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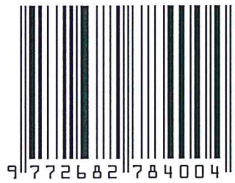

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STOP MOTION AS A MEDIUM TO TEACH AND LEARN EXPERIMENTAL ANIMATION

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ABSTRACT

Fourth Industrial Revolution has made an impact on teaching and learning activities in the millennial era. The animation is no exception. In this context, the stop-motion techniques have been chosen to explore as part of enhancing teaching and learning experimental animation. Its required basic instrument but the outcome will be beyond the imagination. Stop-motion is one of animation technique that engages a basic technique in creating animation. This paper aims to identify the use of stop-motion in teaching and learning experimental animation in order to discover the new invention, avant-garde idea and techniques through stop motion. In this research qualitative methodology had been used. The observation process had been done with animation student within their one-semester class. The main focus on the observation was the developments of experimental animation through the stop-motion technique in three (3) stages, which is pre-production, production, and post-production. As a result of this study, the students have explored the new discoveries on the idea and techniques that they never used it before in the process of creating experimental animation. The outcome of this research will be a guideline for others who keen to learn experimental animation in the future.

1. INTRODUCTION

In an academic world, teaching and learning can be crossing beyond the techniques, medium and approaches as a result of a millennial impact towards education. Animation can be created using so many techniques and is like magic and full of trick. Stop-motion is part of this tricky and magical creation. The tools and techniques used to create stop-motion are endless. According to Melvyn Ternan from his book "with stop motion, we can control and move the world around us or create our own special world from whatever materials we please" (Melvyn, 2010). It was believed that George Melies is the inventor of stop motion animation. He has invented it by accident. According to Will Gladstone, it was only until George Melies was looking back at the footage, he noticed that an omnibus suddenly turns into a hearse because of the two (2) takes from the breakdown of the camera. It was this what gave him the idea of stopping the film and then replacing a character with something else. He called

this the 'Illusion of Magic'. This then worked to Melies advantage when no one had come up with this technique before and made magic trick videos.

The accidental discovery of stop-motion animation has led us to use this technique for experimenting with a new way of teaching and learning experimental animation. We believed that to understand how the experimental animation works, one has to explore and experiment with techniques and material. "How something moves in animation is extremely important. As humans, we have been observing the world since we were born, so we have a good idea of how things are supposed to look and move" (Melvyn, 2010). This statement has shown that in many types of animation how the movement was created is very important, including the stop-motion. Besides that, he suggested the five relevant principles (out of twelve principles formed by Frank Thomas and Ollie Johnston) in his book in order to create a series of movement for stop-motion. Base on previous experience it's quite challenging to teach students about experimental animation. The term experimental animation itself is complex. This research has been conducted to explore the best practice to teach and learn experimental animation through stop motion.

As educators, this research will help us to learn an innovative way to teach. "Most educators in the 21st century was trained in the 20th century, the greatest challenge for them now is to stay relevant and effective to their millennial students" (Wan & Faizah, 2017). According to Toolkits for 21st Century Teaching Practical Implications for the 4th Industry Skill Development, complex problem solving, critical thinking, creativity, coordinating with others, judgment and decision making are part of super skill for the 21st century. It's vital for an educator to equip themselves with the best practice in teaching and learning that parallel with the current trend and needs. This study, stop-motion as a medium to teach and learn experimental animation has adopted the ten super skills suggested by Wan and Faizah in the three stages of creating experimental animation, from pre-production to production to post- production.

2. METHOD

In this study, a qualitative method had been used to collect the data. Observation approach used to compile the finding through three (3) stages of the animation process, which is the pre-production, production, and post-production (refer Figure 1).

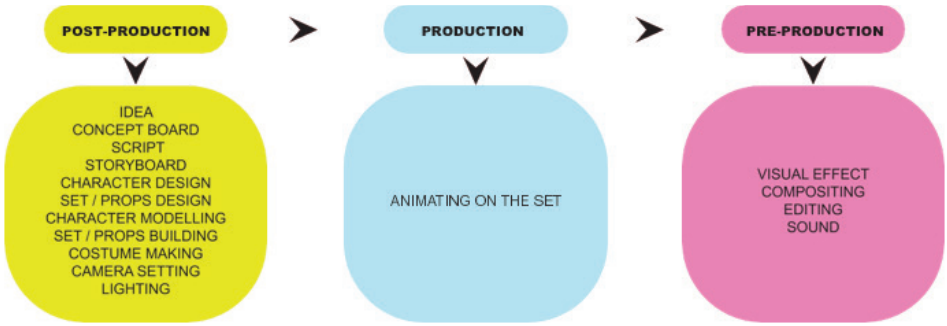

Figure 1: The Stages of Creating Experimental Animation

The focal point of this research is the analysis through the stop-motion techniques applies and the observation process on the new invention and overall process in the making of experimen-

tal animation. In order to get a data collection on the related area mentioned, we have produced an experimental animation during Experimental Animation class with the students in one-semester (14 weeks) durations. This is when teaching and learning experimental animation through stop-motion happened. Students will explore the stop-motion technique guided by the lecturer to understand the function and concept of selective stop motion. A lecturer will teach the students different type of stop-motion technique and concept behind it. The student will learn the process of stop-motion while producing an experimental animation. These students will learn thing backwards, it's much simpler than doing it forwards. According to De Bono (pg17, 1999), "When you learn backwards, you learn D first and then C and then B and finally A. In this way you are always moving forward in an area you already know. Over the ages, choirmaster has often used this method. It is much more effective - but rarely used in education as educators do not always use the best method of teaching. At first learning things backwards may seem more complex but in practice, it turns out to be easier and simpler." This method helps students to an achieved level of understanding of the process better. The experimental animation project, interview and festival feedback on the project will be used to measure the effectiveness of stop-motion as a medium to learn experimental animation. The secondary sources will be the reference from the books, journals, articles and online sources. This research approach is novel and base on our own experience and background knowledge in the related area.

3. RESULTS AND DISCUSSION

3.1 Observation Process

3.1.1 Pre-Production

The processes begin with establishing thematic ideas and deliver them into the concept board. Next, the student will develop the idea into a script. Once the script is ready it'll be transformed into a full storyboard. This storyboard will be the main guideline for the whole team to work on the next process during production. As stated by Barry in Basic Animation: Stop Motion book, "the objectives of all this is to keep everyone understands the key elements required for finishing a film. The purpose of all this is to ensure that everyone involved has clear, share the understanding of the key elements required for the finished film"

Figure 2: The Storyboard

At this phase, besides storyboard, the students have started the creative part of the proses, which is designing the character, set and background for the animation. Designing the character for stop motion is very tricky as the scale must be precise before the set, props and background were building. This is where the students will explore the texture and usage of different materials. Through experimenting with a different kind of material, usually, students will get the chance to create a new idea, invention, innovation and techniques. Once the character has been model accordingly, the set building will take part.

Figure 3: Model Scaling On Set

Building the set require more attention to details. As stated by Barry, any set has to accommodate lots of important requirement. For example, they must allow access for the animator as well as the camera and lights. They must also be sufficiently stable to withstand animators stretching in and leaning on the surfaces during every frame; not allowing anything to wobble or sag or bend during the shot. It's part of the set designer to make sure the flat table top base will look impressive and convincing enough following the theme. Students will choose their set using the best material that suits for shooting requirement and not fragile. According to Melvyn Ternan, Plywood is one of the best materials for building animation sets that are going to be used a lot. It is made of layered sheets of wood that are glued together for extra strength. The background design development will be proceeding according to the set and theme. It's should resemblance the environment of the set. This background design should complement the set design. Storyboard is one of the best references for building the set and background design too. The set can't be too clean or flat it should have some texture to make it more lively and interesting. This is the part that the students need to think creatively and explore the space and material to make it more attractive.

Figure 4: Props Making

Attention to details on the props is important as well. These props are made to scale. The reference of size can be taken from the actual size of the character or set. Usually, the props such as house and tree can be bought at the model shop. However, sometimes the size available in the market didn't fit your project and it can be expensive too. For the students, it is better for them to construct it themselves. Through experimenting with the skill of making props they will understand the process of creating experimental animation better. "There is no way to creatively problem-solve something as creativity is 'non-process' in nature" (Wan & Faizah, 2017). Mainly, there is two type of props which is found props and crafted props. The students will choose the best approach to do the props according to their expertise and limitation. Certain subject required the students to do costume design. They will design according to the characteristic of the model and sew it by themselves.

In stop-motion, it is a must to have a camera lock in front of the set. It has to be animated frame by frame on every single shot. There are so many things to be considered before shooting such as the drop shadow from the standing character or the set & props, the lighting should be set accordingly, the space on the set that can be reached by the animator to move the character and whether the space on the set is enough for the tracking shot if needed. However, according to Barry Purves, as is so often the case with stop-motion, developing inventive solutions to these problems is so incredibly satisfying. In shooting stop-motion, the students can choose from varies type of camera but not all digital camera are suited for their project. The students can choose from the wide range of camera that is equipped with the requirement of their project base on the lenses type, resolutions, connection and software support. Students can refer to their storyboard to determine the shot that they needed and check with camera equipment that they choose whether it's compatible with their project.

Figure 5: Setting The Camera

The main objective of having the light is to make sure people will see what is on set. The audience will see what the director want them to see by highlighting a certain part of the set or character. Different types of light give a different colour and mood to the scene. It's contributing an aesthetic look towards the setting. However, by using a camera, it is important to know which types of light give a result to which type of colour so that you can adjust the camera accordingly (Melvyn, 2013). One of the main challenges is the flickering due to the changes in lighting during shooting. This can be seen during the playback of the project. The students need to lock the lighting accordingly to avoid the flickering. Sometimes the mixture of outdoor and indoor lighting can cause this issue but due to a limitation of the source of lighting the mixture is the good solution to set the light. During this

process, the student will use colour gels or colour filter to get the colour of their scene or using it as colour correction. For certain students, it's hard for them to find the right colour for their scene; this will take the extra time to explore the colours scheme needed. The students can choose any type of lamp that suitable for their set, from a fluorescent desk lamp to clip light with an eco-bulb or halogen lamp. They need to use their creativity in here to come out with good lighting for their project.

Figure 6: Lighting Test On Set

3.1.2 Production

Stop-motion animation or experimental animation wouldn't happen without the process of animating on the set. After all the pre-production completed, it's about time to shoot the stop-motion. The animators will start animate according to the storyboard. They will choose which scene to shoot first. Normally, students will choose to animate from the easiest to the difficult part of the scene. It is vital for the students to make themselves comfortable on the set before animating. Beside to ensure that the set is suitable for all the movement and access needed during the animating part, safety issue also comes first during this process. Any troubleshooting should be resolve during the production. But certain part such as facial expression or effect can be fixed or added later during the post-production. Shooting time will take hours; with the ample crew working on set will help shorten the time. Animating on the set can be tense sometimes due to the movement needed on the character seem didn't turn out accordingly. At this point, the rigging process also is very important to make the character stand and move smoothly. The form of animation allowed cheating on a certain part of the movement. It can be copied or replaced. Some characters can be given replacement limbs when they are needed for particular shots, but this can break the integrity of the puppet's physicality. Using, overcoming, and playing with this physicality is part of stop-motion's appeal (Barry, 2010).

Figure 7: Rigging During Production

In an animation is extremely important to determine how something is moving. An observation needed to identify or get an idea of how things are supposed to look and move. The twelve principles of animation have been used over the years in making an animation movement look lively. However, as suggested by Melvyn only five of them are particularly relevant to stop-motion animation. The five relevant principles are easing in and out, anticipation, staging, timing and arcing. These principles help the students to enhance the movement of the character and make it appear more attractive.

3.1.3 Post Production

In post-production is where the narrative flow will be edited. Stop-motion shoot frame by frame over a thousand frame for one project and can be tricky sometimes. The editor will discuss with the director to get the right direction on compiling every frame according to the sequences base on the storyboard. The editor will do the compositing and visual effect if needed. Some project requires a cleanup artist to do the clean up before the editor starts the editing. At this point, the sound including the sound effect, dialogue and background music will be sync to the visual. This is where the director and editor will look at the final stage of making an experimental animation project completed.

4. CONCLUSION

In making the experimental animation through explorations of the stop-motion process has proven that the student has undergone the equivalent mechanism that represents an experimental animation concept and idea. The hands-on process has given the student ample space and a chance to create a new technique and idea. Invention and innovation have been developed through the process too. Some new techniques have been established by accident or mistake that turns out to be a successful discovery. The group of students under the experimental animation course has created an Experimental Animation through the stop- motion techniques recently and the outcome is quite remarkable. The experimental animation title Dysphoria has won several awards such as Best CGI & VFX at Malaysian Digital Awards (2017), Best Animation and Best Experimental Film at KaryaOne Awards, FiTA UiTM (2017), Consolation Prize at Vision Petron Student Art Competition (2017). Dysphoria has been selected for screening session at International Asian Women's Film Festival New Delhi, India (IAWRT 2017) and also has been final nominees under Southeast Asian Animation at CRAFT International Animation Festival Yogyakarta, Indonesia (2017). This recognition can be considered as a measurement of success of learning and teaching experimental animation through stop motion techniques.

5. FUTURE SUGGESTION

Teaching and learning is a never-ending journey. Every day we discover a new thing and learn about it again and again. We expand our knowledge and share it with others. We hope the students and others who love to learn about experimental animation can use this approach. In every discovery, it might have a certain gap and failure and we hope that the students and others who are interested in this area can continue this research. In the experimental animation process, the possibility of creating a new thing is always open, it's up for the next taker to take the challenge and come out with the new techniques and approach.

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