The Potential of Polyurethane in Producing a Relief Painting

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ABSTRACT

This research is exploring the potential use of the polyurethane element and technique to produce three-dimensional forms as an alternative to canvas artworks. Canvas, being the conventional medium for painting has the limitation in producing relief artworks. Due to this reason, polyurethane as the potential property of petroleum-based material is explored as a new medium of artwork. Exploration of materials creates new medium for artworks and allows artists to impose various techniques onto the material. Exploration of new materials will challenge and enhance the creative process of producing an artwork. Thus, this research is interested in experimenting with polyurethane with various techniques which may be useful for manipulating the material. The effect and results are not always as expected due to accidental effects encountered during the process. Therefore, the use of different techniques on polyurethane has given satisfactory or non-satisfactory results due to its appearance on the artwork. Through simple tests, it is proven that polyurethane has the potential character as relief artwork. It is stable, durable and flexible. In conclusion, polyurethane is suitable to be used as an alternative to canvas for producing relief artworks.

Keywords: *Polyurethane, Relief Painting, Canvas*

INTRODUCTION

In relation to the title, the material is explored for every possibility and coming into being. This means, the material is experimented to the advantage of obtaining optimum results for creating relief artwork. Polyurethane is a material that is built from a mixture of gaseous, liquid and solid hydrocarbons. Polyurethane is used commercially in advertising industries in Malaysia. It is used as an alternative for glass because it is easier and safer to handle.

Polyurethane is transparent and allows working on both sides of its surface. The use of this material can result in different levels of thickness being achieved, which would give different results from different handling and techniques. Polyurethane is flexible to heat and long lasting, which means it does not rust and is easy to handle. It is also stable unlike other types of plastic obtained in the market. Also, the polyurethane acts as an alternative material to canvas due to certain factors that may have been useful to the process of relief painting artwork. Livingstone (2007) believes that artists of new generations have their own strengths and specialties in choosing materials that suit them best. It should also involve feelings for the materials, images and subject matter to help artists generate new ideas.

Dewey stated that *"…because of changes in industry conditions the artist has been pushed to one side from the main streams of active interest"* (Hosftadter and Kuhns, 1976). This has shown that many artists have followed the interest of their current environments and surroundings and moved to exploring new things (medium) to produce their artworks. General industry materials such as glass, metal and plastic can be manipulated to make them look different from their actual existence.

Medium Mix Media

Habitual changes and development of technology have urged artists to become more creative and innovative in producing new artworks. Often, two-dimensional works are developed to collages and assemblages. According to Wharton (1971), *"I'm attracted to material, an artist must respect the material."* When manipulation is made onto the material, technical skills are often involved. Many artists have created their own style and personalized their artwork when they found certain skill that would also become the trademark of their works. Combination of technical skills and media or medium would make artworks much more valuable and desirable to the audience. According to Ocvirk (2006, p.304*), "During periods of technological innovations, artists have at times reflected the desire of change by neglecting to observe the separate categories of painting and sculpture, instead of merging the two in assemblages."*

Ooi Kok Chuen (2001), an art writer stated that an artist named Ahmad Shukri explored other materials through mixed media to produce new artworks according to artists' needs and expectations. Ahmad Shukri worked beyond his norm from colour on canvas to textural surface created by modeling paste and gel. These agents were used to achieve textural and textile quality in the layering of pigments and the cease bond-lines of collaged canvas (Ahmad Shukri, 2001).

In 'Monogram' (1955-1959), Rauschenberg combined ordinary objects and collage materials; mattress, wireless sets, photographic images and long-haired Angora goat. In this artwork, it carried various elements (mixed media) and presented as painting, relief and 3-dimensional. *This style was then known as "combine-painting" to describe a pungent style of mix and match collage* (Stevens, 2005). The ability to produce such paintings during that period required the essence of creative thinking and bravery to produce differently from others.

Figure 1 Monogram (1955-1959), Mixed Media by Robert Rauschenberg

Note: Combination of traditional and technological materials can be seen in Robert Rauschenberg's Monogram (1955-1959). He named this artwork 'combined painting'.

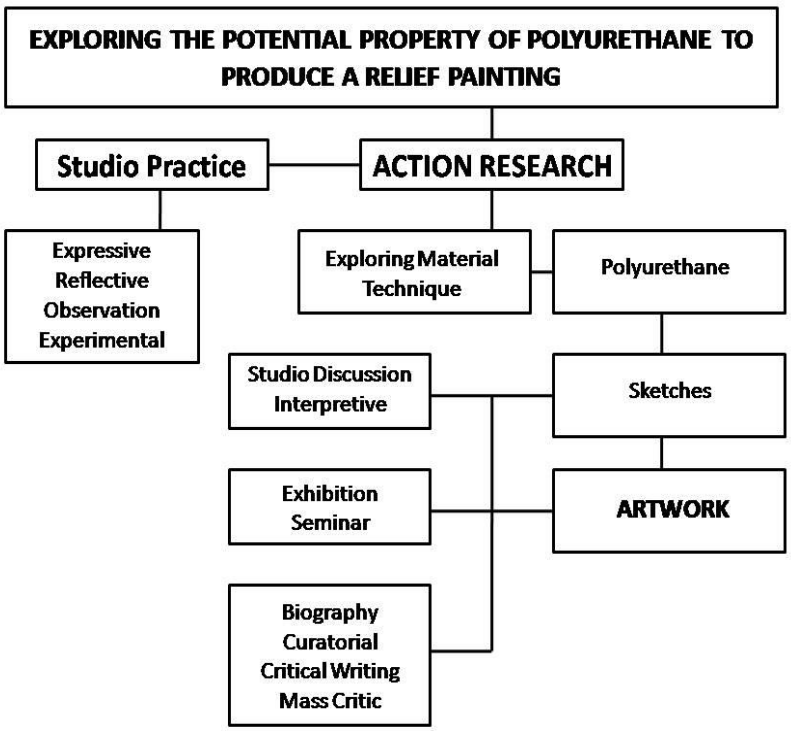
IN SEARCH OF A POTENTIAL MATERIAL AS AN ALTERNATIVE TO CANVAS

In order to obtain the potential material for the artwork, the researchers have looked at some examples of work from past and present artists, internationally and locally. Observations made from their works have made the researchers question themselves the potential of polyurethane as an alternative material in art making. They have thought of producing relief artwork because it is something that they have been unable to explore much in the past since they have been concentrating on canvas painting. They must also make sure that the material used to replace canvas has different behaviours and characters from canvas so that they could gain a new experience through this project.

Exploration of this material could help them to produce the artworks and challenge their creative minds. Simultaneously, exploration of this material will create a new medium for their artworks and allow them to impose various techniques onto the material. Rauschenberg (1970) stated that to create art, one should begin with the possibilities of the material. What the material could do or cannot do, would help the artist with his or her work.

The second problem for the researchers is the type of polyurethane and techniques to use. In the past, their paintings are always inspired by and related to their journeys to other places. In these visual diaries (the sketches and paintings), the researchers rely on colours and textures to express the outlook of their journeys. Thus, by going through the process of exploration of material, they would be able to identify other types of potential material to replace canvas in their future artworks. The process of identifying the potential material and interpreting expression into the work will be executed in a systematic approach, which will be recorded visually and analysed using formalistic approach. In addition, documenting each process explored onto the material will enable the researchers to evaluate, compare and assess the results and effectiveness of the material for relief artworks and as interpretation to their art expression.

Table 1 Methodology



Process of Making Artwork

1. Sketches & Ideas – the sketches that the researchers prepared for their artwork were based on the character and behaviour of polyurethane and the ways it reacted with heat and burn from the torch. I had earlier tested different thickness of polyurethane with heat and burn using torch to analyse its durability and suitability for abstract work to replace canvas.

2. Preparing the polyurethane – they used cut-out polyurethane and layered the material in the process of making the artwork. There is also polyurethane, which is used in the process as its existing size.

3. Experimentation Process – this process involves heat and burn using torch. The effect on the polyurethane may alter its original shape and texture. Heating will make the polyurethane easy to bend while burning the surface of the polyurethane will make its surface bubbly or holed. This process is repeated and layered piece by piece to create artistic composition. It is also based on early sketches made by the artists to plan its form, shape and textural quality of the artwork.

4. Finishing – the finished artwork is painted using oil color and wood varnish. The effect of color was consistent on the surface of the polyurethane whilst wood varnish produced various tonal effect made by the relief on the surface.

Ideation

The idea of using polyurethane is to replace the function of canvas in 2-dimensional painting. Although canvas can be manipulated such as folded, rolled and used as collage; canvas is unable to perform as 3-dimensional work on its own. Thus, by using the same techniques of manipulation onto polyurethane, the researchers aim to achieve new form of artworks that challenges their creative minds to produce new artworks beyond limits.

To start off the idea, they used paper to represent polyurethane. They chose paper because of its 2-dimensional character and flat surface, which is similar to polyurethane. Paper also has different thickness. They crumpled and folded the paper to create texture on it. Different thickness of paper gives different crumple texture quality and lines. The texture and lines indirectly created relief (high and low surface) on the manipulated paper. For example, 70 gms piece of paper has many thin lines and the surface breaks in to small shapes. On the other hand, 120 gms of paper has thicker lines and the surface breaks into larger shapes while 160 gms piece of paper has wider shapes on its surface compared to the previous ones. The relief also looks higher and more obvious than the rest of the papers. By layering the crumpled paper or using collage technique, it also created relief on the work.

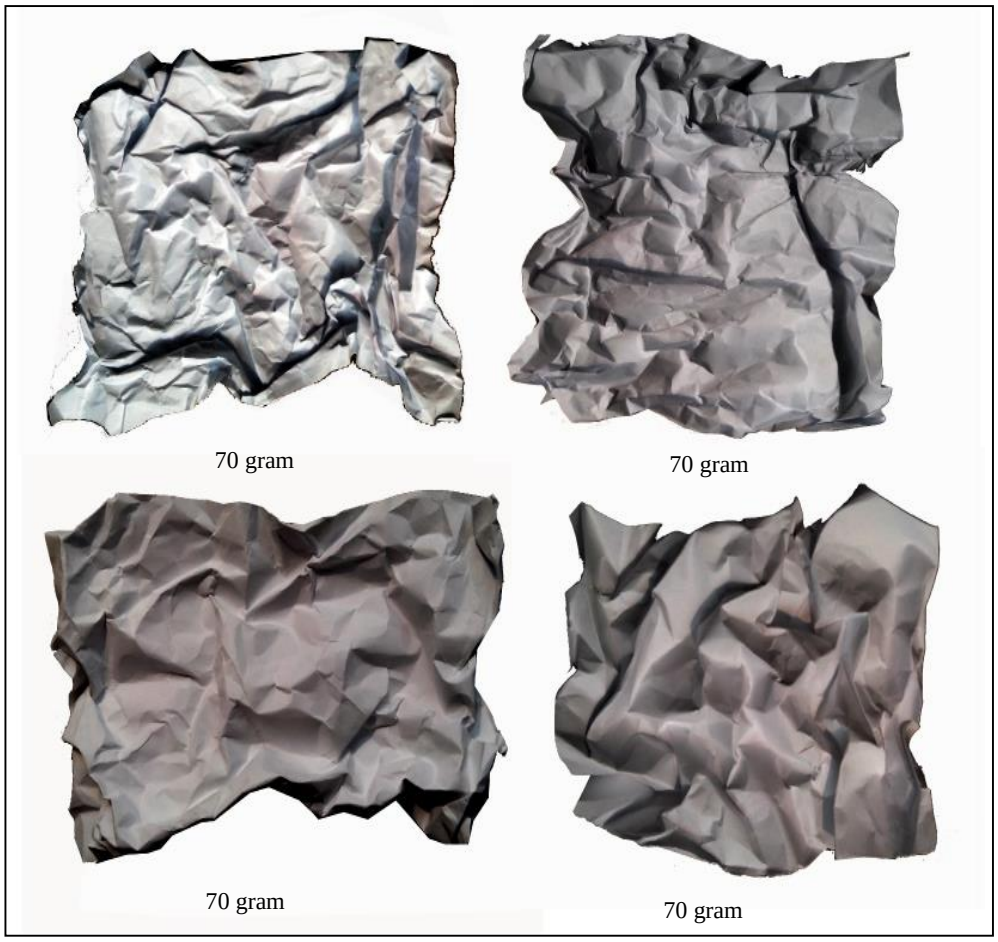


Figure 2 Crumpled paper effects

From this ideation process, the researchers sketched the textures and lines to achieve compositions of the artwork. They used ink on paper and different thickness of lines to show space and depth. This process continued using cut out polyurethane to experiment the effect of heat and burn techniques on the said material. Polyurethane was folded, rolled and used as collage by layering pieces of it to create texture.

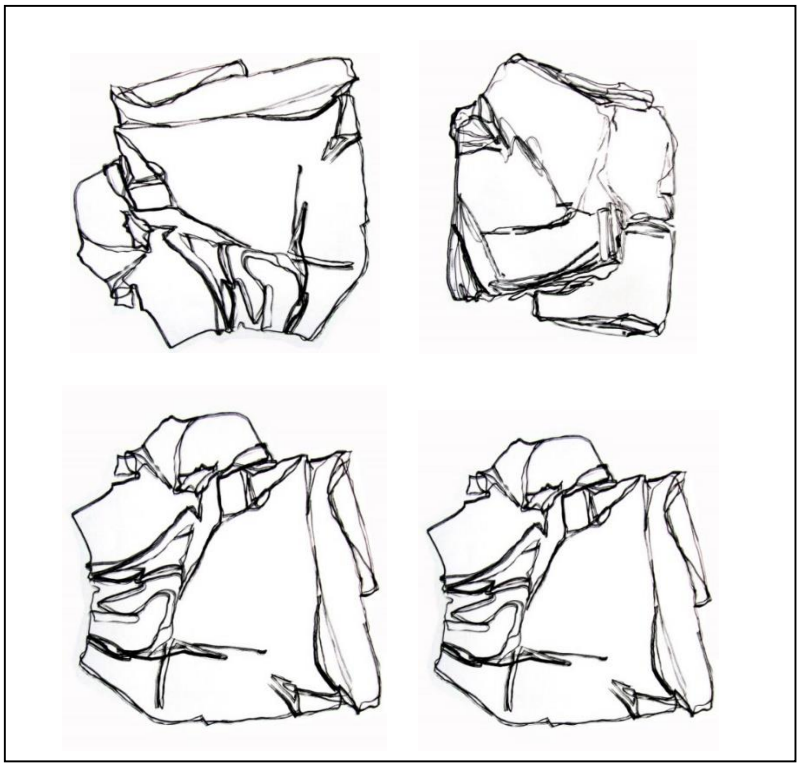


Figure 3 Sketches (drawing/ ink on paper)

Figure 4 Sketches (acrylic sheet/ relief)

Application on Polyurethane

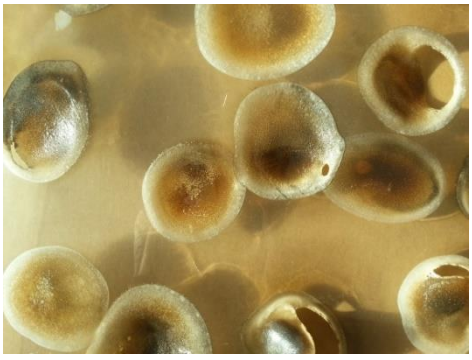
The form of the polyurethane used in this artwork is achieved by firing the material using torch. With different degree of fire and heat, different effect is achieved. It also depended on the thickness of the material. The ink drawings became major reference to guide the composition of the artworks.

Stronger fire will stain, burn or melt the surface of the polyurethane. It will also leave bubble marks that have different quality depending on how long the polyurethane is put under slow fire. The results achieved from these manipulations produced aesthetic values to the artworks apart from its form and shape.

Finished work is treated with oil colour and wood varnish. Oil colour made the surface of the artwork appeared smooth and wavy. On the other hand, wood varnish made the artwork looked hard and produced different hues of brown on its surface.

Step 1 Use varieties of heat by torch

Step 2 Use heat to form polyurethane



Step 3 Different temperatures of heat will produce different textures and burnt types

Step 4 Thickness of polyurethane will give different textural qualities and effects

Step 5 The results of the artworks apart from their forms and shapes

Step 6 Paint the artwork using oil colour and wood varnish for finishing

Figure 5 Process of making artworks: heat and burn by torch

Artwork

In Figure 7, the *White Wave* features a minimal style of artwork, which is based on white. The whole surface is white. However, texture and relief on the surface of the artwork created shadows and subsequently captured the viewers' attention. The form of the relief appears soft but the direction is clear to the viewers. This artwork is reminiscent of *Euphoriainahat* (2010) by John Chamberlain (Figure 8). The similarity of these two works is their shadow effects which create the form and shape on the artwork.

Figure 6 White Wave

Figure 7 Euphoriainahat (2010) by John Chamberlain

Figure 8 Fossil

The textures are the researchers' inspiration as the colours and textures express their feelings that they have experienced; awe, happy thoughts, despair, anger and sometimes frustration. They placed these feelings in visual through colours and textures; from sketches to large paintings.

Through the long years of the researchers' experience as artists, canvas has been their main medium that they have worked on to produce abstract expressionist-style paintings. Their paintings are in layers of thick acrylic paint, oil paint, gesso, collages and burnt canvas. There were times that the researchers intended to do more than textures and canvas limited their action. This has prompted them to explore polyurethane as their new medium of artwork. Positive-negative grounds were achieved by leaving holes in some parts of the work. The aggressiveness of their emotions was portrayed as textural quality on the surface of the work, which was made by applying strong fire onto the polyurethane.

They also used fire to heat up and burn polyurethane to get accidental effects based on its character and behaviour. Polyurethane is flexible under heat and melts under strong fire. The results of heat or fire applied onto various thickness of polyurethane may be different from their visual expectation. Thus, the process of work enabled them to evaluate, compare and assess the results and effectiveness of the material for relief artworks to interpret their art expressions.

CONCLUSION

The techniques applied on polyurethane created new style of artworks that explores on relief and surface. This becomes the aesthetics of an artwork, which no longer relies on form and shapes. The transparent character of polyurethane becomes more interesting when it is supported by light. The transparent material also allows working on both sides of its surface and enables the researchers to work on the artwork layer by layer. The polyurethane technique has uniqueness especially in terms of new material development. Simultaneously, exploration for materials will create new mediums for the artwork and allow to impose various techniques onto the material.

From a piece of industrial material, polyurethane becomes a medium to relief painting, creating a new body of relief work. It works well with the techniques applied and satisfies the researchers' expectations. Although there may be accidental effects produced in the process, they are happy with the results, which has taken them away from their regular style. Fire plays an important role in this process. Different degrees of fire produce different heat levels and this produces different effects to the material. The effects may alter the form, shape and texture of the material. Heated polyurethane can be combined layer by layer to help create relief and thickness to the artwork. The works are finished with oil colour and varnish.

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