Hacettepe University Graduate School Of Fine Arts

Ceramics Department

Master of Fine Arts in Ceramics

THE STYLIZATION OF SEA WAVES AND ITS CHARACTERS REFLECTION FOR CERAMIC ART FORM

Mohd Yahya DAUD ISMAIL

Master's Thesis in Art

Ankara, 2018

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The jury finds that Mohd Yahya DAUD ISMAIL has on the date of 09 July 2018 successfully passed the defense examination and approves his Master's Thesis in Art titled " The Stylization of Sea Waves and its Characters Reflection for Ceramic Art Form".

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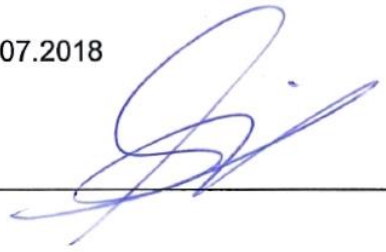

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ABSTRACT

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Ceramic art form is a contemporary art that are gaining attention among art lovers. The effectiveness of an art form is closely related to message that wants to be delivered by artist and also the source of inspiration in generating the artwork. In this study, the stylization concept was chosen to ensure that the resulting ceramic art form has its own unique value plus reviving the use of stylization technique especially in three-dimensional artwork. In addition, the production of art form is seen to have more effective impact if the research subject or idea used is inspired by nature due to its attractive character whether implied or explicit that can be composed to produce an artwork. Therefore, in this research, sea waves will be used as research subject and be applied onto ceramics to produce ceramic art form with stylization concept. Element diversity and characters reflection of sea waves will be fully utilised in conducting this research. The final result of this research will appear in production of three-dimensional ceramic art form influenced by sea waves.

Key Words

stylization, sea waves, ceramic art form, surface texture

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CHAPTER ONE
INTRODUCTION

1.1 BACKGROUND OF STUDY

Sea is a natural treasure to the whole world that gives great influence in every aspect of human life. The oceans have long been recognized as one of the humanity's most vital natural resources (Costanza, 1999). The importance of the sea covers a wide range of areas such as trade, transportation, fishery and aquaculture, mineral extraction, and power generation. In addition, the use of the sea for recreational and leisure has become a significant industry in the twentieth century involving a lot of activities including swimming, diving, surfing, and sailing. The sea is also important for ecology and environment. Seas cover more than 70% of the surface of the globe and play an essential role in weather and climate. The oceans absorb 80% of the heat and 20% of the carbon emissions produced by human activity (French Maritime Cluster, 2015, para.4).

One of the interesting elements of the sea is the waves, sea waves are very important and necessary part for our planet, and the motions that created from the wave movement perform a vital role in transporting energy around the globe and shaping the coastlines. Waves occur through seamless unpredictable variables conditions such as wind, season, weather and disruptions on the seabed such as earthquakes and volcanic eruptions. This environmental condition is causing sea waves to always alter its nature and appear with different behaviour and characteristics. As an example, the shape, size, colour, speed, and strength of the waves are constantly changing. Slater (2012) states that "No two waves have ever been exactly the same, and each unique creation of wind and water will find its own way to hit our shore one every second in time into eternity" (p.10). Generally, sea waves are divided into several and the common sea waves type are capillary, surging, spilling, plunging and also seismic wave which commonly called a tsunami.

Throughout history, sea and waves have always been a subject of works of art. The influence of sea in art is very clear as it inspired and has been depicted in wide forms of artistic works includes paintings, literature, folk art, cultural art, music and songs, and photography ranging from ancient to modern and contemporary art. The sea and

shore have always inspired artists. In contemporary art, seascapes lend themselves to abstraction and to modern styles. The simplicity of seascape compositions both invite and require an artist's creativity to bring motion, interest, a story, or a meditation into each scene ("Waves of Inspiration," 2016, para.3). Waves possess unique characteristics and unlimited possibilities that are open to be explored. For that reason, it is perfectly suitable to be used as research subject in the production of artwork. For example, for its physical appearance, the sea waves have a rich colour range and unique surface textures that are changeable depends on the weather conditions.

Apart from that, the characteristic of the wave is not limited to its physical properties only. Waves are generally known to gives emotional impact on one's life depending on the person's experience with it. As stated by Savage (2009), "Some people love the ocean. Some people fear it. I love it, hate it, fear it, respect it, resent it, cherish it, loathe it, and frequently curse it. It brings out the best in me and sometimes the worst" (para.2). For some people, the waves give a sense of calm, peacefulness, unity, and happiness. However, for those who have past experiences with violence, damage, and harm caused by the power of the destructive waves have made them traumatized and shadowed in fear of the waves. Therefore, these elements and characters reflection from sea waves has great potential to be translated into the form of artworks.

Most of the existing artworks inspired by sea waves are only presented in the two-dimensional art such as paintings, drawings and digital prints. With the continuous introduction of new concepts and the growing of art mediums, it is rather inappropriate for wave-inspired artwork to be left ignored and unchanged for long periods without new developments. Therefore, new approaches need to be taken and the use of ceramic as a medium has been identified to provide new changes. Contemporary ceramic art is making a great revival in the world of fine arts, and it is doing so with such style and elegance (Bozovic, 2016). The use of ceramics may be able to refresh and revive the use of the sea waves as a subject in the production of artworks. It also opens up space for interesting elements and characters of sea waves to be applied to three-dimensional artwork.

In addition, the combination of waves and ceramics has the potential to trigger something new due to the similarity shared between them which both of them are based on nature. Creating with natural materials deepens the artistic experience and

the effect it has on the practitioner. Furthermore, as we cultivate our real relationship with nature through our creative expression, this positive change will grow and expand into other fields of life (Har-Lev, 2010).

In terms of concept, art form can be seen as a kind of contemporary art that is increasingly gaining attention. According to Esaak (2014), form, in art, means the whole of a piece's visible elements and the way those elements are united. In this context, form allows us as viewers to mentally capture the work, understand it and attempt to analyze it. In this sense, the making of the ceramic art form not only able to propel the use of ceramics as a new art medium but it can give great effect to the audience as well as be an effective way in conveying information and messages.

Many artworks produced nowadays uses sea and waves as the subject and source of inspiration. It is cannot be denied that there are actually some efforts taken to diversify the production of wave-inspired artworks. However, if observed carefully, most existing artworks inspired by sea waves only tend to replicate the waves without much development and improvement on the subject. This is quite a setback as the potential of the sea waves is not fully utilized. Therefore, it is very important to adopt a new approach to producing sea waves-inspired ceramic artwork.

Fundamentally, the use of appropriate techniques is crucial to ensure that the elements and characters from the selected subject can be fully absorb and translated into the ceramics artwork. In this regard, the use of stylized techniques in the production of ceramic pieces is something intriguing to be experimenting. Historically, the creation of artworks in its early stages often uses stylization techniques however its popularity does not last. As time progressed, the goal for many artists became increased mimesis, and stylization began to slowly give way to more realism in art (Principle Gallery, 2017). Therefore, the decision to produce sea waves-inspired artworks using stylization technique is a worthwhile effort as it offers great opportunity to revive the use of this technique especially in the context of ceramic art.

Ceramic art form inspired by sea waves can be highlighted as an artwork that gives a new approach with a different perspective to ceramic art due to its relation to nature. Besides that, the use of stylization techniques will certainly produce something interesting and open up new opportunities in the production of ceramic artworks. The

establishment of new medium and concept in producing artwork inspired by sea waves brings about a great benefit for artists and art practitioners. Other than that, Sea waves also can be seen as an attractive intermediate to be used in making artwork because it offers a lot of interesting features not only physically but also on the background history and its role in nature.

1.2 PROBLEM STATEMENT

Today, driven by their unique element and characteristics and also great historical events involving sea waves, efforts are continuously being made to produce artworks which are inspired by the sea waves. However, most of the artworks often end up with results that can be considered as duplication as it only attempts for a full, precise and accurate representation of sea waves visual appearance. In addition, the presentation of sea wave-related artworks is also regarded as inadequate, because most of the existing works are usually two-dimensional. For example, artworks such paintings, drawings and digital printings.

Other than that, greater emphasis should be given to the study of the sea waves from the perspective of art. This is because the previous study of sea waves mostly highlighted on the aspects of science and technology only thus less interpreted in the context of art. As a result, lack of research on elements and characteristic of sea waves in the context of art presentation. Furthermore, less experiment is made on using ceramics as a medium to produce sea waves inspired artworks.

1.3 AIM AND RESEARCH OBJECTIVES

1.3.1 Aim

The aim of this research is to produce ceramic art form inspired from sea waves. Also to explore the possibility of applying sea waves elements and characteristics on ceramic media using stylization technique.

1.3.2 Research Objectives

The following are the objectives for this research:

i.) To identify interesting elements and characters in sea waves and its potential to be applied to ceramics.
ii.) To study the types and behaviour of sea waves and also its character reflections.
iii.) To conduct an experiment on the use of stylization technique for the production of sea waves-inspired ceramic art.
iv.) To identify the suitability of materials, methods and tools for the application of stylized sea waves pattern onto the ceramic surface.

1.4 RESEARCH QUESTION

i.) What elements and characteristic can be highlighted from the sea waves to be applied to ceramics artwork?
ii.) What is the nature of sea waves that can be studied in the context of ceramic art?
iii.) What kind of concept or theme that can be used in the production of ceramic artwork, inspired by the sea waves?
iv.) What kind of artworks that have been produced inspired by the sea waves and how they are applied and presented?

1.5 SCOPE OF THE RESEARCH

i.) Overall, this research focused on the application of stylized sea waves to ceramics.
ii.) Highlighting the diversity of the nature and character reflections of sea waves into three-dimensional ceramic arts.
iii.) Stylizing the varied movement of sea waves into pattern and design.
iv.) Exploration and experiment on ceramic glaze which reflects the colour and movement of the sea waves.

1.6 DELIMITATION AND LIMITATION

1.6.1 Delimitations

Within the parameter of the adopted methodology, observation and investigation on the sea waves which carried out in this research did not set a specific location of where the sea waves are captured and recorded. This is due to the fact that the sea waves itself is geographically very wide. However, this research has accepted the fundamental

properties, processes and general characteristics of sea waves as a reference in conducting the study.

This research also does not intend to challenge the two-dimensional sea waves stylized design which has been produced and commercialized. As an example, wallpapers, textiles, gift wrappers or any other computer generated printing products. On the contrary, this research emphasizes on the application of sea waves that have been stylized into three-dimensional ceramic works or in other words, ceramic art form. This is because computer-generated products considered to be on other platforms with the help of technology and intended for commercial purpose only. Whereas, the making of artworks in this research, is intended for the appreciation of art and acknowledging its aesthetic value which also wholly retains the value of the sea waves as a research subject.

1.6.2 Limitations

The collection of data in this research are based on few methods. However, this research depends largely on visual analysis technique such as observation to images and videos which promote a better understanding of sea waves elements and characteristic especially on its physical appearances. Therefore, it is important to emphasize here that the physical condition of the sea waves is always changing and influenced by external factors such as earthquakes, winds, weather, and seasons. Therefore, the observation made on the sea waves for this research can be considered changeable and not fixed as it depends entirely on the moment and place where the collected data is recorded, either in the form of images, videos or other digital sources.

1.7 SIGNIFICANT OF THE RESEARCH

i.) Paving the way for possibilities of applying other stylized subjects or materials onto ceramics, thereby reviving the use of stylization in artworks.
ii.) It is hoped that this study will be a boost for artists and art practitioners to explore new approaches in applying the research subjects into three-dimensional ceramics.
iii.) The findings and result can be transformed into a documented article that provides a comprehensive understanding of sea waves elements and characteristics and its application on ceramics.

CHAPTER TWO
LITERATURE REVIEW

2.1 INTRODUCTION TO SEA WAVES

2.1.1 What is Wave

Waves according to Dictionary.com (2017), is a disturbance on the surface of a liquid body, as the sea or a lake, in the form of a moving ridge or swell. While the definition of waves in context of science is; a disturbance, oscillation, or vibration, either of a medium and moving through that medium (such as water and sound waves), or of some quantity with different values at different points in space, moving through space such as electromagnetic waves or a quantum mechanical wave described by the wave function (The American Heritage Science Dictionary, 2002).

The initial thought concerning waves leads us to imagine that waves move across the surface of the sea, ponds, lakes, or other bodies of water. In a simpler sense, a wave can be considered as a distraction that moves through the medium from one place to another. As an example, when a stone is thrown into a pond, it forms a distraction and produces ripples that move together as the front in a straight line course, or the waves may be round waves that start from the location where the distraction takes place in the pond. The wave is defined as the energy transferred through medium with regular vibration or oscillating motion. A few examples of waves are water wave, light wave, electromagnetic wave, sound wave, seismic wave ("Waves - Definition, Types & Function," 2017).

Figure 1: Ripples formed resulting from the throwing of a stone in a calm water. Photo by Qimono (2016).

The waves appear in many forms and structures. Although all the waves share a few fundamental trademark features and behaviours, a few waves could be distinguished from the others by several features. For example, one method of distinguishing waves is with the medium channel where they move. Waves are categorised into three which is Electromagnetic Waves, Mechanical Waves, and Matter Wave.

Sea waves are categorized as Mechanical Waves. Mechanical Wave is a wave that is unable of delivering energy through a vacuum. They are emitted by intermolecular powers and also by the impacts among particles. A Mechanical wave is a periodic disturbance, which requires a material medium (solid, liquid or gas) for its propagation ("Waves - Definition, Types & Function," 2017). These waves are also called as elastic waves because their dispersion relies on the elastic features of the medium they are passing through. The particles of the medium in these waves, simply shake forward and backwards around its mean position.

Among the examples of Mechanical Wave are ocean waves, sound waves, water waves, a vibration of a string, ultrasounds, earthquake waves, vibrations in gas, and oscillations in spring, internal water waves, and waves in slink etc. ("Waves - Definition, Types & Function," 2017).

2.1.2 How Sea Waves is Formed

Generally, the waves are the oscillations of water that can be seen in any water basin such as lakes, seas, rivers and even a small pond. For a wave to exist there must be an initial equilibrium state, which is perturbed by an initial disturbance and compensated by a restoring force (Toffoli & Bitner-Gregersen, 2017). Generating components of sea waves are mainly started by wind, atmospheric pressure gradients, gravitational pull between the Earth, Sun, and Moon, and also seismic disturbance of Earth the during earthquakes.

Waves in a sea are more appropriately called wind waves, as they are developed by the wind which is the main disturbing force in the open sea. The definition is: wind-generated waves are surface waves that occur on the free surface of oceans, seas, lakes, rivers, and canals or even on small puddles and ponds (Fabricius, 2010). When winds start to blow over the sea surface, it builds tension and pressure. Then, capillary

waves, which is small rounded waves, begin to form. These waves will constantly change according to the strength of the wind. As winds increase, capillary wave development increases and the sea surface becomes rough ("Waves," 2003). This demonstrates excellent circumstances for the wind to increase the surface region of the wave, exchanging expanded power to the waves.

While according to Marine Insight (2017), When the wind is blowing on the sea, the surface exerts the gravitational force on the bottom layer of the wind. This, in turn, draws on the layer above it until it reaches the top layer. With different gravity pulls on each layer, the wind moves at a different speed. The top layer falls, forming a circular motion. This produces downward pressure on the front and upward pressure on the back of the surface, causing the wave.

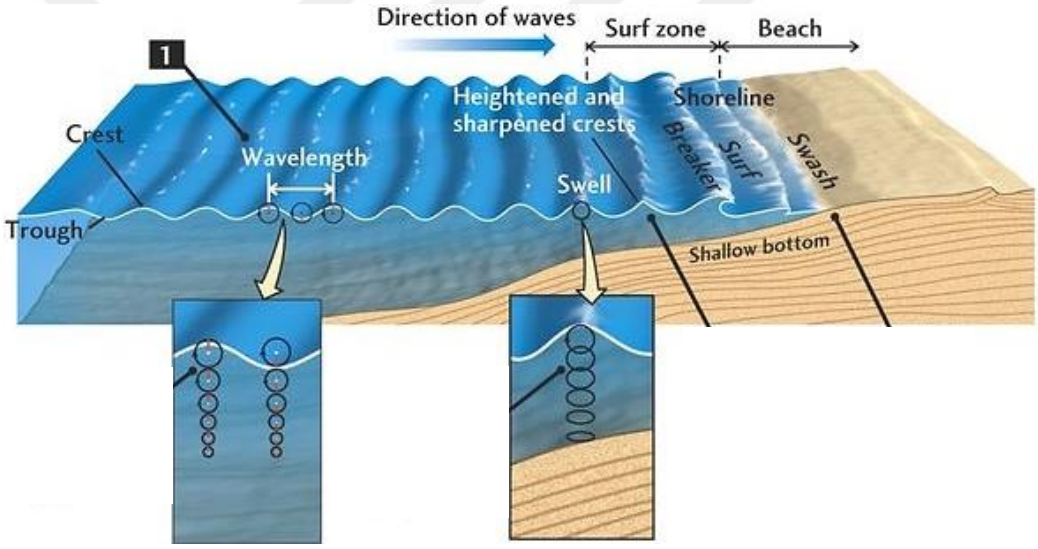

Figure 2: Illustration of the basic parts of sea waves and its movement of water particles with the passage of sea waves. Illustration by Intro Geology Course at Fort Hays State University (n.d).

As shown in Illustration 1 above, a group of waves comprises of a few crests at the top and separated by troughs. The height of the waves is called the amplitude, the distance between successive wave crests is known as the wavelength, and the time between successive wave crests is the period (Cousteau, 2014). The height, length, and period eventually achieved by a wave depend on three factors: (1) wind speed; (2) length of time the wind has blown; and (3) fetch, the distance the wind has travelled across the open water.

When a wave drawing near to the shoreline, the water becomes shallower and affects wave behaviour. The wave then starts to “feel bottom” at a water depth equal to its wave base. As wave progresses, the slightly faster waves farther out to sea catch up, decreasing the wavelength. At this moment, the speed and length of the wave slowly decrease, and the wave grows higher until it finally becomes too steep and collapses, or breaks. Waves are categorized into different types depends on their periods. They comprise of ripples, tides and also tsunami.

2.2 TYPES OF SEA WAVES

Sea waves are formed as a result of the endless movement of water mixed with the blowing winds and the gravitational forces of the sun and the moon. Winds, however, are the main source that generates sea waves which, lead to diverse physical appearances and conditions of the waves itself. Waves can vary in size and strength based on wind speed and friction on the water's surface (Briney, 2017). The sea waves are classified based on its behaviour and formation.

According to Marine Insight (2017), here are the different types of waves of the sea:

- Breaking Waves
    a) Plunging Breaker
    b) Spilling Breaker
- Destructive Waves
- Constructive Waves
- Inshore Waves
- Internal Waves
- Kelvin Waves
- Progressive Waves
    a) Capillary Waves
    b) Orbital Progressive Waves
- Refracted Waves
- Seiche Waves
- Shallow Water Waves
    a) Tidal Waves
    b) Seismic Sea Waves/Tsunami
- Deep Water Waves
- Swell Waves
- Surging Waves

2.2.1 Breaking Waves

When waves nearing the shore, the base of the wave starts to touch the floor of the sea and the wave's prole starts to alter. The movement of the wave slowed by this friction, but still maintains its initial pace. Effectively, it starts leaning forward then collapses on top of itself, forming a breaker. They are two types of breaking waves:

2.2.1.1 Plunging Breaker

A plunging breaker drawing near a steeper seashore and assemble a curling crest that moves above the air pocket. The curling water is travelling faster than a slow wave base, and the water flows itself with anything underneath for support.

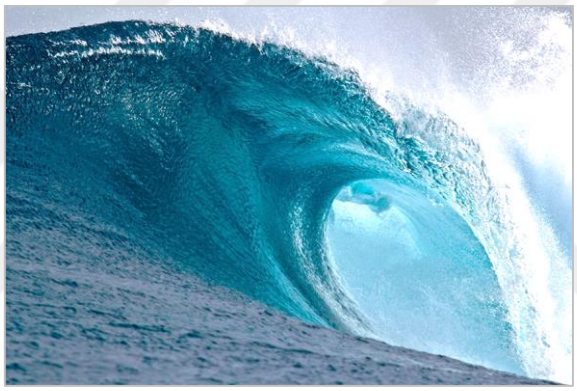

Figure 3: Plunging breaker wave. Photo by NOAA (n.d).

2.2.1.2 Spilling Breaker

A spilling breaker is the exemplary moving wave coming up an increasingly sloping sandy shoreline. Lengthy slope depletes the wave energy over a vast space.

Figure 4: Spilling breaker wave (Slater, 2012).

2.2.2 Destructive Waves

Short wavelength waves and an upright ellipsis. As the wave breaks on a steep beach, the water plunges ahead into the trough. They have a strong backwash and can easily drag the objects into the sea. Destructive waves are typical in offshore wind circumstances.

Figure 5: Destructive waves. Photo by Mosley (2017).

2.2.3 Constructive Waves

Constructive waves are produced in calm weather and when the ocean floor has a gentle slope. It has long wavelength and low height. It is less powerful than destructive waves. As the wave approaches the shore, it slowly releases energy, and the crest gradually spills forward down its face until it is all white-water. When the wave breaks, the water reaches the upper part of the beach with little backwash (Marine Insight, 2017).

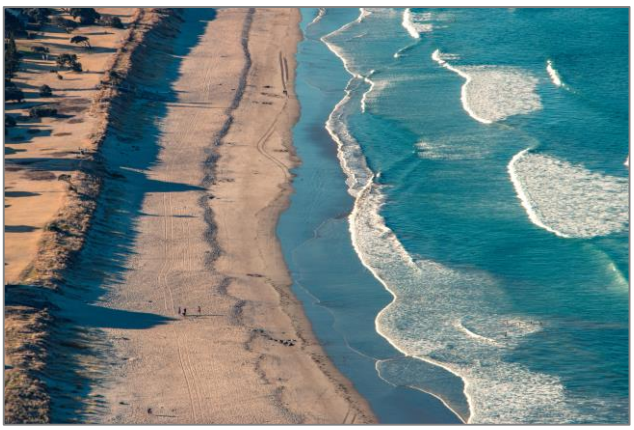

Figure 6: Constructive waves. Photo by Sanford (2017).

2.2.4 Inshore Waves

Inshore waves length is not as much as the profundity of the water they enter, which diminishes the speed of the waves. This led to the reduction of the wavelength and increment in the height, which eventually breaking the wave.

Figure 7: Inshore waves. Photo by GotriKroya (2012).

2.2.5 Internal Waves

Internal waves are interferences that occur at the boundary between the mass of water and various densities. The heights of the wave can become quite big, occasionally surpass 330 feet (100 meters) and may be formed by turbidity currents, tidal movement, passing ships, or wind stress ("Waves," 2003). The waves have a minimum surface expression, however, if the crests nearing the floor, they have an effect on the reaction of light from the water. As internal waves approach a landmass, they build up and expend their energy as turbulent currents.

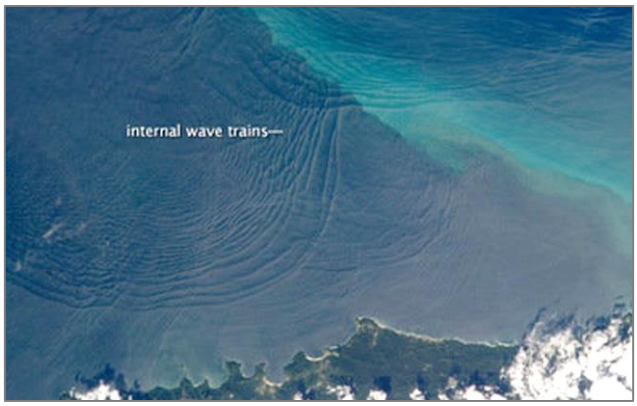

Figure 8: Image taken from the International Space Station shows Internal Waves moving through the Caribbean. Image by NASA (2013).

2.2.6 Kelvin Waves

Kelvin waves in the western Pacific Ocean are internal waves that form near Indonesia and travel east toward the Americas whenever the west-to-east trade winds diminish. A typical Kelvin wave is 10 centimetres high, hundreds of kilometres wide, and a few degrees warmer than surrounding waters ("Waves," 2003).

2.2.7 Progressive Waves

These waves are called Progressive Waves because it moves at a steady speed. Progressive Waves divided by two types:

2.2.7.1 Capillary Waves

The shortest-period waves and the first to be seen on the sea surface when wind begins blowing are the capillary waves. This peculiar wavy structure is generally forced by a light breeze of speeds of about 3m/s and assumes a fine structure of small ripples with a wavelength of less than 1.5cm and period less than 0.1s. The dynamics of capillary waves is dominated primarily by surface tension (Lamb, 1994). As waves continue growing under the influence of wind, the originally small ripples develop into longer waves. For wavelength of approximately 1.7cm (or wave period of about 0.33s), gravity cancels capillary effects, suppressing dispersion (Lamb, 1994).

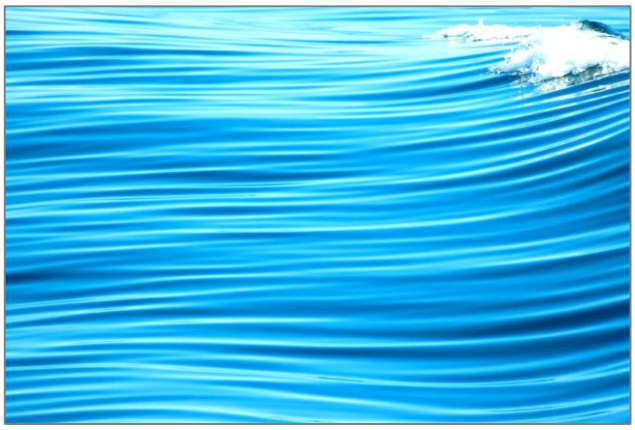

Figure 9: Capillary Waves. Image by Fenstermacher (n.d).

2.2.7.2 Orbital Progressive Waves

Formed at the boundary of two liquids with different density.

2.2.8 Refracted Waves

Travel in shallow water when they approach the shore. The shallowness decreases the power of the wave and causes a curve. These are usually seen near headlands and bays (Marine Insight, 2017).

Figure 10: Refracted Waves. (“Wave refraction and interference patterns,” n.d)

2.2.9 Seiche Waves

The seiche phenomenon correlates with the shaking of water in a conned area at a thunderous recurrence. Whenever aggravated, water in a bathtub, pan, lake, ocean basin, or harbour will slosh forward and backward at a specific thunderous recurrence. The recurrence will adjust with changes in the measure of water and the form and size of the conned area. Seiche is one sort of standing wave as opposed to a progressive wave. The periods of seiche wave can keep going for a couple of minutes to over a day and have a great degree of wavelengths. Nevertheless, destruction from seiche waves is unlikely due to the wave height in the vast sea is just a few inches ("Waves," 2003).

2.2.10 Shallow Water Waves

Shallow water waves are those moving in water less than one-twentieth the depth of their wavelength. Waves moving toward shallow water at a coastline are in this class. The circles of water particles in these waves are at ellipses instead of circles. The movements of shallow water wave can be felt at the base, and their collaboration with the base influences both wave and ocean bottom ("Waves," 2003). They are of two types of shallow water waves:

2.2.10.1 Tidal Waves

Tides are actually the biggest waves on the planet, and they cause the sea to rise and fall along the shore around the world (Fairclough, 2017). Tides exist on account of the moon and the sun's gravitational pull, yet contrast depends upon where the moon and sun are in association with the sea as the earth spins on its axis. The pull of the moon and sun cause high tides or two bulges in the sea on opposite directions of the earth. Because the moon is significantly closer to the earth, it has more capacity to pull the tides compare to the sun and surely it is the essential power creating the tides. Nevertheless, when the moon and sun bolster each other's gravitational pulls, they produce bigger tides called spring tides. The opposite of this, when the gravitational forces of the moon and sun pull from opposite sides of the earth and cancel each other out is called a neap tide and results in a smaller tidal range (Fairclough, 2017).

Figure 11: Photo showing difference in water level during low tide (top) and high tide (below). Photo by Brown (n.d.).

2.2.10.2 Seismic Sea Waves/Tsunami

This waves move very fast in vast water, have a huge height in shallow water, and are extremely devastating and dangerous (Marine Insight, 2017). Seismic waves are shaped when an extreme disturbance, for example, an earthquake that affects the sea. Seismic waves are famously known or called in their Japanese name which is a tsunami. In some cases, they are inaccurately called tidal waves; however, they are not related to the tides.

Tsunamis typically have wavelengths of 200km, which makes them shallow water waves even in the ocean. They travel extremely fast in open water, 700 km/h (435 m/h) ("Waves," 2003). These waves have insignificant wave heights at sea, but in shallow waters, they can surpass 30m (100 ft.). They may move across the sea almost unnoticed until the point that they arrive at shore. Earthquakes in the Aleutian Trench regularly send large seismic waves across the Pacific Ocean, affecting Hawaii and the coastlines of the North Pacific Ocean ("Waves," 2003).

Figure 12: Tsunami waves hit the coast of Minamisoma in Fukushima Prefecture. Photo by Tomizawa (2011).

2.2.11 Deep Water Waves

Deep water waves are comprised of various waves with different distances overlapping on each other. They are powerful, straight and long, and travel a great distance (Marine Insight, 2017).

2.2.12 Swell Waves

Swells are defined as mature undulations of water in the open ocean after wave energy has left the wave-generating region (Briney, 2017). Swell waves are long-crested, consistently symmetrical waves that have move outside the zone of their origin. Swell waves expel little energy and travel vast areas of the ocean, fanning out from approaching storm systems ("Waves," 2003). Wave scattering starts to produce results and the swell waves end up plainly assembled by their wavelength. Waves with longer wavelengths travel faster and quickly outperform the slower waves with shorter

wavelengths. The long-wavelength waves do not have steep wave heights but move out of the generating area first, with wave groups of progressively shorter wavelengths following. This procession is termed a "swell wave train" and can travel long distances, breaking on distant shores. ("Waves," 2003).

Figure 13: Swell Waves. Photo by Jonathan (2012).

2.2.13 Surging Waves

Surging waves is the wave that do not break in the traditional sense. This wave comes in out of relatively deep water onto steep beaches and it will surge up the beach. It can happen at high tide when the beach profile is too steep to enable the wave to break properly.

Figure 14: Surging Waves. (“Surging wave at Cape Leeuwin,” n.d.)

2.3 ELEMENTS AND CHARACTERISTIC OF SEA WAVES

In the production of works of art, observations on the research subject is a very important process for determining the direction and content for the artworks that are going to be produced. In this sense, the elements and characteristics of the sea waves should be thoroughly addressed to maximize their potential to be translated into artwork. Based on the elements and principles of art as a guideline, this study attempts to identify and deeply understand interesting elements and characters of sea waves and its potential to be applied to ceramics. Among the elements of sea waves that have been identified for this research is, colour, form, texture, line, and shape as well as its characteristics that includes its power, strength, and violence.

2.3.1 Sea Wave Colour

Sea waves have very interesting attributes in terms of colour as they are constantly changing and therefore appear with a very wide range of colours. When we look at the sea, our eyes actually see the colours that are reflected back. The colours that we see in the sea are influenced by what is inside the water, and what colours it absorbs and reflects (Kennedy, 2017). There is no simple explanation to answer the questions about the colour of the sea waves because it largely depends on a range of elements, such as the weather, location, the depth of the sea, how much wave action there is, and how rocky or sandy the coast is. The colour of the sea and oceans can change markedly according to both time and place (Fleming, 2015).

The variation and changes in sea colour are closely related to both physics and biological factors. If observed, sometimes the colour of the sea appears to be green and this occurs as a result of biological reactions by tiny organisms called phytoplankton. Water with lots of phytoplankton (tiny plants) in it will have low visibility and look greenish or greyish-blue. That is because the phytoplankton contains chlorophyll. The chlorophyll absorbs blue and red light, but reflects yellow-green light. So this is why plankton-rich water will look green to us (Kennedy, 2017).

Generally, when mentioned or discuss about the colour of the sea, of course, the blue colour that first comes to our mind. This is true, because most of the time the sea does looks blue from our observation. In a tropical ocean, for example, the Caribbean, the

water is likely to be a beautiful turquoise colour. This is because of the absence of phytoplankton and particles in the water. Water molecules are better at absorbing light with longer wavelengths, meaning the reds, yellows and greens. This mostly leaves the blues, which have shorter wavelengths. As blue light is less likely to be absorbed, it can penetrate to deeper depths, making the sea appear brilliant blue (Fleming, 2015).

In addition, for the areas that are closer to shore, the sea may sometimes appear to be a muddy brown. This is due to sediments being stirred-up from the bottom of the sea, or the shores and coastal areas being hit by the storms. Sand and silt carried into the sea from rivers, or mixed up from the seafloor by strong waves, can affect the colours of coastal seawater. Areas of river outflow, sewage outfall, or intense land runoff, near the coasts, may contain large amounts of sediments, which give seawater dirty colour (Chamberlin, n.d.). To some extent, the sea also reflects the colour of the sky. That is why when we look across the sea, it may look grey if it is cloudy, orange if it is during sunrise or sunset, or brilliant blue if it is a cloudless, sunny day (Kennedy, 2017).

According to seascapes paintings artist, Marion Boddy-Evans (2016), The sea can range in colour from bright blues to intense greens, silver to grey, foamy white to polluted slick. She also stated that, when looking and observing at sea colour, do not look at only the water but also look at the sky, and consider the weather conditions as it influences the selection for acquiring real sea colour. She has spent years in observing the sea to produce the best seascapes art. As a result of her experiences, she has named the range of colours that she used for seascapes paintings as shown below:

Figure 15: Example of the colour range used by Marion Boddy-Evans for seascapes paintings (right). Photo by Marshall (2016) (left).

Figure 16: Example of the colour range used by Marion Boddy-Evans for seascapes paintings *(right)*. Photo by Bishop (2016) (left).

The fresh greenish-blue colours of sea waves are always spectacular and coupled with the sounds of waves crashing on the beach, give us a sense of calm and peace. In the production of artwork, colour is the key role in conveying the message and meaning. The diversity of the colours available in sea waves is very important because it triggers the idea and gives inspiration in creating works of art. As noted in The Pantone Book of Color (Eiseman & Herbert, 1990):

> "color can… identify and specify necessary objects for survival and/or enjoyment; stimulate and work synergistically with all the senses; mark territory and manage personal space; symbolize abstract concepts and thoughts; recall another time or space; create illusions and ambience; emphasize or camouflage figures or objects; enhance self-image and personal esteem; produce an aesthetic response. Most important, the use and arrangement of color enables us to create beauty and harmony and express our personal taste, and by doing so, provides us with a sense of accomplishment."

The colours of the sea, driven by the movement of the waves as well as its diverse character makes it interpreted with diverse context and emotionally affecting us. This makes the waves have a subjective and distinctive meaning depending on the assessment, approaches, and our personal perspective on it.

2.3.2 Line in Sea Wave

Line is considered by most to be the most basic element of art. In terms of art, line is considered to be a moving dot. It has an endless number of uses in the creation of art. Line can control viewer's eye, describe edges, and indicate form as well as movement (Fussell, n.d). If observed from the perspective of art, one of the most interesting elements we can find in the sea waves is the line.

There are various types of interesting lines that we can observe from different types of waves with different situations and weather. However, the nature of the seawater is not constant and it is always moving, therefore the lines that existed on the waves are difficult to observe at a glance. With the help of today's technology, sea wave observations can be carried out in more detail and closer using digital resources such as pictures and videos as in this study. But undeniably, artists who have been synonymous with wave and seascape paintings can accurately identify the properties and lines of waves due to years of observations and research on this subject.

The wave at the beginning of its formation is composed of fine lines resulting from the light winds at the ocean surface. This line is clearly visible in small and calm waves. As an example, the capillary waves and ripples. The lines seen from these types of waves are usually curved straight lines and these waves are usually formed early in the morning when the sea is still calm or when the wind blowing slowly. Depending on the wind direction, we can see the interesting outlines of capillary waves that are varied because it is always changing.

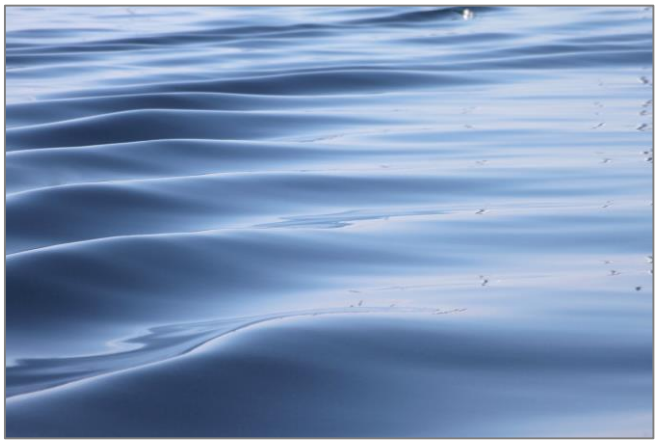

Figure 17: The diversity of lines on capillary waves. Photo by Rohlin (2015).

Closer to the shore, the lines in sea waves are increasing and varies as the waves start to curl upward and crashing on the shore. Coupled with the wind factor and the distance to the beach, to some extent affect the existing lines in waves and making it uneven and overlapping each other. On the plunging waves, it can be observed that on the rolls of wave, seconds before it crashed, are composed of small and subtle lines curved along the waves.

Figure 18: The lines formed on the curve of the plunging wave before it collapsed. Photo by Dixon (2013).

Figure 19: The lines that appear on the waves as it crashed the shore (Evan Slater, 2012).

In addition, coastal sea waves that are seen from a greater distance, for example, on a hill near the coast or through images taken with bird's eye point of view, also give very

interesting lines of waves. For example, wave trains that came pounding towards the coast at this point of view showed variation of lines that sometimes scattered but somehow attract attention because of its unbalanced yet harmonious structure. The waves in this view also show an interesting connection between the sea and the shore.

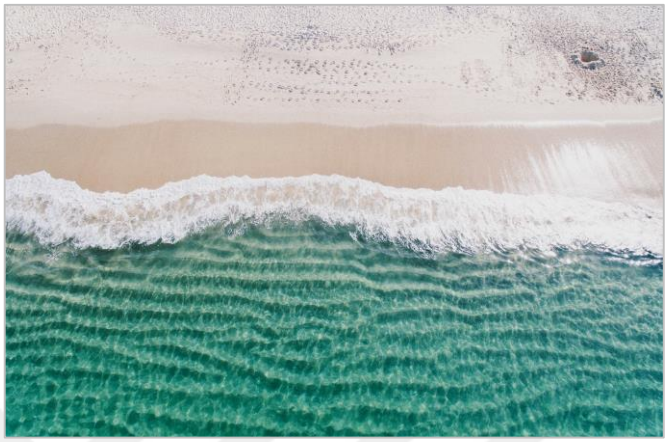

Figure 20: Seashore from bird's eye point of view. Photo by Pexels (2016).

Figure 21: Sea waves view from the hill nearby shore (Evan Slater, 2012).

It should also be emphasized here, perhaps from the observation of the lines on these waves which actually give the idea of early sketches that refer to the sea waves. For example, as can be seen in *Ha Bun Shu a Japanese Book of Wave and Ripple Designs* by Mori Yuzan (1919), which featured hundreds of waves sketches depicted in the form of fine lines. Overall, the lines in these sea waves are among the most important aspects of this study that can be absorbed to the production of ceramic art with stylization concept.

2.3.3 Sea Wave Texture

Texture is an important element to be highlighted in the works inspired by the sea waves. This is because of its diversity and uniqueness of texture. Texture refers to the way an object feels to the touch or looks as it may feel if it were touched (Fussell, n.d). Most objects have an appearance that clearly illustrates their texture and gives a sense of feels that corresponds to our initial perceptions if it is touched.

However, for sea waves or generally the water, this thing is slightly different. This is because the waves that look rough and violent in our view actually are not felt rough at all when touched because the water itself is indeed soft. However, the texture that appears on the wave actually represents the condition and behaviour of the wave at that particular moment. The calm waves have a soft-looking texture and reflect the tranquillity while a violent storm waves or tsunamis have a rough texture that basically looks rugged and have destructive power and deadly forces.

Figures below show the texture and nature differences that represent the waves. Figure 22 shows a capillary wave with a soft texture while Figure 23 shows a stormy wave with a rough-looking texture. Both of these waves, through their textures, reflect its actual nature and behaviour.

Figure 22: Capillary wave with a soft texture. Photo by Verstuyft (2017).

Figure 23: Stormy wave with a rough-looking texture. Image by NOAA (1989).

Therefore, the texture of sea waves is important in the production of artistic works, especially ceramics to convey the meaning through the characters of these waves by emphasizing the texture to the final artwork.

2.3.4 Form and Shape of Sea Wave

Actually, there is no specific shape for waves, unlike many of the other natural objects. The waves are basically water, and water does not have its own distinct and constant shape. The variety of shapes we see on the waves is actually the result of external factors that generated them and its mainly started by the wind. The result of the observation as well as how we interpret the shape of the waves leads to the representation and depiction of the sea waves through drawings, sketches and so on. For artists, deep and detailed observation is necessary to get the accuracy of the representation of sea wave into the form of artworks. A shape is one of the seven elements of art. When defining it within the study of art, shape is an enclosed space. Its boundaries are defined by other elements of art such as lines, values, colours, and textures (Esaak, 2017).

Meanwhile, according to Marder (2017), Shape is defined by the outer contour of an object, which is how we first perceive it and begin to make sense of it, but light, value, and shadow help to give an object form and context in space so that we can fully identify it. Therefore, identifying the shape of the wave is not an easy task because it is closely related to other elements as expressed by both Esaak and Marder. So in the

context of this study which emphasizes the concept of wave stylization, it is very important to identify the form and shape of the waves with good accuracy so that the result of the wave stylization for the final artworks will still be parallel and retains the overall shape of the waves.

Figures below shows a series of waves in two-dimensional shape. These illustrations show how the shape of the wave is generally interpreted and most of us indirectly already understood and even accepts that these are the shapes of sea waves.

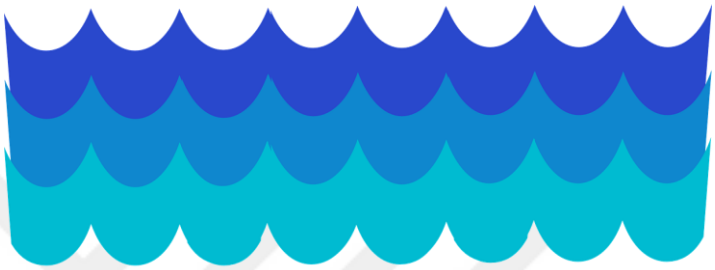

Figure 24: Sea wave shape. Illustration by Clker Free Vector Images (2014).

Figure 25: Sea wave shape. Illustration by Clker Free Vector Images (2013).

Figure 26: Sea wave shape. Illustration by Clker Free Vector Images (2014).

2.3.5 The Power, Strength, and Violence of Sea Wave

When we think of violence and brutality of waves, the first thing that comes to our minds is the destructive giant waves, namely tsunamis. This demonstrates how terrible the power, strength and violence caused by this giant wave. A tsunami is a formed by an unsettling influence that uproots an enormous volume of water, similar to a landslide or an earthquake, and they regularly emerge in groups or units. Tsunami waves are able to destruct coastline networks with a big wave that occasionally outperform 20 meters of heights. Since 1850, tsunamis have caused more than 420,000 deaths: and in 2014, Indonesia, more than 230,000 people were killed by the giant earthquake, and the damage caused to the Fukushima nuclear reactor in Japan by a tsunami in 2011 continues to wreak havoc (Fairclough, 2017).

However, tsunami waves are not the only giant wave that brought destruction. ‘Rogue waves,' which can form during storms is one of them. There are reports of 112ft (34m) and 70ft (21m) wave it and can be extremely unpredictable. To sailors, they look like walls of water. No one knows for sure what causes a rogue wave to appear, but some scientists think that they tend to form when different ocean swells reinforce one another (Fairclough, 2017). These are the types of waves that usually cause destruction and sunk of most of the ships, especially small fishing boats. The power of this waves is very powerful and has caused many people to die in the oceans.

Although it is very heartbreaking to see the devastation and destruction caused by the power and violence of these waves. However, from the perspective of art, the story behind this wave has the potential as a subject or theme to be translated into the form of artwork with a purpose as a reminder about the power of nature and also as a way to retelling the history and events related to these destructive waves in the context of art. In this study, the use of violent wave character, with powerful power can be something unique to apply to the ceramic medium. This is because the background and history of this wave should be highlighted and given attention to be presented to the public.

Figure 27: A ship washed ashore during the 2011 Japan tsunami lies amidst wreckage in Kesennuma, Miyagi, Japan. Photo by Sankei (2011).

Figure 28: A ship struggle against the rogue waves. Image by Lund (n.d.).

2.4 WATER, SEA, AND ART

Water has always been a subject of works of art. Since prehistoric times, humans depicted water as a wavy line, a stylized image that is easily recognizable and comprehensible. In ancient art, water was often represented by stylized curvilinear forms, such as the spiral (as evidenced by the Minoans of Crete) or a horizontal zigzag as found in the art of ancient Egypt (Water Encyclopedia, n.d.). From ancient times, for most cultures and civilizations around the world, water has turned into a persisting theme of arts. The water mentioned here includes the sea, oceans, rivers and lakes.

Seas, lakes, and rivers were once the great highways of the world, and water mostly is shown in art as daily life scenery (Water Encyclopedia, n.d.). The influence of water as a whole plays an important role in art and encompasses a very broad meaning throughout poetry, literature, fine art, theatre, film, and music. The arts may be aesthetically attractive, enduring, or threatening in themselves. Water, as an example the sea, possibly a metaphor for violence and death, beginning and rebirth, spiritual adventure, self-discovery, change, metamorphosis, renewal, and inspiration.

2.4.1 Sea as Inspiration for Art

Based on the many works of art inspired by the sea, it is undeniable that the sea and humans have a very close and special relationship ever since. Basically, the reason why people make art and why people choose a particular subject as artistic inspiration lead to the same answer, that is because of its beauty. Throughout history, much artwork was made for no other explicit purpose than the production of beauty. An artwork is to be beheld and admired. It is breathtaking and can even make us emotional. It is this beauty that draws the first connection between nature and art (Lents, 2017). This is the sole expectation and question of a lot of (the greater part of) artworks: to show those individuals who have not possessed the capacity to experience beauty in reality, the chance to familiarize themselves with it in any event to some degree. Furthermore, to serve as a reminder, to set off and revive memories of beauty in reality within the minds of those people who are acquainted with it through experience and love to recall it.

Obviously, beauty and art are closely related and explains why the sea inspires art. As an example, the sea is beautiful and looking at it, we never think of being aesthetically dissatisfied with it. But not every person lives close to the sea and most of them never get an opportunity to see it. Therefore, they really want to experience it, and so the seascapes interest and satisfied them. Without a doubt, it would be much desirable to observe the sea itself instead of its paintings or images. However, when something desirable is inaccessible, one will be happy with something that resembles it though imperfect. Even the individuals who can appreciate the real sea cannot do as such when they wish to, thus they call up memories of it. But sometimes our imagination is weak and it requires support to trigger something. So to revive our memories of the sea, to see it more vividly in our imagination, we look at seascapes arts or pictures.

Although most of the works inspired by the sea are to capture the beauty in it, however, there are many other elements that influence and make the sea an inspiration in arts. For example, to commemorate people or important events. Most of the sea-inspired works are reminiscent of the past that involves emotions. Events that have taken place involving waves such as tsunami waves that claimed thousands of lives and bring destruction is a clear example of which event like this became an inspiration for the creation of artworks. In this context, the emotion of sadness, heartbreak and the power of nature is highlighted in the form of art.

In addition, the sea is also an inspiration in many works whose main purpose is to express thoughts and personal feelings. Emotions and human feelings can be regarded as a vast sea with so many nature and characteristics, and all these emotions and feelings tried to be expressed and highlighted through artworks which using the sea as a medium. Most of the artist approach the sea in unique and personal ways and each artist brings a different and fascinating insight into the subject of the sea. The sea allows an artist to appreciate the area's unique seacoast, skies, natural habitats and beauty with fresh eyes on each excursion. From stormy seas to tranquil sunny bays and busy harbours to shipwrecks, the beauty, drama and ever-changing nature of seas have long attracted the attention of artists and arts practitioners from various fields.

Like the sea itself, the inspiration of arts is not permanent, but flowing and continually developing and reacting to what we feel and experience. The arts are an ideal means by which humans communicate, understand, explore, and challenge their ethics, values, and culture. And for the sea, it continuously inspires us and makes us feel connected to something. It also can strike an emotional nerve that leaves an impact on us that is not soon forgotten. The response of art toward the sea may have social, ecological, political, or philosophical implications depends upon how individuals and societies, define it.

2.4.2 Sea Waves Inspired Artworks

Over the years, many artists around the world choose the waves as their inspiration in making the artworks. Wave has its own unique characteristics, which influence artists to produce artworks that relate to it. Most of the artists chose waves as the subject to produce artworks because of the waves itself that are very interesting and has the

potential to be applied to various forms of artwork. This makes many artists, using waves as their artistic reference and also to conveying messages in their artwork. In addition, some artists prefer making art inspired by waves because of their personal background that is strongly related to the sea and waves.

Some of the works produced inspired by sea waves are very prominent and have a great impact on the art world. The work that has been produced also proves that the waves of the sea have really gained the attention of great artists. Furthermore, the continuing acceptance and popularity enjoyed by these artworks confirm that humans and the waves certainly have significant relationships.

Parallel with this study, which emphasizes the sea waves character reflections on art, here are some of the most important work has been produced, inspired by the sea and waves:

Figure 29: Katsushika Hokusai, *The Great Wave off Kanagawa,* 1829–32, Color Woodcut. Photo by Wikimedia (n.d.).

The Great Wave off Kanagawa, a 19th-century woodcut by Japanese artist Hokusai, it is published sometime between 1829 and 1832. It is one of the best-recognized works and probably the most famous image in Japanese art in the world. It depicts an enormous wave threatening *oshiokuri-bune,* or cargo boats off the coast of the prefecture of Kanagawa. The wave itself, usually visible on digital printing products such as t-shirts, textbooks, and wallpapers, is frequently described as a tsunami, despite the fact that the scientists proposed that Hokusai's masterpiece are more likely depicts a rogue wave called a plunging breaker.

The focus of this art is without a doubt the crest of that wave breaks. At first glance, it is quite difficult to even recognise the mountain or the boats. To begin with, it seems like just an image of the open sea with a tsunami. However, with a more intensive observation, one will notice the fisherman, the boats and the mount Fuji. The wave formed a frame through which we see Mount Fuji within the distance. Hokusai loved to reveal water in motion. It can be seen that the foam of the wave is breaking into claws that bear down over the fishermen. The massive wave contrasts with the empty space underneath it as tiny fishermen huddled in their boats. They are sliding around within the waves, being tossed and turned, against the dangerous water.

The approaching crash of the wave brings tension into the woodcut. The wave is bigger than the mountain, signifying its importance. Within the foreground, there's a small peaked wave that imitates Mount Fuji. The actual Mount Fuji is very big, however, its look much smaller through Hokusai's use of perspective. The actual mountain stands over 12,000 feet high.

Figure 30: Gustave Courbet, *The Wave*, 1869, Oil on Canvas. Photo by Anders (n.d.).

The figure above shows sea wave painting by French artist Courbet. The painting titled *The Wave* is considered by some as timeless work of art. We see only clouds and sea, with no trace of human life. During the summer of 1869, Courbet stayed at Etretat, in a little fishing village in Normandy. Here, the chalk cliffs, the subtle light, along with both the violent storms and the calm of the waves in this region of changing skies, offered Courbet new subjects. For this artwork, he offers an intense vision of the stormy sea, tormented and disturbing, with all the savage power of natural forces at work. This work, together with dozens of paintings in the same "sea and waves" series, caused quite a sensation around the world.

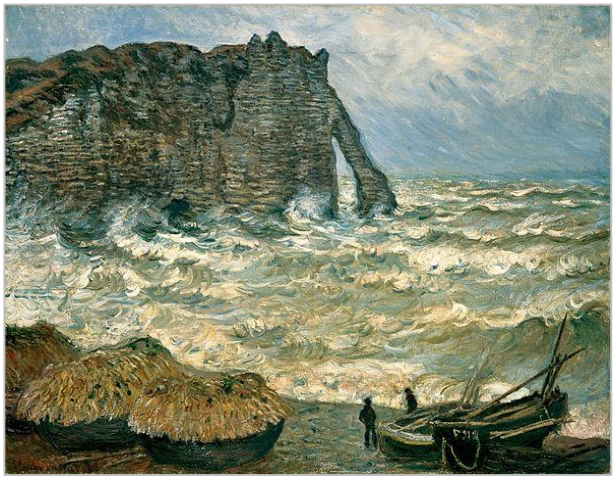

Figure 31: Claude Monet, *Stormy Sea in Etretat*, 1883, Oil on Canvas. Photo by Bridgeman Images (n.d.).

The *Stormy Sea in Etretat* is an 1883 painting by the founder of French impressionist Claude Monet. Amongst all the impressionist painters, Claude Monet was the one who was most attracted to the changing atmosphere of seascapes. This view, as seen through a hotel room window, is that of the beach at Etretat, which Monet painted as a series. This painting depicts a stormy sea on a winter day.

The painting is composed of four major elements, each painted in a different way. The central part shows the rough waves painted in forms of commas. In the foreground, a small beach on which there are old boats covered with leaves roof on the left, and two fishermen with their boats in poor condition on the shore. On the left, in the background, the cliff of Etretat can be seen and the rock strata are evoked by horizontal lines of brush. Finally, the upper part of the painting shows the sky, painted in a way that expressed curtain of rain.

All the artworks inspired by the sea waves is an example that it certainly has an interesting character and background to be chosen as a subject of arts. All of the works mentioned above are produced with a different perspective either in terms of the meaning nor the implied issues that the artist wishes to convey. What can be concluded here is that the sea and waves can be a good subject to be featured in the work of art. In addition, it can also be used as a medium for conveying messages as waves-inspired artworks are much appreciated and accepted especially by art enthusiasts.

2.5 SEA WAVES AS INSPIRATION FOR CERAMIC ART

Many artists usually use nature as their sole inspiration in making art, and this also includes ceramic artist. For some ceramics artists, at certain levels and stages of their involvement in ceramic art, have made the waves their inspiration. The reason why they produce this work is driven by past events or their personal experiences. Although the wave-inspired ceramic art is still considered to be minimal and lack of proper exposure, but some ceramics artists have been identified to produce works inspired by the waves. In addition, although most of them are no longer making wave-inspired ceramic work, the existing artworks produced by this identified artists is something that is very valuable and becomes an important reference for this study.

2.5.1 Ceramic Artworks Inspired by Sea Waves

Ceramic artist from the USA, Denise Romecki use waves as a subject in producing sculpture art and making nature as inspiration. She stated that the mystery and beauty of nature is the inspirational force behind his work. Her artwork has always been inspired by the natural world of forests, plants, rocks, oceans, and animals. She believes that all natural things have a spirit that deserves honour and respect. As stated by Romecki (2015), “My ocean wave sculptures have travelled to many places reminding people of their special experience at the shore. Celebrating the power and beauty of the ocean is an on-going theme in my ceramic work. It can be a graceful dance or an exploding crash of energy. And then there is also the healing energy one feels by simply sitting and watching the endless rhythmic swell of the surf”.

Figure 32: Denise Romecki, *Reflection.* (n.d), Ceramic. Deniseromecki.com (n.d.).

Figure 33: Denise Romecki, *Oceanwave,* (n.d), Ceramic. Deniseromecki.com (n.d.).

Figure 34: Denise Romecki, *Powercurl*, (n.d), Ceramic. Deniseromecki.com (n.d.).

Japanese ceramic artist, Masaaki Shibata, uses the tsunami wave, a huge wave of destruction as an inspiration for his ceramic work. Shibata throughout his involvement in ceramic art, better known in producing large-scale ceramics. Most of his work is considered a public sculpture and is widely exhibited in public places around Tokoname, Japan.

After the event of Japan earthquake and tsunami in 2011, also called Great Sendai Earthquake or Great Tohoku Earthquake, severe natural disaster that occurred in northeastern Japan, Shibata was inspired to create a ceramic artwork to tells the story of tsunami. The tsunami has caused widespread damage to land and devastated many coastal areas of the country, most notably in the Tohoku region (northeastern Honshu).

He observed these waves and then translated it into the production of ceramic sculpture. Element and characteristic of the tsunami waves generated are applied to his *Tsunami Series* that reflects the strength of this powerful and destructive waves.

Figure 35: Masaaki Shibata, *Tsunami Series*, 2012, Ceramic. (Shibata, 2012).

Figure 36: Masaaki Shibata, *Tsunami Series*, 2012, Ceramic. (Shibata, 2012).

Additionally, another ceramic artist famous with spiral porcelain ceramic sculpture, Jennifer McCurdy also uses waves as an inspiration. In one of her artwork, *Wave Vessel*, she experimented with cutting away approximately 50% of the porcelain without compromising the object's structural integrity. This is to enable the piece to highlight the motion effect of the waves in her work. In the delicate carved forms of *Wave Vessel*, McCurdy suggests the troughs and crests of a wave as well as its undulating, rhythmic motion. This sense of motion is also reflected in the spiralling curves, the web-like shadows, and the translucency of the porcelain that seem to change as one circle the piece. The final work is a contradiction, with the impermanent waves frozen in a rock hard, permanent material.

Figure 37: Jennifer McCurdy, *Wave Vessel*, 2007, Porcelain. Photo by Mirando (n.d.).

Figure 38: Jennifer McCurdy*, Tsunami Vessel*, 2016, Porcelain. (Mirando, n.d.)

Apart from ceramics sculpture works, there are also ceramics artists who use different approached compared to others wave-inspired artist by applying wave element in tableware and functional ceramics. As an example, Richard Baxter, a well-known British potter that produced wave-inspired functional ceramics. All of his works regarded as highly individual and collectable ceramic art. From stylishly functional domestic earthenware pottery to beautifully fluid porcelain bowls and unique ceramic design inspired by waves.

Also impressed with other elements of nature, Baxter develops ceramic artwork in a number of fascinating areas. Some are practical and durable for day to day living, whilst other works are on-off unique pieces. One of the focal points of his arts is application of interesting glaze colour. Baxter also exhibits effective sea wave stylization with attractive texture.

Figure 39: Richard Baxter, *Rolling Wave*, (n.d.), Earthenware. (Baxter, n.d.).

Figure 40: Richard Baxter, *Small Pool*, (n.d.), Earthenware. (Baxter, n.d.).

Other than that, another ceramic artist from the USA, Bonnie Belt also applied sea wave elements into functional ceramics artwork. She stated, “The natural world and respect for nature is the primary focus of my life and art”. More interesting, the “wave” pieces produced by her are inspired by the Japanese master of woodcut prints, Hokusai, especially his Mount Fuji wave print. The waves show not only the power of nature but also its graceful beauty. The result is very interesting and has its own aesthetic value.

Figure 41: Bonnie Belt, *Wave Rim Teapot, (n.d.),* Ceramic. (Belt, n.d.).

Figure 42: Bonnie Belt, *Oval Wave Bowl, (n.d.),* Ceramic. (Belt, n.d.).

All of these artists have produced a very impressive and unique wave-inspired artwork. The combination of waves, the influence of other elements of nature, and the touch of personal experiences from artists has led to meaningful artworks. Successful application of sea wave, as can be seen on these existing artworks shows that elements and characteristics of sea waves are absolutely suitable to be applied onto ceramic medium.

2.6 ART FORM

Producing ceramic art form inspired by sea waves is the main goal of this research. The selection of art form as a concept is an effort to ensure that the elements and character reflections of sea wave can be delivered effectively to the audience. According to The American Heritage Dictionary (2011), art form is an activity or a piece of artistic work that can be regarded as a medium of artistic expression. While, Collins Dictionary (n.d) defines that art form, is something concerned with creating objects, works, or performances that are beautiful or have a serious meaning. In other words, an art form is a specific shape, or quality an artistic expression takes. And the media used for making artwork often influence the form.

Additionally, form is the physical manifestation or tangible evidence of the artist idea. It includes the materials used, the process, and the artistic stylization or design. Literally, form refers to "how" the artist manifested his idea. When used in tandem with the word *art* as in *art form*, it can also mean a medium of artistic expression recognized as fine art or an unconventional medium done so well, adroitly, or creatively as to elevate it to the level of a fine art (Marder, 2017). Form is very synonymous with sculpture, due to the fact it is a three-dimensional art and has primarily consisted of form, then followed by colour and texture as well as respond to gravity. Three-dimensional forms can be seen from more than one side. Traditionally, forms could be viewed from all sides, called sculpture *in-the-round*, or in *relief*, those in which the sculpted elements remain attached to a solid background, including *bas-relief*, *haut-relief*, and *sunken-relief* (Marder, 2017). The figure below shows an example of ceramic art form:

Figure 43: Helene Fielder, *Ocean Wave*, 2012, Ceramic. (Fielder, n.d.).

2.7 STYLIZATION IN ART

2.7.1 Introduction of Stylize

Stylize is a very familiar technique in art and it's been around for a very, very long time. The depiction of images in ancient times is mostly in the form of stylization. In the process of art development, especially in folk art and crafts, there is so many application of nature motifs that have been stylized, for example in wood carvings, textiles and traditional costumes. Definition of stylization according to Merriam-Webster (n.d.), is to conform to a conventional style; specifically, to represent or design according to a style or stylistic pattern rather than according to nature or tradition. Whereas, the Collins Dictionary (n.d.), defines stylize as something that is shown or done in a way that is not natural in order to create an artistic effect.

From a different point of view, stylization is considered as a step away from realism, which is characterized as a full and direct imitation of reality. Instead of trying to depict a subject in a way that duplicates reality, an artist can use stylization technique to make work of art which still maintaining the subject and the form that can be recognized, while emphasizes on simplification of form, line, and connections of colour and space. If something is stylized it means, it's represented in a non-naturalistic conventional form. Which, using artistic forms to create effects that is not natural. Stylized gives the artist the ability to move and change the subject to something more or more depending on the creativity of the artist.

2.7.2 History of Stylize Art

Stylization is something that can be traced back as far back as ancient cave paintings. Most of the recognizable subjects are visually displayed in simplified ways. It cannot be denied that this relates with the fact that humanity was discovering the visual arts and experienced a learning process in order to create a more accurate imitation of reality in drawing, painting, and sculpture. With the passage of time, most artists are getting proficient in the producing of art that imitates reality, and stylization techniques are becoming forgotten and ignored. We can see from the height of the Renaissance through the 19th century that artists took a great joy in creating highly realistic images and exploring the very accurate representation of architecture, human anatomy, natural plant life, etc (Principle Gallery, 2017). However, the state of the art that often changes over time has brought a focus back to experimentation with colours and light, thus

began to slowly withdraw a strict imitation in art. This has encouraged the interest of renewing the stylization technique, which uses the image of recognizable subjects and simplifications in using colour, line, and form have been through the revival process.

2.8 STYLIZATION PROCESS

All stylization works are based on observed reality. For example, a natural gesture or motion of a subject, or a character trait and appearance of anything physical world which has a specific physical manifestation. Then, that particular pattern is developed to make it clearer and more distinct. At this moment, the shape becomes more defined, the rhythm pattern stronger, the spatial relationship clearer. Then, it comes to the key step which often gets missed out, which is eliminating everything else. Generally speaking, stylization involves removing distractions as well as enlarging the chosen forms. It is also important to note that one of the fundamental properties of visual art is the degree to which it is realistic or stylized. Art that resembles nothing in the physical world is called abstract, and art that involving full imitation of a subject is realistic art, while art that portrays something recognizable although simplified, is called stylized. The less a work of art resembles something in the physical world, the more stylized it is (Realism vs. Stylization, 2017).

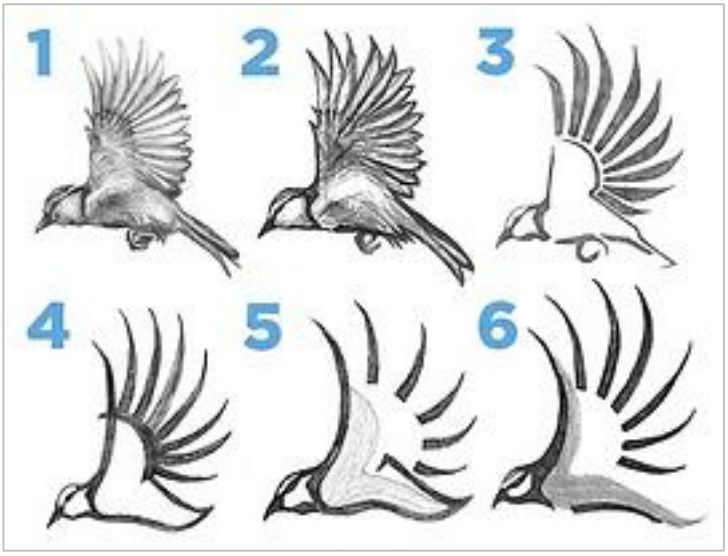

Figure 44: Stylization process of a bird. Illustration by Danijel Stamenic (2015).

The figure above shows an example of a stylization process on the image of a bird by Stamenic. This process is summarized into six simple steps that give an idea of how the stylization process takes place.

2.9 STYLIZATION OF SEA WAVES

Sea waves have always been an inspiration to the various types of works that have been produced since ancient times. However, the production of art with the application of stylized wave from the past can be considered very limited, or it may not be able to be maintained and preserved well making it lost in the ages of time without being properly recorded. Nevertheless, there are some types of works featuring stylized waves that able to survive, as an example the work of Hokusai, *The Great Wave off Kanagawa.* More interestingly, this study has identified an old illustration book by a Japanese artist featuring set of surprisingly well documented stylized sea waves design. This book is titled *Ha Bun Shu a Japanese Book of Wave and Ripple Designs* by Mori Yuzan (1919), became an important reference in this study because it presents a wonderful collection of stylized patterns of waves. The artist, who lived and worked in Kyoto, is one of the master print-makers and painters who skilfully used wave patterns in his illustrated books.

Figure 45: Example of stylized sea waves from *Ha Bun Shu*, Japanese Book of Wave and Ripple Designs (Mori Yuzan, 1919).

In accordance with the passage of time and the development of technology, nowadays more and more computer-generated sea waves stylized design are produced. Most of the designs of this stylized sea waves attract attention because the use of colours that conform to the actual wave colour makes it more prominent. This design is widely

printed on various types of products, especially textile-based products. Additionally, it is also printed as gift wrap, wallpaper, book cover and also used as wallpaper for digital screens such as computers and smartphones. Undeniably, with the development of digital art nowadays, the application of stylized wave design to products and medium as mentioned earlier is not something that can be considered great because other natural subjects also experienced the same thing. However, it should be noted here, without the demand and public acceptance of this wave design, it is unlikely that wave-based design products will continue to be printed and distributed as we see today.

Figure 46: Examples of computerized stylized sea wave designs. Illustration by Pauljune & Axusha (n.d.).

Although there are many stylized wave applications on a range of products, however, it is only presented in two-dimensional form. In addition, the application of stylized waves in the visual arts are also considered less, thus artwork with stylized waves should move forward and presented in three-dimensional arts. Subsequently, producing this work using ceramics is a reasonable step to develop both the use of ceramic mediums and stylized wave design in artworks. Artwork from this elemental combination is expected to revitalize the use of stylization in art, especially in three-dimensional art.

2.9.1 Examples of Existing Stylized Sea Waves on Products

The design of the stylized sea waves is less popular in three-dimensional art, however, it is widely applied to daily use two-dimensional digital prints products. Stylized waves application on these products produces interesting results, especially when viewed from the point of colour usage and also the layout of the waves design. Meanwhile, from the context of ceramic medium, its application on ceramic-based products is limited, although there is actually application of stylized wave onto ceramics tableware and tiles products.

This study has emphasized not to compete with computer-generated stylized sea waves design because of its different production platforms which not aligned with the traditional process of producing artwork, nevertheless reference on these products is reasonable. This is because all these examples of products offer a good understanding and give an idea of how to make full use of the qualities from stylized sea wave to be translated into works of art.

These existing products showed that stylized sea wave can be featured in various types of mediums because the waves itself has high artistic value. Here are examples of existing products that use stylized sea waves design:

Figure 47: Backpacks with stylized sea waves design. Images by Buytra (n.d.).

Figure 48: Ceramic dinner set with stylized sea waves pattern (Jaysonhome, n.d.).

Figure 49: Stylized sea waves design mousepad. Photo by Houseofstyle (n.d.).

Figure 50: Japanese table mat sea waves design. Photo by Ruby (n.d.).

Figure 51: Stylized sea waves design phone case. Photo by Pom Graphic Design (n.d.)

Figure 52: Mural decal sticker with stylized waves design. Photo by Mural Simple (n.d.).

Figure 53: Gift wrapping paper with stylized waves. Photo by Thumbsup2X (n.d.).

2.10 CONCEPTUAL FRAMEWORK

The whole aspect of this study was concluded using a conceptual framework. This study begins with an observation and analysis of previous sea waves inspired arts to find the potential aspects to be studied. Then the elements and characteristics of sea waves are anal1yzed to identify the key elements to be stylized. The design of the stylized wave is developed with the emphasis on the suitability of application onto ceramic surfaces. This study also chose art form as a concept in producing three-dimensional artworks. The stylized sea waves that have been selected will then go through the application process over the ceramic surface. This process involves a high technicality to seek appropriateness and allow stylized waves design to be successfully applied. Selection of the correct techniques and tools is a key point in this process.

The study continues with the evaluation of ceramic surface, which placed colour as one of the most important aspects of the study, and the production of ceramic glaze that resembles colour and the true nature of the waves is a priority for this study. Overall, the success of producing works of art that applies stylized sea waves design onto ceramic medium is an important point in reviving stylization techniques and also the use of ceramics in the context of contemporary art.

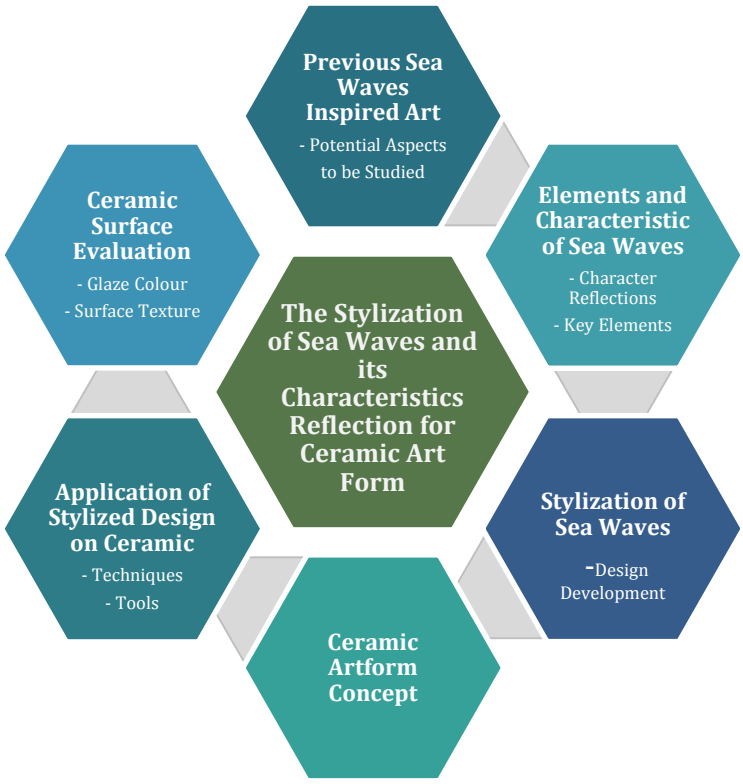

Figure 54: Conceptual Framework.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter discusses the methods that have been used in the collection and analysis of data to answer the research questions of the study. It explains the research design, data collection methods used, and describes how data collected from the research has been analysed. The application of art-based qualitative research will be adapted to this study as the main methodology. According to Given (2008), arts-based research is a form of qualitative research in the human studies that employs the premises, procedures, and principles of the arts. It is defined by the presence of aesthetic qualities (or design elements) within both the inquiry process and the research text.

This research will focus on sea waves as research subjects to be applied to ceramic. To support this study, all the data and information about the sea waves and the existing art related to sea waves will be collected from both primary and secondary data. Then, it will be analysed and used as important references throughout this study. A thorough analysis associated with sea waves will be made in the context of art. By doing this, it is hoped that artistic ceramic artwork that successfully applied the elements and characteristics of sea waves will able to be produced with a new approach. A flowchart will be shown to describe the overall process of making the artwork and information that is related to this study.

3.1.1 Experimental Work

Within the parameter of the adopted methodology, this study also involves an experimental process to support the study. This experimental process is carried out in the form of tests to obtain interesting surface textures of artworks which represent the sea waves. A series of clay surface texture tests using different techniques, tools and materials have been carried out. In addition, from the colour perspective, glaze tests are carried out to obtain a colour that reflects the nature of the wave itself to be applied to ceramic works. This whole experimental process is an important aspect of producing effective wave-inspired ceramic artworks.

3.1.2 Research Methodology Flowchart

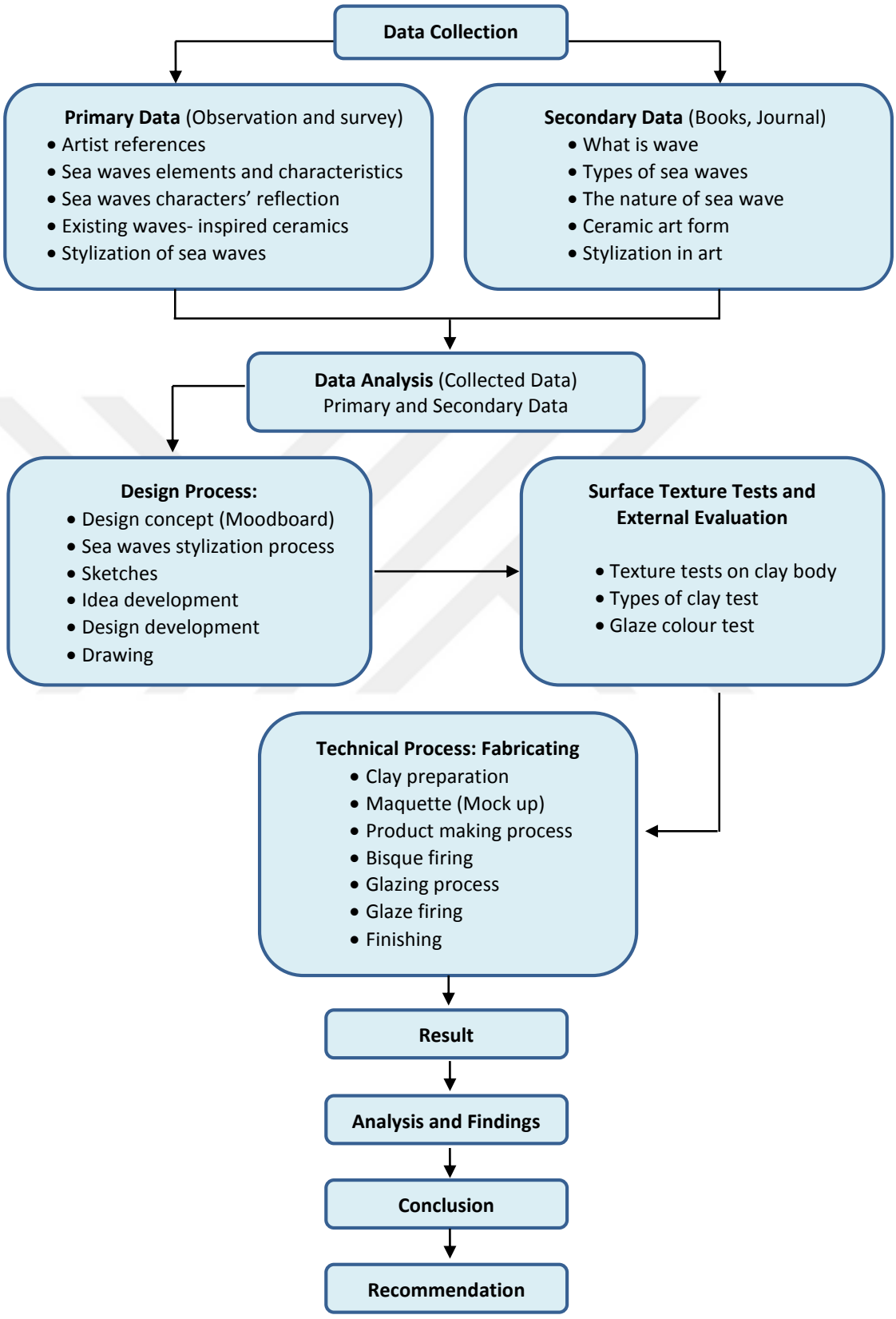

Chart 1: Research Methodology Flowchart.

3.2 DATA COLLECTION AND ANALYSIS

In this research, all the data and information was obtained from various sources. The data collection process includes gathering the information through books, journals, academic articles and also an observation on research subject and existing artworks. All the data including historical aspects, past events involving waves, sea waves characters' reflection, types of sea waves, and wave-inspired artworks are examined, thoroughly evaluated and analysed. Next, interesting and prominent aspects are processed and then translated into the production of three-dimensional ceramic artworks. In addition, data and information involving the technical aspect of ceramic production are also being collected. As a result, new approaches in terms of the technicalities of ceramic production has been applied and it has been thoroughly helped to improve this study.

3.2.1 Highlighted Aspect to Be Applied to Artworks

After observing and analysing the data, several aspects have been identified and wanted to be introduced into the production of stylized wave ceramics works. All of these aspects are as follows:

3.2.1.1 Capillary Waves

The observation of sea waves from different sources has provided ideas and influenced this study in various aspects. Through this method, there is a lot of information that has been recorded which directly helps to trigger the idea in the making of the artworks, particularly in terms of visual design. After making an in-depth observation of all types of waves identified in this study, the capillary waves *(see Figure 9:)* has been selected to be emphasized in producing the design. Features available on this type of waves has a high potential to be translated into three-dimensional ceramics with stylization concept. Therefore, stylization to this wave will be made within the scope of art principles and design and will be applied to ceramic artworks.

3.2.1.2 Sea Waves Characters Reflection

Among the objectives of this study is to identify the behaviour of sea waves and also its character reflections. Through the analysis and observation of collected data covering various aspects, it is clear that sea waves have a very wide characters' reflection. Among all, the reflection of the sea waves chosen to be featured in the artwork is the beauty of the waves itself which were translated in the sense of calmness when we see them.

Meanwhile, the nature of the violence and destruction in these waves is also appreciated and want to be presented in the artworks. Both of these features are very interesting to be studied together because of its nature which completely opposite to each other. Therefore, the goal to be achieved is to combine and highlight both of these features into the final ceramic artworks that will be produced.

3.2.1.3 Repetition Technique

In general, every waveform that can be observed has a repetitive nature regardless of what type of sea waves it is. The observation finds that most of the works that use waves as the research subject have clearly emphasized the repetition feature. Therefore, the production of ceramic artwork by using repetition techniques is to be highlighted in this study parallel with the nature of the wave itself. With detailed planning and proper design treatment, this technique is able to highlight the resulting ceramic work. As stated by ceramic artist Stine Jespersen (n.d):

> "The use of repetition has been important in my recent work, where I repeat the same elements, building new forms each time. The slight variation between the repeated elements draws the viewer in, as they discover the unexpected in the familiar."

Repetition technique that exists in observed ceramic artworks sparks an idea on how to use and explore this technique in making artworks. Different tools and methods will be tested in order to get the most interesting repetitive surface texture results.

3.3 DESIGN PROCESS

In the production of artworks, the design process is very important and requires ongoing study. Continuous studies in design are necessary to ensure that the designs are well developed so that the best works of art can be produced. According to Quinn (2007), the secret of design development is to be prepared to create more work than necessary. This extra work is an exploration process, which makes you consider a design's potential.

To achieve the objectives of this study, a comprehensive study on design development in the context of the ceramic art form has been carried out. This includes observations on ceramic art form works by other ceramic artists who have made the sea waves as inspiration. Then, the results of this study will be used as a reference to assist the design process by translating it into the form of an idea sketch. Sketches of designs will be made and developed to get an initial ideation. The process of idea development then needs to be continued until the suitable design that fulfils the element and principle of design is achieved.

3.3.1 Design Structure Concept (Mood Board)

Before starting an art project, the first and most important thing is to identify and determine the theme and concept for a design project. In this study, a mood board has been prepared to identify the design concepts that want to be applied to the artwork. Mood board is a composition of images, materials, pieces of text, and samples of objects intended to evoke or define a particular idea or concept of the project. Generally, the direction of the design and the idea for this study becomes clearer through observations of ceramics art form, stylized waves design, types of sea waves; as well as the characteristics and history of the sea that have been compiled into this mood board.

Figure 55: Illustration of design concept. Illustration by Yahya Daud Ismail (2018).

3.3.2 Sea Waves Stylization Process

In line with the objective of the study, which to emphasize and apply stylized sea waves design to the artwork, sea waves stylization process has been carried out to obtain the type of stylized wave that can be applied as a surface texture on the resulting artwork. This process begins with the observation on the type of waves that have been identified to find interesting elements of the line and the texture to be highlighted.

Then, the stand out element of the line and the texture will be drawn. Next, it will be gradually simplified and stylized by focusing on each of the lines until an interesting wave pattern can be achieved. This stylization process is carried out by making the *Ha Bun Shu a Japanese Book of Wave and Ripple Designs* by Mori Yuzan (1919), as an

important reference as this book presents an interesting collection of stylized waves. The interesting stylized sea waves pattern will be selected and brought into the next design development process.

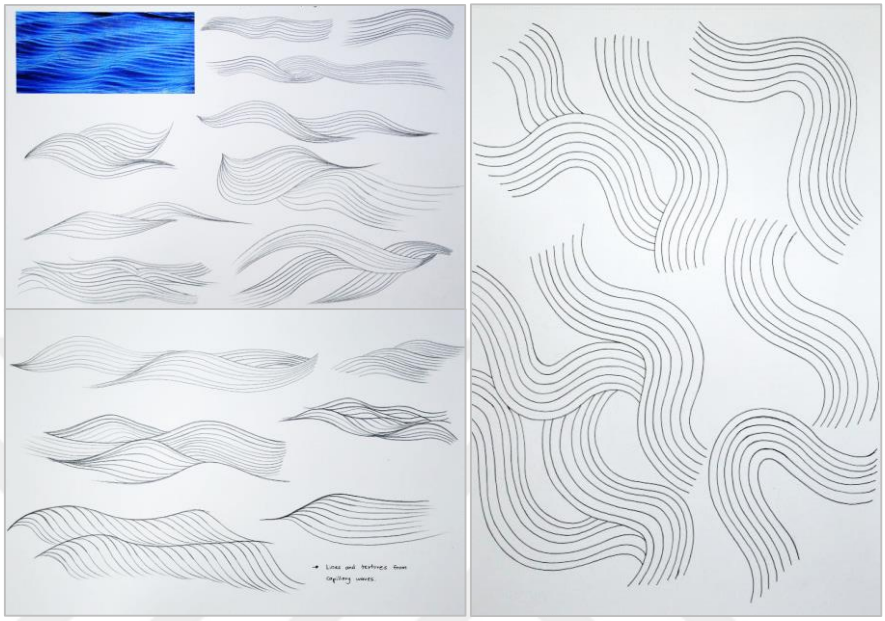

Figure 56: Sea waves stylization process. Photos by Yahya Daud Ismail (2018).

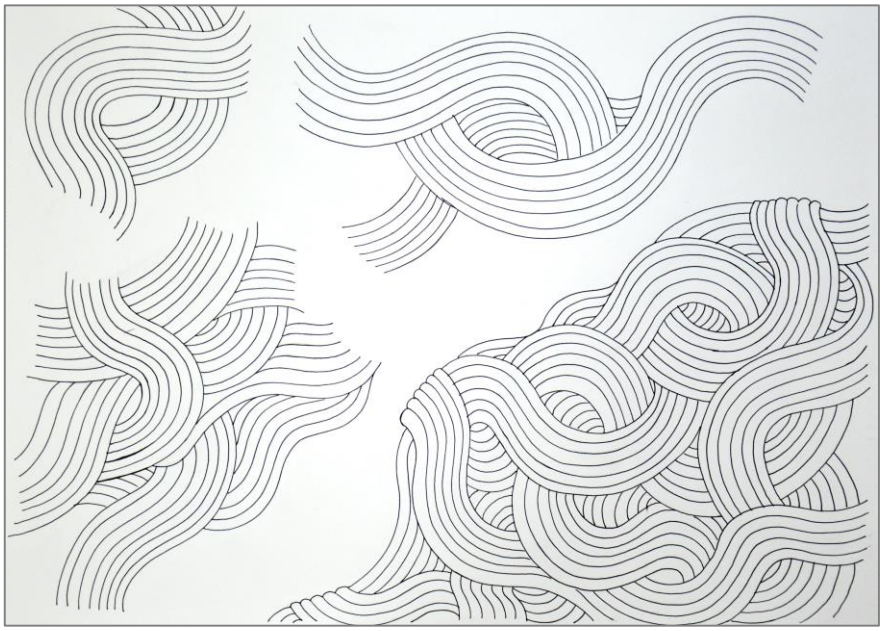

Figure 57: Chosen stylized wave design. Photo by Yahya Daud Ismail (2018).

3.3.3 Sketches

Once all information related to the design has been observed and reviewed, the sketching process begins in order to get the initial idea of the design. In this process, rough sketches based on the elements and characteristics of sea waves, in accordance to the selected design concept were made.

3.3.4 Idea Development

After the design idea is achieved through the sketching process, sketches with potential ideas will be chosen for further development. At this point, the ideation is continued and strengthened by giving more details to the design sketches. Through the development of ideas, this ceramic art form attempts to be produced and presented in series form. The plan is to produce three piece of artworks for each series, and each piece will have continuity in terms of design and application of colour.

Figure 58: Idea development process. Photo by Yahya Daud Ismail (2018).

3.3.5 Design Development

In the design development process, specific types of designs have been identified and chosen to be finalized into final work. However, a little improvement needs to be done to ensure the design chosen will practically able to be translated into the ceramics

medium with regard to the application of stylized sea wave design. Design development process ended with the selection of a design that will be translated into three-dimensional ceramic form.

Figure 59: Design development process. Photos by Yahya Daud Ismail (2018).

3.3.6 Final Drawing

After finalizing the design, the final drawing of the design is produced. This drawing has been detailed in all aspect and drawn with different angles to get the different view of the form. Purpose of the drawing is to ensure the intended shapes and texture of the artwork is captured in two dimensional to be used as a direct reference during the process of producing artworks; thus ensuring that this design can be adapted into an artwork as accurately as possible.

3.4 SURFACE TEXTURE TESTS AND EXTERNAL EVALUATION

The surface texture is a very important aspect in the production of artworks, and in this study, they become the main feature that is able to highlight the elements and characteristics of sea waves into ceramic art. Among the main goals to be achieved in this study is to create interesting repetitive textures and to obtain glaze colours that reflect the colour of sea waves.

Therefore, a series of tests in the scope of surface texture is carried out to find out the possible application of texture that is suitable to be applied to artworks. The tests that have been conducted is *texture tests on clay body*, *types of clay test,* and *glaze colour test.*

3.4.1 Texture Tests on Clay Body

The objective of this test is to identify which techniques and tools are most suitable to be used to produce a texture on clay surfaces based on the chosen stylized sea wave design pattern *(see figure 57:).* Among the emphasized aspects in this test is the quality of the surface texture, consistency and smoothness of line, as well as the pattern repeatability.

Due to the wave design that has been selected is a repetitive design, this test will be carried out with a focus on techniques that are expected to produce an effective repetitive pattern. The techniques selected for testing are coiling techniques, extrude techniques, and carving techniques. In addition, the test will be carried out on random types of clay.

3.4.1.1 Coiling Technique Test

Experimental Process:

This process begins with the preparation of clay that has been wedged. By keeping the fingers flat, the clay is formed into sausage shapes, then rolled into ropes with a desired thickness. Then, the slab has been prepared as a base, which acts as a substitute for the actual artwork surface for this test.

Figure 60: Clay is rolled into rope shape. Photo by Yahya Daud Ismail (2018).

Next, the clay that has been rolled into ropes will be attached to this slab. Before being attached, the slab is scratched with a needle and clay *slip* is applied onto the spot where the attachment will take place to ensure they are firmly assembled. Then, the clay that has been shaped was attached with wavy style according to the design. During the process, the fingers should always be dampened so that the attaching process goes smoothly. Hence, this assembling process is repeated one by one until the shape of the stylized wave is formed. Finally, the wet sponge is used to clean the surface from any clay debris.

Figure 61: Results of stylized wave pattern test on clay using coiling technique (Yahya Daud Ismail, 2018).

Comments/evaluation:

- This technique has the potential to produce interesting surface textures, but requires high handbuilding skills to achieve the best result.
- The size of each clay roll is inconsistent. The attaching process takes time as the slab needs to be scratched and applied with clay *slip* for each assembling.
- Overall, this technique may not be the best technique to be used for a consistent waves pattern with smooth lines. This is due to the inconsistent size of rolled clay.

3.4.1.2 Carving Technique Test

Experimental Process:

For this test, appropriate carving tools that can produce the texture of the waves pattern is required. Carving tools that have a curved tip or *C shape* tip are identified to be able to produce good wave carving results. Therefore, some carving tools that meet the mentioned characteristics have been identified and used in this test including the handmade carving tools *(see figure 63:).*

Here are the types of carving tools that have been used:

Figure 62: Tools 1, Set of metal carving tools. Photo by Yahya Daud Ismail (2018).

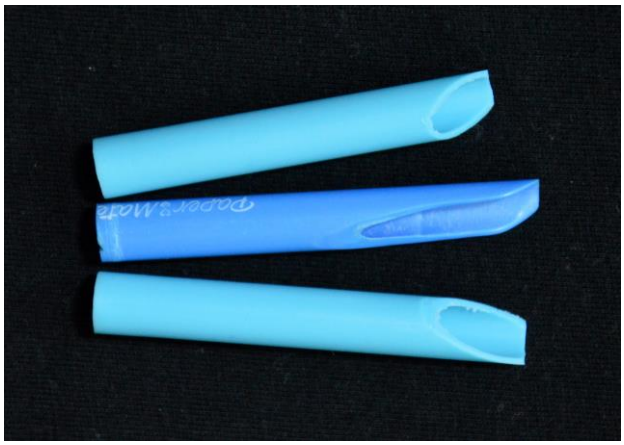

Figure 63: Tools 2, Handmade carving tools. Photo by Yahya Daud Ismail (2018). Made with a plastic pen barrel by cutting it and forming a *C shape* tip.

For both types of tools (*Tools 1* and *Tools 2*), the process starts with the preparation of clay slabs. The slabs then are left for some time until it becomes leather-hard. Then, by using the carving tools, the tip of the tools is pressed against the clay slab with a gentle force so that the tip of the tool is fully immersed into the clay surface. The position of the tool's tip is maintained while moving it slowly forming a wavy line.

This process is repeated by making the line that has been carved earlier as a trail marker. The carving process is continued until the surface texture of the clay forms a group of waves.

Figure 64: The final result of carving techniques on clay using *Tools 1*. Photo by Yahya Daud Ismail (2018).

Figure 65: The final result of carving techniques on clay using *Tools 2*. Photo by Yahya Daud Ismail (2018).

Comments/evaluation:

i.) Carving *Tools 1*: Set of metal carving tools

- Consistent carved lines results, but the carved textures are slightly rough which affects the texture quality of the whole carvings.
- Carving process become more effective and easier when the clay body is almost dry. However, this will slow down the carving process and the clay body is at risk of becoming too dry even before the carving process is completed.
- Overall, carving technique by using *Tools 1* can be applied to get surface texture with a consistent line. However, there is a slight lack in the smoothness of carved textures and it also requires a long period of time for the carving to be completed.

ii.) Carving *Tools 2*: Handmade carving tools

- Very consistent carving lines, a smooth carved texture highlights the quality of the waves texture. The carving repeatability is quite consistent.
- Carving can be done easily and smoothly on the surface of the leather-hard clay. This makes each carving more manageable.
- The body of the clay should always be in the leather-hard state. Clay that is too moist or too dry will affect the smoothness of the carving process. Therefore, the moisture level of the clay should be maintained for it to always be in best condition for the carving process.
- Overall, carving technique using *Tools 2* are ideal for obtaining quality and consistent surface texture in accordance with the requirements of the selected stylized wave design.

3.4.1.3 Extrude Technique Test

Experimental Process:

For the test using this technique, the extruder with a round die was used because it produces extruded clay that resembles a rope shape which facilitates the formation of waves design and texture. This process begins by inserting moist clay that has been wedged well into the extruder tool. Then the clay is extruded to forms a group of clay with a rope-like shape. Then, this extruded clay is attached to the clay slab according

to the wave pattern using clay *slip* as adhesive. This process is repeated until the wave pattern is formed and meets the surface of the slab.

Figure 66: Extruder tools used for the test. Photo by Yahya Daud Ismail (2018).

Comments/evaluation:

- Each wave line has consistent size results from the use of the extruder. Suitable to be applied for a repetitive pattern result.
- The texture is very smooth and the fine lines highlight the stylized wave pattern.
- However, the process of assembling the extruded clay onto the slab body is somewhat complicated because the slab surface needs to be scratched and applied with clay *slip* each time before assembling process. And at the same time, this extruded clay is quite easy to break. It occurs when exposed to air for too long or is not carefully held.
- Overall, this extrude technique is suitable to use for a consistent, fine, and smooth surface texture finish. In addition, with this technique, the repetitive wave texture results can be achieved. However, there are some disadvantages in the process of attaching the clay because it tends to easily break and should be handled with care.

3.4.1.4 Results

After examining and taking into consideration some of the key factors in conducting this study, the *carving technique test* using handmade tools (*Tools 2*) has been selected as the main technique to be used to produce artwork in the study. This is because, this

technique as a whole fulfils the emphasis given in this tests which focus on the quality of surface texture, consistency and fineness of the line, as well as pattern repeatability. The use of this technique is hoped to be able to translate stylized sea wave design into three-dimensional textured ceramic artwork successfully.

3.4.2 Types of Clay Test

Types of clay test were conducted to determine the type of clay that is most suitable to be used for producing ceramic artworks that emphasize the surface texture. Choosing the right type of clay is very important as it affects the quality of the line and the texture of stylized wave design on the artwork later.

This test was carried out on three types of stoneware clay based on the availability of these materials at the place where this research was conducted. The three types of stoneware clay are:

i.) Creaton 240 (Stoneware without *chamotte*)
ii.) Creaton 254 (Stoneware with 25% *chamotte*)
iii.) Creaton 468 (Stoneware with 40% *chamotte*)

Experimental Process:

For this test, the clay slab was prepared from three different types of stoneware clay. Then by using the technique selected, which is carving technique using handmade carving tools, stylized wave design was carved on these clay. Once completed, all are left through the drying process as well as the bisque firing process. An observation was conducted periodically throughout this process to identify the most suitable clay to be used. Then, these clay were compared and evaluated in terms of the carving process, smoothness of the surface texture, and shrinkage level before and after bisque firing.

Comments/evaluation:

Type of Clay	Comments/evaluation
i.) Creaton 240 (Stoneware without *chamotte*)	- Very smooth clay surface texture - Smooth carving process - Carved texture is very fine and neat which highlight the stylized wave design - High drying shrinkage rate - Tend to warp during the drying process
ii.) Creaton 254 (Stoneware with 25% *chamotte*)	- A smooth clay surface texture - Smooth carving process - Fine carving texture manages to effectively highlight the carved stylized wave design - Slight drying shrinkage rate - No tendency to warp during the drying process - Low shrinkage rate after bisque firing
iii.) Creaton 468 (Stoneware with 40% *chamotte*)	- Quite rough clay surface texture - Carving process is not smooth due to high *chamotte* content in clay - Rough carving texture affects the quality of the carving - Slight drying shrinkage rate - Do not tend to warp during the drying process - Low shrinkage rate after bisque firing

Table 1: Comments and evaluation for types of clay test.

3.4.2.1 Results

Based on the evaluations carried out, Creaton 468 (Stoneware with 40% *chamotte*) clay was identified as unsuitable for selection to produce the work in this study due to the rough surface texture results. This is due to the excess *chamotte* content in the clay. While for Creaton 240 (Stoneware without *chamotte*) and Creaton 254 (Stoneware with 25% *chamotte*), both of them have the potential to be selected because of excellent results produced in terms of smoothness of carving process, fine surface texture before and after bisque firing. However, after taking into consideration of low shrinkage rates and less tendency to warp after firing, Creaton 254 clay (Stoneware with 25% *chamotte*) has been identified as the most suitable and chosen to be used in the production of ceramic artworks in this study.

3.4.3 Glaze Colour Test

To obtain the most suitable glaze colour to be used on the artwork, glaze colour test has been conducted on stoneware clay with 25% *chamotte* (Creaton 254). This glaze test was conducted with an electric kiln and the firing temperature has been set at 1200°C. The main goal is to get the glazes that have an interesting surface effect which represents or have the similarity in colour and characteristics of sea waves. The most suitable glazes will be applied to the ceramic artworks produced in this research.
The table below shows the glaze test results that are conducted along with their recipes.

Glaze Recipe (%)	Electric Kiln (1200°C)
Potash Feldspar 44 Whiting 13 Quartz 26 Zinc Oxide 11 Kaolin 6 + Titanium Dioxide 2 Copper Carbonate 3 Copper Oxide 1 Cobalt Oxide 1	
Potash Feldspar 65 Dolomite 15 Quartz 15 Kaolin 5 + Titanium Dioxide 6 Cobalt Oxide 1	
Potash Feldspar 40 Silica 25 Whiting 15 Kaolin 10 Zinc Oxide 5 Titanium Dioxide 6 + Copper Oxide 2	
Nepheline Syenite 65 Dolomite 7 Zinc Oxide 4 Whiting 5 Kaolin 7 Silica 10 Bentonite 2 + Chrome Oxide 2 Cobalt Oxide 1	
Nepheline Syenite 65 Dolomite 7 Zinc Oxide 4 Whiting 5 Kaolin 7 Silica 10 Bentonite 2 + Chrome Oxide 2 Cobalt Oxide 2.5	

Glaze Recipe (%)	Electric Kiln (1200°C)
Talc 17 Whiting 10 Frit 20 Nepheline Syenite 30 Kaolin 13 Silica 10 Zirconium 10 + Cobalt Oxide 0.75 Copper Carbonate 0.75	
Talc 17 Whiting 10 Frit 20 Nepheline Syenite 30 Kaolin 13 Silica 10 Zirconium 10 + Cobalt Oxide 1	
Talc 17 Whiting 10 Frit 20 Nepheline Syenite 30 Kaolin 13 Silica 10 Zirconium 10 + Cobalt Oxide 1 Copper Oxide 2	
Kaolin 20 Silica 20 Wollastonite 20 Frit 20 Potash Feldspar 20 + Red Iron Oxide 1 Copper Carbonate 1 Cobalt Oxide 2	
Manganese Dioxide 61 Kaolin 23 Copper Oxide 8 Cobalt Oxide 8	

Glaze Recipe (%)	Electric Kiln (1200°C)
Potash Feldspar 60 Dolomite 20 Quartz 15 Kaolin 5 + Tin Oxide 6 Cobalt Oxide 1	
Potash Feldspar 60 Dolomite 20 Quartz 15 Kaolin 5 + Tin Oxide 6 Cobalt Oxide 1 Copper Oxide 2	
Whiting 30 Ball Clay 15 China Clay 25 Silica 30 + Cobalt Oxide 1 Copper Carbonate 1	
Kaolin 20 Silica 20 Wollastonite 20 Frit 20 Potash Feldspar 20 + Red Iron Oxide 1 Copper Carbonate 2 Cobalt Oxide 1	
Kaolin 20 Silica 20 Wollastonite 20 Frit 20 Potash Feldspar 20 + Red Iron Oxide 1 Copper Carbonate 2 Cobalt Oxide 0.5	

Glaze Recipe (%)	Electric Kiln (1200°C)
Whiting 30 Ball Clay 15 China Clay 25 Silica 30 + Cobalt Oxide 2.5 Copper Carbonate 1	
Nepheline Syenite 62 Whiting 21 Silica 8 Ball Clay 7 Lithium Carbonate 3 + Copper Carbonate 4 Bentonite 4	
Nepheline Syenite 62 Whiting 21 Silica 8 Ball Clay 7 Lithium Carbonate 3 + Copper Carbonate 3 Bentonite 4 Cobalt Oxide 1	
Nepheline Syenite 62 Whiting 21 Silica 8 Ball Clay 7 Lithium Carbonate 3 + Copper Carbonate 2 Bentonite 4 Cobalt Oxide 2	
Potash Feldspar 40 Whiting 16 Silica 16 Kaolin 10 Talc 9 Frit 9 + Cobalt Oxide 1 Zinc Oxide 5	

Glaze Recipe (%)		Electric Kiln (1200°C)
Potash Feldspar	40	
Whiting	16	
Silica	16	
Kaolin	10	
Talc	9	
Frit	9	
+ Cobalt Oxide	1	
Zinc Oxide	5	
Manganese	1	
Potash Feldspar	40	
Whiting	16	
Silica	16	
Kaolin	10	
Talc	9	
Frit	9	
+ Cobalt Oxide	1.5	
Zinc Oxide	5	
Manganese	2	
Nepheline Syenite	65	
Dolomite	7	
Zinc Oxide	4	
Whiting	5	
Kaolin	7	
Silica	10	
Bentonite	2	
+ Chrome Oxide	2	
Potash Feldspar	55	
Whiting	24	
Kaolin	14	
Zinc Oxide	10	
Quartz	7	
Titanium Dioxide	6	
+ Copper Oxide	0.5	
Cobalt Oxide	1.5	

Table 2: Glaze test on stoneware body.

3.5 TECHNICAL PROCESS: FABRICATING

According to BusinessDictionary (2014), Fabricating process is a manufacturing process in which an item is made from raw or semi-finished materials instead of being assembled from ready-made components or parts. In making this ceramic art form, there are seven stages in the fabricating process that have been identified and the overall production of artworks has been through these stages.

The following flowchart shows the fabricating process stages that have been used in this study.

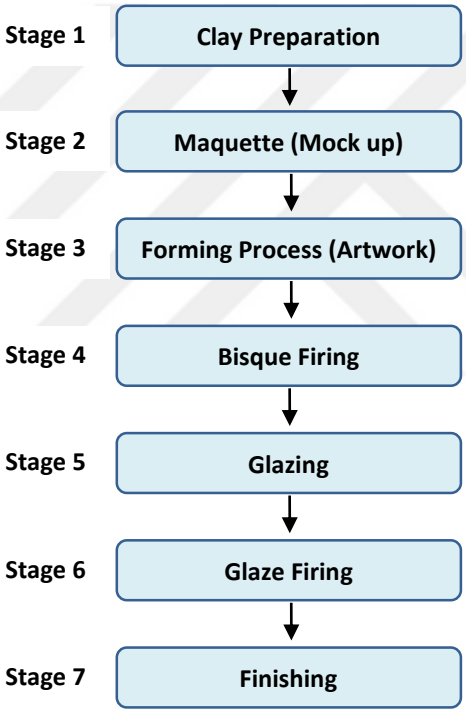

Chart 2: Fabricating process flowchart.

3.5.1 Clay Preparation

In this study, all the work will be produced by using stoneware clay with 20% *chamotte* content. This is because, based on tests that have been carried out, this type of clay is identified as the most ideal for the desired texture and surface effects.

Clay preparation process starts by wedging it first. Wedging is a process of mixing the clay by hand by rotating and pressing a clay ball on a table. The purpose is to thoroughly homogenize the clay and to remove all air bubbles. This is particularly important, as the presence of air bubbles in the clay will result in explosions in the kiln as the air pockets expand and burst. So, the best way to avoid damage of the artwork is to make sure the clay is wedged before starting making an artwork.

In addition, the pugmill machine can also be used to remove air bubbles and homogenize the clay. The use of the pugmill machine will greatly reduce time, and effort spent wedging the clay.

Figure 67: Wedging process to remove air pockets in clay. Photo by Kate (2011).

3.5.2 *Maquette* (Mock up)

A *maquett*e is a fine art term and refers to a small mock-up of a fully realized three-dimensional sculpture or architectural project (Kendzulak, 2017). The small model may be made from paper, clay or wax or other material in order to fabricate or provide a visualization of what the actual sculpture or project would look like when fabricated.

In this study, several *maquette* using clay have been produced according to the design work that has been selected. It is intended to test if a design that has been selected can be translated in three-dimensional form with the selected material, which was clay. In addition, it also aims to assess the best method of fabrication that can be used when producing real scale artworks. This cover various aspects including the selection of design, production techniques, the use of tools, application of glaze colour and glaze application techniques.

Therefore, through this process, technical issues that may arise will be identified. This, in turn, provides an opportunity for improvements to be made during actual artwork production later.

Figure 68: Maquette that has been produced in leatherhard state (Yahya Daud, 2018).

3.5.3 Forming Process (Artwork)

3.5.3.1 First Series

For first series artworks, it is considered as a sculptural or a three-dimensional standing art form type of work. The combination of several ceramics manufacturing techniques has been used to produce artworks based on the design that have been finalized. The production process starts by making a vase-like shape as a design base using a throwing technique.

Then, the process is continued by using handbuild and carving techniques. The vase-like shaped base is then attached to the slab that has been formed according to the design sketch. The attaching process needs to be done when the clay body is still moist, to prevent cracking from occurring during the drying process. The works that have been formed should be left for a few hours until it becomes leather-hard before continuing to further process.

Figure 69: Vase-like shape form using throwing technique (Yahya Daud Ismail, 2018).

The next process is to carve the body of the artwork to stylized waves shape using the selected handmade carving tools. This process is done in leather-hard state, as the carving process of a ceramic body will be much easier. After marking the area that wants to be carved with the wave pattern, the carving process starts by using the handmade carving tools. The tool is gently pressed onto the clay surface then pulled to form a wavy line texture, this process is repeated until a group of stylize waves texture is formed fulfilling the marked area.

The processes require very high concentration and take a long time to be completed because it requires detailed finishing to successfully highlight each of the stylized wave lines. Therefore, while the carving process takes place, the non-engraved surface should be covered with plastic wraps to avoid that surface from drying. This is to ensure that the work maintains its leather-hard state for the carving process to go smoothly until it is completed.

Figure 70: Carving process on the clay surface (Yahya Daud Ismail, 2018).

After the carving process is ready, the long-flattened clay is then attached around the end the part that has been carved. Then, the clay that has been sealed is gently torn to get the interesting cracking texture effect. Once this process is done, a wet sponge was used to clean and removed the excess clay debris from the body of the artwork. Next, the work that has been completed should be allowed to dry before the bisque firing process takes place. Drying must occur naturally so that all the assembled parts and carving on the body will firmly remain intact. Vary according to the size, structure of the work, and the room temperature, the drying process of the artwork takes between 3 to 7 days to dry completely.

Figure 71: Final form of the first series artwork in leatherhard state(Yahya Daud, 2018).

The whole process is repeated for the next artworks to complete this first series. Although there are slight differences involving proportion, balance, and form of the next artworks in the series, the production process is basically the same.

3.5.3.2 Second series

For the second series, the work produced has a form that represents the stylized building and at the same time still maintaining carved stylized wave texture just as in the first series. The making process begins by preparing clay slabs to form the main structure of the series, which are the building-like shape in different sizes.

These slabs are manually formed using a rolling pin rolled over the clay until it reaches the desired thickness. Then by using a knife as well as an iron ruler, these slabs were cut into several parts to be assembled later. Once the slabs are almost leather-hard, the parts to be attached are scratched by using a needle and applied with clay *slip* as an adhesive agent. The slabs were assembled one by one forming building-like shape. This process is repeated until several building-like shape form according to the design are produced.

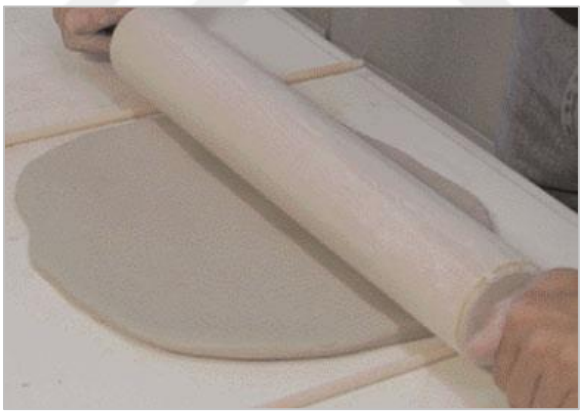

Figure 72: Process of making slab using rolling pin (Yahya Daud Ismail, 2018).

The next process is to prepare the base part of the form also by using the slab. Then the building-like shape that has been formed before was assembled on the base of this slab according to the planned arrangement. After that, the frame structure for this base is attached to the lower part of this artwork to support the structure. After all the frame structure is assembled, the base part is then covered with a slab which completed the shape of the artwork before proceeding to the next process.

Figure 73: Attaching frame structure for the lower part of the work (Yahya Daud, 2018).

The next step is the process of carving the wave pattern on the body of the work. In a leather-hard state, the carving process was done using handmade carving tools of varying sizes. The carving process for this second series used the same steps as the carving process of the stylized wave in the first series *(see figure 70:).*

After the carving process is completed, the process of attaching the long-flattened clay around the carved parts is done. Next, the clay that has been attached is formed with cracking textures effect. Once this process is complete, the untidy part will be cleaned and given a finishing touch by using a sponge and modelling tools. Then, the artwork should be allowed to fully dry before undergo bisque firing process.

Figure 74: Final form of the second series artwork in leather-hard state (Yahya Daud Ismail, 2018).

3.5.4 Bisque Firing

Bisque firing is a process in ceramic production where clay works undergo high-temperature firing for the first time. The purpose of this process is to vitrify, or in other words, to change clay glasslike to a point where the surface of the clay work can still absorb glaze (Peterson, 2018). Before all ceramic works go through bisque firing, it should be totally in bone-dry state or it could deform or break in the kiln. Then, with a great deal of care, it must be loaded into the kiln. The typical firing temperature for bisque firing is between 800ºC to 1080ºC. As stated by Murfitt (2002), After firing, the work is bisque fired with the temperature range between 980ºC to 1100ºC. For this particular artworks, the bisque firing temperature is set at 1040 ºC.

Whilst beginning the firing, it is important to make sure that firing temperature rises slowly. At the early stage of the bisque firing, the remaining of the atmospheric water is pushed out of the clay. If the temperature rises too quickly, the water inside the clay body can turn into steam, eventually causing the clay to crack. When the temperature reaches approximately 350 ºC, the water content in the clay will be fully removed. When the temperature of the clay reaches 500 ºC, it will be totally dehydrated. At this moment, the structure of the clay transformed into a ceramic material.

The firing continues until it reaches about 940ºC. At this stage, the ceramic works have sintered, which means that it has been converted to the condition that it's less fragile but still porous enough to simply accept the application of glazes. When the set temperature has been reached, the kiln is turned off and the cooling process begins. Cooling should be slow to prevent ceramic works from breaking due to sudden temperature changes. Only after the kiln is completely cool, it can be opened and all the bisque fired works can be unloaded and ready for the next process.

Figure 75: Example of bisque-fired works (Yahya Daud Ismail, 2018).

3.5.5 Glazing

After bisque firing, the ceramic works should be glaze before the glaze firing process takes place. Ceramic glaze is an impervious layer or coating applied to bisque ware to colour, decorate, or waterproof an item. In order for earthenware, like fired clay pottery, to hold liquid, it needs a glaze (Peterson, 2018). There are several ways to apply glaze to ceramic work. However, in producing these artworks, the combination of spraying and brushing techniques has been selected as a method of glaze application. This is due to two factors, firstly, the forms of the artworks itself are complicated where there is a narrow space that should be applied with glazes. Secondly, to get the glaze colour effect that has similarity to sea waves, several layers of glazes application is required. Therefore, these glaze application techniques have been identified as the most suitable to be used in order to achieve the intended surface effect.

Every work that has been produced for both the first and second series, uses two or more glaze applications. Each of the glazes has different surface textures and characters ranging from glossy finish to matt finish to give contrast and highlight the difference to the flat surface of the artwork and also the surface with engraving. For this reason, double glaze firing technique has been applied in the glazing process in order to get nice finishing touches of the glaze which are not overlapping on each other.

To help facilitate the double glaze firing process, *tape resist glazing technique* has been used during the process of applying the glaze. The process begins by patching a

masking tape covering a non-carved flat surface of the artwork. Then, the surfaces that were left without being taped is applied with glaze using spraying techniques. Glaze application using brushing technique was done only for the surface with a narrow gap that cannot be reached with spray.

After the glaze dry, the masking tape is removed leaving the glazed surface separated from the non-glazed surface, and it is ready for the first glaze firing. The first glaze firing is set at a temperature of 1100ºC which is lower than the selected glaze firing temperature for this study, at 1200 ºC. This is because the purpose of this first glaze firing is to ensure that the layer of applied glaze is sintered. This will facilitate the application of the second layers of glaze on the non-glazed surface, which will ensure that the newly applied glaze will not absorb on the sintered glaze, which eventually makes the process of avoiding glazes from overlapping on each other becomes easier.

After the first glaze firing with a temperature of 1100ºC is completed, the process is continued by applying glaze to the non-glazed surface using spraying technique. At this point, glazing work becomes easier and tidy because if there is a glaze splash on the sintered part, it can be cleaned only by using a wet sponge. Once completed, the artworks can continue to undergo the second glaze firing process, this time with the selected temperature of 1200ºC.

In this way, the final glaze firing result on the artworks surfaces with two different characters will become neat and tidy; without worrying about the glaze overlapping on each other and leaving undesirable effects.

Figure 76: Glazing process using spray technique (Yahya Daud Ismail, 2018).

3.5.6 Glaze Firing

After all the artworks have been applied with glaze, it is time for these artworks to go through the glaze firing process. Glaze firing is a very important and crucial process in the production of ceramic works. This is because after all hard work is poured out to produce an artwork, it is now depending on the glaze firing result which will decide the final looks of the artwork produced whether it is successful or not. Subsequently, the firing process should be done with intensive planning and in the correct way.

This process began by carefully load the ceramic works that had been applied with glaze into the kiln. The method of organizing ceramic works in the kiln is one of the things that have been a concern in glaze firing. The arrangement of ceramic works should be done in the correct way to ensure the heat cycle in the kiln moves evenly as the glaze surface effect are influenced by the way ceramic pieces are arranged. There should be some gap between one ceramic item with another to avoid contact which will then cause the glaze of the artworks to melt together and stick permanently after firing.

After the loading process is completed, the firing begins with the kiln is heated slowly until it reaches the set temperature. The glaze firing temperature set for this artworks is 1200°C. After this particular temperature is reached, the firing is finished and the cooling process begins. When the kiln has fully cooled, the kiln can be opened and the pieces are ready to be unloaded. Glaze firing gives incredible changes to ceramics. From fragile and porous condition, it turned into a fully vitrified with glass-like looks.

3.5.7 Finishing

Finishing is a very important process in making an artwork or product. A ceramic piece may be a functional object that will be used as daily utensils or to be displayed in public, so it is necessary to be that the piece is well finished. According to Taylor (2011), poor execution of a piece can undermine the quality of the ideas. Therefore, the way a piece is finished always an important consideration of the making process.
The finishing process is divided into different stages; it consists of:

i. Unfired Stage (Greenware and Leather-hard)

   This is the best stage for finishing process to be done because the clay can be easily worked and cleaned. Rough edges and surface should be fettle using a sponge to avoid it become sharp after fired.

ii. Bisque-fired Stage

The bisque-fired stage provides another opportunity for finishing the artwork. Sandpaper is often used to refine the surface of ceramic pieces before it is glazed.

iii. Post Glaze Firing Stage

After the ceramic works have been glazed fired, it is very important to examine the ceramic works for any rough surfaces especially, for functional ceramic wares. These rough surfaces should be polished to prevent it from causing injury or from scratching other surfaces such as dining table. However, for artistic ceramic artworks, it is fully depending on the artist's intended surface texture of their artworks**.**

3.6 RESULTS

As a result, it can be noted that all the processes and tests that have been carried out from the beginning of the study have a direct impact on the final outcome of the ceramic artworks produced. The process of generating and developing ideas that occurred during the study in terms of elements and characteristics of sea waves together with its character reflection, has triggered a new idea that eventually resulted in the producing of a three-dimensional art form that successfully combines the elements of stylized sea waves design.

Series of surface texture tests conducted focusing on capillary waves becomes the major factor that makes interesting repetitive stylized waves pattern able to be achieved. The final artworks result certainly maintain sea waves elements and characteristics but with a different approach. In addition, a study on glaze colour also gives interesting results. As an example; the glazes produce interesting surface effects and have the potential for further development to be applied to other ceramic works.

Moreover, it can be said that with continued research, thorough preparation and a good understanding in technical aspects of the production of ceramic works, ceramic art practitioners will be able to produce great ceramics works with high quality and thus meet the goals that want to be achieved.

CHAPTER FOUR
ANALYSIS AND FINDINGS

4.1 INTRODUCTION

This chapter will discuss the analysis and findings made throughout the production of artworks in this research. The accomplished results will be shown and an overview will be given on the final artworks that have been produced. In addition, reviews and analysis on the artwork making processes that include aspects of design and form, techniques and materials, surface textures and glaze, as well as tools used are described and discussed. Finally, this chapter will also discuss and evaluates problems that emerge while producing this artwork and also the countermeasure and solution to solve those issues.

4.2 ACCOMPLISHED RESULTS

4.2.1 Final Artworks for First Series

Figure 77: Artwork 1: first series final artwork. (Yahya Daud Ismail, 2018).

Figure 78: Artwork 2: first series final artwork. (Yahya Daud Ismail, 2018).

Figure 79: Artwork 3: first series final artwork. (Yahya Daud Ismail, 2018).

4.2.2 Final Artworks for Second Series

Figure 80: Artwork 1: second series final artwork. (Yahya Daud Ismail, 2018).

Figure 81: Artwork 2: second series final artwork. (Yahya Daud Ismail, 2018).

4.2.3 Overview on Final Artworks

4.2.3.1 First Series Artworks

In line with what was discussed in chapter 3, sea waves character's reflection is to be emphasized in this first series artworks. This work highlights two opposite characteristics taken from the nature of the sea waves, which are the beautiful characters that symbolize calmness and also its destructive and violent nature. In terms of form, it can be seen that the artwork of this series begins with an upright form and for the subsequent artworks this form then gradually collapses which describes movement in this series. While from the perspective of the glaze colour application, it is parallel to the form of the artworks which indicates the continuity of the artworks. As this form gradually collapse, so too the use of glaze colour, which became darker and darker according to the proportion of the form. Whereas, the stylized sea waves design has also been effectively applied onto these artworks creating an interesting surface texture effect. Overall, the artworks in this first series certainly have obvious similarities and relationships with one another and thus highlight it as a complementary series.

4.2.3.2 Second Series Artworks

For the second series artworks, the use of stylized buildings form is shown along with stylized sea waves pattern. The combination of this form and stylized waves design has highlighted the relationship between the waves and the shore that have a connected mutual background. Although these artworks basically have continuity with each other in term of form, the glaze colour that has been selected to be applied onto them is different. For artwork 1, the applied glaze colour is dark blue while for artwork 2 the colour used is soft green. This is to illustrate the difference in colour, as the colour of the sea wave itself is always changing. The colour applied in the second series artworks also shows the contrast between the area with stylized waves carving with the surface area of the stylized building. This is to highlight the difference between the two surfaces. From the surface texture perspective, the stylized wave applied in the second series artworks is the same as the first series which both have the same repetitive design.

4.3 REVIEWS AND ANALYSIS IN THE ARTWORK MAKING PROCESSES

4.3.1 Form and Shape

In terms of the form and shape, both series of artworks were produced as standing ceramic art form. The design and selection of artwork's form are made based on observations on the nature and characteristics of the sea waves. After taking into account a number of factors, especially its background involving the destructions caused by waves such as tsunamis as well as rogue waves, the idea of producing a ceramic art form that incorporates the themes of destruction has become clear. Therefore, the development process of the idea focuses on the form that features this theme and it can be seen in the first and second series of artworks where crack and torn effects are clearly displayed in stages.

From a technical point of view, these two series of artworks have a unique challenge to be produced and translated in three-dimensional form, especially involving the stylized sea waves texture which quite complicated to produce. In order to ensure that the designs are successfully translated into artworks, a series of tests and experiments have been conducted so that proper selection of techniques and materials can be identified to assists the fabricating process.

4.3.2 Colour and Glazes

In terms of colour and glazes, several tests have been conducted in order to get the suitable glaze colour to meet the research objectives that focused on the application of glaze colours that represent the true colours of the sea waves. The test results show that glaze colour produced even though it is not bad but still not utterly satisfying. The resulting colour test is unable to match the sea waves colour range as desired. However, the glaze colour chosen for the final artworks is still able to highlight the stylized sea waves design and still maintain the sea colour identity.

In addition, the application of a glaze colour with the combination of matt and glossy finish also produce unexpected results. Matt glazes obtained from glaze colour tests, when applied to the final product have turned into satin and glossy finish, this has slightly affected and brought some disparity to the final artwork compared to the

original design. The kiln atmospheric condition has been identified as the main cause of this unexpected change.

In terms of glaze application, the combination of spraying and brushing techniques that have been used has certainly contributed to the smooth finish of the final artworks. Despite using a variety of different glaze colours and the surface of the artworks is highly textured, the use of this technique has successfully provided an interesting final touch to all these artworks.

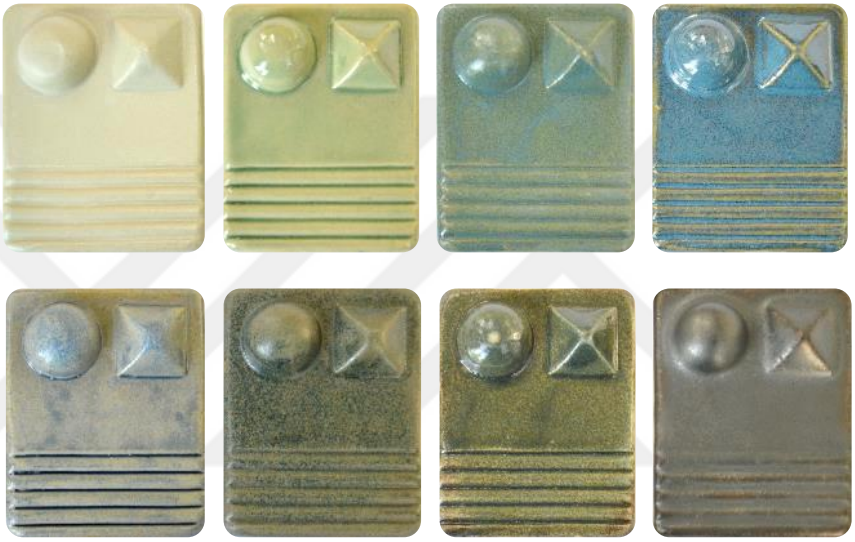

Figure 82: Combination of glazes applied onto final artworks. (Yahya Daud, 2018).

4.3.3 Technique and Materials

The stylized sea waves texture on the surface of the final artworks are the most important aspects of this study. Various techniques have been tested to get the best surface texture results that can highlight this stylized wave design. To produce the desired stylize wave texture, carving techniques have been identified as the most effective technique to be used. This is aided by the use of handmade tools *(see figure 63:)* as carving tools which successfully produces consistent and neat texture effectively highlighting the stylized waves design. Therefore, the use of carving techniques is considered one of the main factors contributing to the successful application of two-dimensional stylized wave designs to the three-dimensional final artworks.

In terms of material, the use of stoneware clay with 20% *chamotte* content has helped achieve a satisfactory final artwork. This type of clay is a very suitable material to be used for making ceramic art form because it can be used to forms an artwork using various techniques such as throwing, hand building, and slabbing as has been applied to the making of final artworks. The *chamotte* content in this clay has helped reduce the risk of artwork being cracked during the fabricating and firing process. In addition, the reaction of this stoneware clay with the glaze is also impressive, producing an interesting glaze finish at the same time highlighting the carved textures of the artwork.

4.3.4 Tools

An interesting discovery during this study was the use of hand-made carving tools that produced a very impressive surface texture. The use of this tools has greatly contributed to the success of getting stylized sea waves carving according to the design. The use of this tools can also be featured for future work and have the potential for further development.

4.4 PROBLEMS AND SOLUTIONS

During the course of this research, several problems and its solutions have been identified and recorded for the purpose of improvement for the future artworks.
All these problems and solutions are as follows:

Problems	Solutions
I. The grafted clay does not stick properly after been attached.	• The parts to be joined must have the same moisture before starting to attach them. The surface to be attached also needs to be scratched and applied with *clay slip* first before adhesion.
II. The artwork have small cracks during the drying process.	• Use clay with high *chamotte* content and paste it on the cracked spot.

III. The glaze is difficult to be applied to a certain area of the artwork due to its complicated form.	• Use a brush to apply glaze on the area that has a small gap.
IV. Parts that want to be joined do not have the same level of humidity.	• Spray water to the parts to be joined and wrap it with plastic to make sure it become moist. Start the assembling process only after both parts are evenly damp.
V. Different glazes intended to be apply on the same surface without it overlapping on each other.	• Use double firing technique so that the glazes can be applied separately one after another. Also, use *tape resist glazing technique* to assist the process.
VI. Glaze colour results appears different from glaze colour test.	• Make sure the same kiln is used for glaze test firing and also final glaze firing. Also make sure the arrangements of ceramic pieces in the kiln are in similar position and level as when the glaze test is done.

Table 3: Problems and solutions.

CHAPTER FIVE
CONCLUSIONS AND RECOMMENDATIONS

5.1 GENERAL DISCUSSION

Arts and the sea certainly has a longstanding relationship that cannot be denied. This is evidenced by the depicting of the sea and waves in past civilization and the preserved heritage that can be attributed to art that encompasses various types of art, including visual arts, music, folk art, theatre, as well as modern art.

As time goes on, so is the art that evolves in a circulation of times and the wave-inspired art is no exception from following this circulation. In other words, the artwork inspired from waves is not something new, but what is to be conveyed in this study is the continuation of wave-inspired art but with a different approach in terms of medium and concept. The selection of ceramics as a medium to produce artworks is one of the efforts to step out of the tendency of producing two-dimensional wave-inspired artworks and at the same time to revive the stylization art in ceramics. This chapter explains and summarizes this research as a whole encompassing the four completed chapters.

5.1.1 Reviving Stylization Art

As described in chapter 2, this stylization art has indeed been around for a long time. In the early stages of the art creation, it began with stylization due to limited skills and knowledge of art during that period of time. However, the art began to grow over time and most art enthusiasts prefer to produce realistic art and this has diminished the making of stylization art. Until recently, this stylization art is seen to have gained influence to return to the art mainstream.

In line with this, this study which focuses on sea wave stylization and its applications on ceramics can be considered as an effort to revive the stylization art. In addition, it provides an opportunity for ceramic art itself to grow. Observations have found that stylization in ceramics art was still limited and open to being explored. Therefore, this opportunity has been fully taken to give the fresh idea to the production of ceramics art, especially ceramic art form.

5.2 CONCLUSIONS

Overall, conclusions that can be made based on the overall study are elements and characteristics in the waves is suitable to be applied onto ceramic medium and have potential to be developed in various aspects. In terms of design, characters reflection and diversity of interesting elements that can be derived from sea waves are two major factors that help the effectiveness of ceramic art form that focuses on stylization art. Meanwhile, a detailed study on glaze colour involving tests on clay surfaces and the selection of glazing technique has yielded more interesting results for final artworks.

In addition, the use of appropriate material and tools is essential to ensuring that each artwork can be successfully produced. a series of tests carried out on clay types yields positive results when the selected stoneware clay with 20% *chamotte* content gives the quality to the final artworks. Additionally, the use of handmade carving tools has proven to be the right step in getting the best surface texture quality on ceramics. The use of repetition techniques in the selected stylized wave design also highlighted the wave element in the artwork.

It is important to be emphasized here that every design concept or research idea that want to be applied on ceramic artwork need to go through continued research and experimentation in order to achieve the best and successful results. Additionally, it is very important for every ceramic art practitioner to doing extensive research and experiments covering various aspects before starting the fabricating process as this will help them especially in terms of technicality and material to be used.

Finally, it is hoped that the study of stylization art, especially in ceramics, will continue to be developed and improved. This research hopefully can inspire art practitioners, especially other ceramists to continue this type of research in the future.

5.3 RECOMMENDATIONS

This research suggests that the application of the elements and characteristics of the sea waves and stylization concept into ceramic artwork should be continued with the addition of new idea with a different approach. This is because this research is only cover a small scope of this subjects and still have a lot of room for improvement and can be developed to achieve more interesting results.

In addition, the methods of glaze applications on ceramic products should be explored and developed, because there is still much need to be studied regarding glaze application technique as it directly influenced the final result of the artworks produced. In addition, studies to obtain new techniques and tools, especially in getting interesting surface texture effect should be continued as it has been proven in this study that handmade tools are able to give a great impact on the final result of the artwork.

Finally, this research recommends ceramic art practitioners and designers to study and apply the elements and characteristics of sea waves within the context of stylization art into functional ceramics product such as tableware and sanitary ware.

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