

CHAPTER II THEORETICAL BASIS

2.1 Literature Review

L. Loertscher et al., (2016) discusses that modern movies use digital films to capture the image, which has different results than using a traditional analog film, which is the difference of the color produced by both different films, an analog film captures color in cyan, magenta, and yellow while digital film captures color in red, green, and blue which looks artificial compared to colors produced in analog films, and that resulted in having to use color grading in post-production to achieve a more aesthetically pleasing color reproduction. The study produced three short films recorded with both digital and analog cameras and lastly the third version is filmed with a digital camera and color graded to look similar to the analog camera. The three films were shown to 356 participants and the results showed no significant difference of emotional or immersive experiences between the three films.

In Harris' (2018) journal, he created an commercial video with color theory in mind and asked the question: does having a particular color scheme mattered in producing an advertising a commercial video? He states that there is a difference between color psychology and color theory and cannot be used interchangeably, where color theory means the study of colors usually using a color wheel while color psychology deals with the human behaviour when exposed to certain colors and how human feels when perceiving certain colors. He discusses that color can be used as a media for visual storytelling using the process of color correcting and

then color grading. The color correcting and color grading process includes manipulating the video's hue, saturation, and luminance.

The mood of the film is also connected to how a film is colored. According to Chan, Lee, & Roy (2015) viewers can differentiate different movie genres only by the primary colors used in the movie, romance in movies typically have warm tones, post-apocalyptic films usually have desaturated colors. In his study, he was able to classify 13 out of 14 movies based on color histogram alone, the movies of which consists of four genres which were horror, animation, romance, and action.

Durmaz, Erol, & Dogan, (2017) describes research and development as a systematic study conducted to broaden the knowledge created by an individual or a group of people with the aim to create a new idea or design. It is usually used by companies to test out new products on customers and can also be used by researchers to discover new knowledge on a specific field of study.

In Ruslan, Hartanto, & Santoso, (2018) documentary project, he used Adobe Premiere Pro CS6, specifically "RGB Color Corrector", "Three-Way Color Corrector", "Brightness and Contrast", and "Noise" settings to color grade his video with the purpose of correcting the colors and making the colors stand out. He concluded that the documentary successfully reached his target audience.

Table 1 Related Literature and Studies Table

Author	Year	Conclusion
L. Loertscher, Miriam Weibel, David Spiegel, Simon Flueckiger, Barbara Mennel, Pierre	2016	There is no difference between color and feel produced by a real analog camera and a digitally created look created in a video editing tool filmed with a digital camera.

Author	Year	Conclusion
W. Mast, Fred Iseli, Christian		
Harris, Michael J	2018	In media, color plays an important role as a storytelling device. Color can also be used with color psychology in mind, where humans react a certain way when exposed to a certain color.
Chan, Ethan Lee, John Roy, Rajarshi	2015	Movies typically have a distinct look to them especially in the color department, and that can be used to differentiate between genres based on the dominant color look the movie has.
Durmaz, Yakup Erol, Necdet Dogan, Vildan	2017	Research and development is a study conducted to broaden a certain knowledge
Ruslan, Nathaniel Kevin Hartanto, Deddi Duto Santoso, Marvin Ade	2018	Color grading using Adobe Premiere Pro improved the quality and color of the documentary.

Based off of those 5 studies stated, I used the idea discussed by Durmaz et al., (2017) which states that research and development as a study to broaden our knowledge, Harris, (2018), L. Loertscher et al., (2016), and Chan et al., (2015) ideas and concepts of color grading in films and movies and finally as well as Ruslan et al., (2018) techniques in color grading a video clip using Adobe Premiere Pro to achieve a certain look in his documentary.

2.2 Theoretical Basis

2.2.1 Research and Development

This project will be using the research and development method, which according to Prambayun, Suyanto, & Sunyoto (2016) is a research method commonly used to produce a certain product and to test out that said product, while according to Astuti & Wirama (2016) research and development can also be categorized as an investment to increase knowledge in order to innovate and discover new products or new processes, the research and development process is typically spread out in two parts. Research consists of data collection through surveys and handing out questionnaires and then analyzing the data collected and finally developing something that makes sense of the data collected. They also stated that companies can discover a lot of needed data using the research and development method.

In Suprayogi & Kristanto (2017) study to design an instructional video on photography lighting for the campus students used the research and development method to determine whether the video was successful in it's cause, it yielded positive results in that the video they used to teach students about photography lighting is competent, producing new factual knowledge that contributes to the photography community.

In another study by Nugraha & Joko, (2016) also uses the research and development method to develop an interactive learning media using Macromedia Flash 8 to create a suitable learning media for their students.

2.2.2 Multimedia

Multimedia is any kind of media that consists of graphics, text, and audio.

It can create a dynamic presentation because in its nature it is comprised of multiple elements (Sidik & Moestavi, 2016), these elements are:

1. Text

Text is the most commonly seen element in our daily lives, it simplifies the communication of information from the creator of the multimedia to the user of multimedia (Sidik & Moestavi, 2016). According to D. Green & H. Brown (2018), text itself has two types of font, 'serif' and 'sans serif', serif are fonts which has extra strokes in each of its letter while serif does not.

For projects involving lengthy text especially in printed form such as newspapers, books, and magazines, serif is the most commonly used type of font because it is historically credited with increasing both readability and reading speed.

2. Graphics

Graphics are a combination of multiple points arranged in such a way that it becomes a certain shape in a two dimensional plane (Maulida, Hanifah, & Djuanda, 2017). Graphics in multimedia serves the function of further simplifying the process of delivering the information to the multimedia user. According to Sidik & Moestavi (2016) graphic itself is divided into two types:

a. Vector

Vectors are images comprised of mathematical algorithms that creates a certain shape. Vector images will not turn blurry when enlarged because it is not displayed in pixels.

b. Bitmap

Bitmaps are images stored using pixels that are shown on computer monitors as a set of dots. The weakness of using bitmap extension is that the bitmap images cannot be enlarged because the amount of pixels in the image stays the same and by enlarging it will result in the blurring of the image.

3. Audio

Audio is anything you can hear, in digital form, it comes in many types of file types i.e .mp3, .aac, and .flac. Audio in multimedia can be used to add to and or to manipulate feelings in a scene.

4. Video

Video is the art of combining a number of pictures that creates the illusion of movement when played back, it is the only media that has visual and audio combined into one media making it the most dynamic media of the five elements of multimedia.

5. Animation

Animations are objects arranged in a way that creates movement. There are a few methods to creating an animation: stop-motion, frame by frame, puppet, and collage (Pramono, Suyanto, & Sofyan, 2017).

The benefit of using multimedia is the form of multimedia can be accessed anywhere and anytime and it has the capabilities to reach a lot of people because it isn't limited by space and time (Dorkpikun & Dennis, 2014). Examples of multimedia are (but not limited to) podcasts, rap, educational videos, interactive games, e-books, or even a PowerPoint presentation (Karpova, 2017).

Multimedia can also be used as a tool for interactive learning, Herianto, Prasetyo, & Rosana, (2017) used a product of multimedia to teach science to students interactively, according to them there are two types of multimedia: Linear and Interactive Multimedia. Linear multimedia means a multimedia product isn't equipped with the ability to interact with students or vice versa, examples of linear multimedia are TV and movies, where the user of multimedia passively consumes the content from start to finish, while interactive multimedia enables students to interact with the multimedia product and affects the process of the multimedia itself, it increases motivation and gives feedback to learning students.

Multimedia in the context of learning can be considered a tool that interacts with more than one human sense, of which there are five: sight, hearing, taste, smell, and touch, because multimedia has more than one element (Gunawan, Darmawan, & Maskur, 2018).

2.2.3 Color Grading

According to Harris, (2018), color grading is necessary in visual storytelling in movies, the different levels of hue, saturation, and luminance can help a movie in it's visual storytelling because of color theory: a study of colors based on a color

wheel and the combination of colors inside the color wheel, and color psychology: the study of colors and how it affects human behaviour and feelings.

One of the processes of color grading is color matching, the colorist is tasked with the challenge of matching the color of one shot to another shot where the lighting or the camera settings might be different and a reshoot is not possible (Rodríguez et al., 2017). These events might occur and it is the colorist who fixes the problems, usually it goes undetected because of the skills and experience of the colorist themselves in correcting the exposure and colors of multiple shots until they look similar.

Elisabeth et al., (2017) created a documentary about women and how society views woman as weaker, the documentary sets out to change society's perception about women because in reality there are many women that are better than men. They used color grading in their documentary using Adobe Premiere Pro CS6 and Adobe After Effects CS6 and the documentary is distributed to social media, the color grading used makes the documentary feel professional and distinguishes itself from normal YouTube vlogs. In the end the documentary tries to challenge the traditional school of thought that men are automatically better than women, and tries to inspire other women to discover their self worth with the hope of heading towards a future where men and women are seen as equal.

Halim & Ardianto, (2014) uses color grading to improve the colors and feelings of their profile video about the attractions of Pati. The use of color grading help create a different look and enhance the visuals of the video and makes it more interesting to viewers. Without the color grading, scenes would look pale and it

would fail to put forward the beauty and uniqueness of Pati, food wouldn't look as delicious as it would in real life and the skies and trees wouldn't look as lively without applying color grading. Some color corrections are also used especially in the more darker scenes inside a cave, to boost the brightness of the footage and to tone down the highlights caused by bright flashlights, resulting in a more balanced footage. To conclude, color grading plays an important role in this documentary to bring out the best visuals of Pati, without it, the documentary wouldn't look as good.

Ruslan et al., (2018) made a documentary about the people living in Dolly in hope to show the people of Surabaya how is life in Dolly because Surabaya has negative opinions on Dolly because of it's history of prostitution. Although the prostitution activity has been shut down the general public still sees Dolly with a negative lens. The documentary mainly shows the lives of children living in Dolly and uses color grading to add emotion to the documentary. Instead of a dull looking footage, color grading made the footage look aesthetically better.

2.2.4 Video Tutorial

A video tutorial is a helping tool in the form of a video for students and learners to further expand their knowledge outside of the limits of class and the presence of a teacher, although it is often accompanied by the guidance of a tutor, the tutor themselves does not need to be physically present while the video tutorial is playing and the tutor can exist within the video itself (Usman, 2014). Usman conducted a study to measure the effectivity of a video tutorial by looking at the scores of students, he observed that before, students would achieve 1320 score with an average of 66, and after a video tutorial students achieved a score of 2509 with

an average of 70,29 in the first test and the score increased to 2941 with an average of 84,02 in the second test.

Video tutorial is an effective way to teach and learn a certain topic whether it is in a photography class or others, it enhances the quality of the communication of information significantly and could be considered the best medium to teaching methods of practical skills in photography courses (Sulaiman, Nasiruddin, & Aziz, 2017). They conducted a study on the particular topic and collected data from questionnaires and interviews and the results showed that using a video tutorial can increase the quality of learning. Stephan et al., (2018) study created a video demonstration that acts as a tutorial for basic help for cardiac arrest in children, their video is considered a tutorial video that contains demonstration. Because of the nature of an online video tutorial format, it is possible for learners to learn at their own pace and revisit a certain part that they didn't understand the first time, and the ability to play and pause a tutorial video significantly increases the quality of learning because the process of learning itself won't be limited by the class time and the presence of a teacher, the existence of a video tutorial allows students to learn something in the comfort of their own home (Youssef et al., 2015).