming DVFx not only helps the audience in understanding the storyline but also contributes to the audience's satisfaction. Most audiences feel the need for a scene that uses DVFx to look real to show the effectiveness of using that 'magic' tools. However, DVFx gives more than that. The informant INSV4 explains that:

Let's say if you are watching Disney's film, the fire they do not look real, they look magical. That is the difference. The moment you see the fire any human being will feel scared because it is fire. It supposed to be scared and dangerous. However, when it comes to magical film that using DVFx, you do not feel scared. You feel enchanting. Spectacular. So that is the creativity comes in (Informant INSV4).

INSV4's views show the advantages of using DVFx in the film's narrative. Informant INSV3, which states that support this statement:

That is the beauty of DVFx. You do not know the storyline done by the visual effects (Informant INSV3).

There is a similarity of opinion from Malaysian and Indian informants when some of them think DVFx can act as a narrative enhancement element if the director and the collaboration of the production team confer a useful responsibility in shaping storytelling. Informant INSV5 states that:

I will say it depend on the director's vision because you have to know what you are making actually. If you want to emerge DVFx with your story, if there is any none there, then you do not need the DVFx. It will be just useless (Informant INSV5).

Informant INSV1 said;

It is all about what the creativity goes into the director's mind. It is all about that thing because based on my point of view whatever I get from the director such as the concepts and it is my responsibility to make it real (Informant INSV1).

Informant INSV3 added;

It is depended on how complex that shots and what director wants. We decide the plan and creative people will involve and it depends on how he (director) visualizing the shots (Informant INSV3).

Besides, the comparability of opinions between all informants also revolves around the view of the importance of the story's power over other aspects such as technical aspects. The similarity of this view seen when an informant INSV5 thinks that:

Everything in the movie starts from the story itself. Because some films today just adding visual effects to make it cooler. Visually look stunning, but you should like merging the visual effects and creativity with the storyline (Informant INSV5).

Informant INSV5 takes the film "*Gravity*" as an example where in a movie that has a simple storyline but has been blended beautifully with a digital visual effect and makes it looks 'perfect movie.' The combination of storytelling and the technical aspect should balance, and the director also needs to know the suitability of DVFx usage in a narrative. Informant INSV4 adds:

It has to be a story. I do not think visual effects without story means anything. Like one of the very popular Indian filmmaker sad that if you do not have a story also a story (Informant INSV4).

CONCLUSION

In my conclusion of this part, I noted that the use of DVFx in a film production helped in improving the quality of narrative presentation compared to conventional methods. However, the most important thing to be aware of is the storyline aspect and the power of the story brought about. The story is the heart of a film while technical aspects like DVFx use are additional elements or tools that often used by any director or production team in enhancing the narrative presentation of the story. However, it is time for industry and practitioners to see the separation of these two entities as one. I think we cannot separate DVFx as one of the story elements and at the same time DVFx as tools. The 21st-century cinema has begun adapting the use of DVFx in the production of their respective films to ensure narrative performances in the story are in the best quality and full of creativity. To get the best DVFx quality in the present time is not something that is impossible, as technology will continue to evolve and become a tool of enhancement. However, to get the right and quality story and to use tools creatively is another question that requires deep consideration.

The development and revolution of the digital world today have created a digital storytelling concept that refers to a broader narrative world based on computing technology or computer-mediated narrative. The storytelling platform, especially among filmmakers, has also received updates from the advent of DVFx. Digital storytelling in this field also refers to the ability of montage creation, lighting techniques, camera movement techniques, and even character creation, all assisted by the DVFx technology. Specifically, the findings in this section

have shown how DVFx has been functioning as a narrative techno-enhancement tool in the film production process especially from the aspect of story narrative presentation. DVFx has functioned as one of the elements that integrate the process of interaction and collaboration between scriptwriter, screenwriter, director, and editor as dynamic creative authorship. This dynamic collaboration needs to be mainly in the process of processing ideas, script structures, and narrative performances through the use of DVFx. The findings also show the comparison of informants' views of these three countries as a consensus on the DVFx function as techno-enhancement. The story strength aspect is agreed by most of the informants of each country as an aspect that needs more attention before being assisted by DVFx regarding narrative performances. Thus, the use of DVFx to assist narrative performances is indirectly involving aspects of style as suggested by Borwell (2008) and the aspect of focalization suggested by Bal (2009). Both style and focalization are two aspects that seen as an enhancement element in a story.

The digital narrative that is more interactive also shows very encouraging progress. Narrative cinema in the future will no longer only focus on platforms or classical narratives or conventional. Virtual reality technology or VR is an example of developments in digital narratives. According to Dooley (2017), storytelling and narrative in VR format will involve user-focused engagement especially involving interactive elements such as time and place. Digital narrative audiences are active audiences compared to classical narrative audiences. Involvement of interactivity elements in the digital narrative such as combinations of real-life physical objects as well as the use of digital platforms such as mobile phones and so forth proves the entertainment element and satisfaction to the audience is a crucial factor. In general, the comparison made in this section indirectly involves the comparison of intercultures concerning cyberculture. Previous comparative studies such as Niu & Sternberg (2003) and Yi Hu, Scheithauer & Niu (2013) indicate the differences between the cultures studied primarily in the aspect of creativity. The difference in cyberculture has a substantial impact on the performance of creativity as well as the things needed to contribute to creativity. Niu & Sternberg finds that there is equality between cultures, but the cultural domain influences the concept of creativity in most Eastern parts of the world compared to Western. They also suggested more comparative studies of creativity made across cultures, especially in Eastern culture. In conclusion, the selected story needs to be good, and DVFx needs to work correctly and accurately to improve the story told to the audience.

BIODATA

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REFERENCES

- Aylett, R., & Lauchart, S. (2003). Towards a narrative theory of virtual reality. *Virtual Reality*, 7(1), 2-9.
- Bal, M. (2009). *Narratology. Introduction to The Theory of Narrative.* University of Toronto Press: Toronto.
- Bordwell, D. (2008). Narration in Fiction Film. Routledge: London
- Bryan, A. (2017). *The New Digital Storytelling: Creating Narratives with New Media.* Ebook. ProQuest Ebook Central.
- Buell, J. D. (2017). *Body, Space, Interaction: Embodiment, Narrative and the Digitization of The Media* (PhD Thesis, Faculty of the Graduate School, Yale University).
- Carmona, C. R. (2017). The Role and Purpose of Film Narration. *Journal of Science and Technology of the Arts*, 9(2), 7-16.
- Cover, R. (2006). Audience Inter/Active: Interactive Media, Narrative Control and Reconceiving Audience History. *New Media & Society*, 8(1), 139-158.
- Cover, R., & Doak, S. (2015). *Digital Identities: Creating and Communicating the Online Self.* Ebook. Elsevier Science & Technology.
- Dooley, K. (2017). Storytelling with virtual reality in 360-degrees: A new screen grammar. *Studies in Australasian Cinema*, 11(3), 161-171.
- Kelly, M. (2018). Interactive Narrative and Transmedia Storytelling: Creating immersive Stories Across New Media Platforms [Ebook]. Taylor & Francis Group.
- Kim, N. W., Bach, B., Im, H., Schriber, S., Gross, M., & Pfister, H. (2018). Visualizing nonlinear narratives with the story curve. *IEEE Transactions on Visualization and Computer Graphics*, 24(1), 595-604.
- King, G. (2000). Spectacular Narratives: Hollywood in The Age of The Blockbuster. London: New York.
- Lamm, C. (2018). *The Importance of Visual Effects in Film Narrative and Film Theory*. (Master's Thesis, ProQuest 10810384). Retrieved from https://search-proquest-com.ezproxy.library.uwa.edu.au/docview/2057725592?pq-origsite=primo
- Metz, C. (1991). *Film Language: A Semiotics of the Cinema.* Chicago: University of Chicago Press.
- Niu, W., & Sternberg, R. J. (2003). Societal and School Influences on Student Creativity: The Case of China. *Psychology in The Schools*, 40, 103-114.
- Overbergh, A. (2014). Extended Cinema in Kenya and Tanzania: Technological Innovation and Related Trends in Local Audiovisual Storytelling. (Doctoral Dissertation, UMI 3663368). Retrieved from https://search-proquestcom.ezproxy.library.uwa.edu.au/docview/1695797673/?pq-origsite=primo
- Prince, S. (2012). *Digital Visual Effects in Cinema: The Seduction of Reality.* New Brunswick, USA: Rutgers University Press.
- Ricci, J. A. (2015). *Now, We Hear Through a Voice Darkly: New Media and Narratology in Cinematic Art.* (Doctoral Dissertation, ProQuest 3738439). Retrieved from https://search-proquest-com.ezproxy.library.uwa.edu.au/docview/1753917892/?pq-origsite=primo
- Yi, X., Hu, W., Scheithauer, H., & Niu, W. (2013). Cultural and Bilingual Influences on Artistic Creativity Performances: Comparison of German and Chinese Students. *Creativity Research Journal*, 25(1), 97-108.