A proposed vision for a set of criteria for judging ceramic works

Prof. Afaf Radi Abdo Khader

Assistant Professor of Ceramics at the Faculty of Specific Education, Damietta University, Damietta, Egypt

afafradikhedr@yahoo.com

Abstract:

This study proposes a set of criteria for judging ceramic form based on an analytical and philosophical approach. The research aimed to develop a set of criteria (which the researcher considered to be the most objective) for evaluating the forms of ceramic art based on the basic elements that make up it, including raw materials, formation techniques, form, function, and the aesthetic dimension. The research problem lies in formulating a set of criteria that determine to what standard extent the artwork belongs to the field of ceramics. The importance of the study lies in providing criteria for judging competitions, as well as creating useful criteria for judging students' production in the educational field. The theoretical framework is divided into four categories: standards for materials, standards for forming techniques, standards for ceramic parts, and fire standards. The study aimed to bridge the gap between subjective and objective evaluation of ceramic works. It was concluded that there is a positive relationship between analyzing the ceramic field and developing a set of criteria by which a work of art can be judged and whether it belongs to the field of advanced ceramic art or not.

Keywords:

Ceramic figure- ceramic artartwork- judging criteria

Paper received June 30, 2024, Accepted August 06, 2024, Published on line November 1, 2024

Introduction:

Nature is considered one of the basic sources and springs that inspire the artist or designer to his ideas, due to the infinite elements and systems it contains. The artist deals with the elements of nature, divides them into elementary elements, reconstructs them and shapes them in a new formula, where he gives them a new approach, thus forming an inexhaustible source of inspiration. Therefore We find that nature is the source from which the artist or designer draws his ideas. Through imagination and contemplation to see integration in form and function (Abdel Aziz, 2017).

Art is one of the ancient activities that humans practiced to express their feelings, thoughts, and thoughts in various images, shapes, sounds, and movements, embodying their aesthetic awareness of the boundaries of their public and private world (Al-Sawalhi, Abu Shuqair, and Al-Amiri, 2022).

Ceramic art is a unique form of artistic expression, which has been used for centuries. To create beautiful and practical objects and shapes. However, the criteria for judging ceramic art and ceramic form remained largely subjective, relying on individual opinions and personal tastes rather than objective and standardized measures. As a result, it can be difficult for artists, collectors, and critics to evaluate and compare ceramic form, especially across different cultures and time periods of history (Hassan, & Hamza, 2019).

In response to this challenge, this study proposes a set of criteria for judging ceramic form that is based

on an analytical and philosophical approach. The aim of this study is to develop a framework for evaluating ceramic art forms that is based on the basic elements of ceramics, including raw materials, shaping techniques, form, function, and aesthetics. By developing a more objective set of criteria, this study seeks to contribute to the ongoing dialogue about the nature of ceramic art. and its place in the wider artistic world.

The results of this study provide a basis and platform for further research into ceramic art evaluation, and may have practical applications for artists, collectors, and others in the art world.

Overall, this study attempts to bridge the gap between the subjective and the objective in evaluating the ceramic form, and contribute to a deeper understanding of this unique and enduring form of artistic expression.

Research problem:

The plastic arts may lack some objective criteria in judging a work of art because it belongs to one field rather than the other. Accordingly, the researcher sought to try to formulate a set of criteria that determine the extent to which this work belongs to the field of ceramics rather than others. Accordingly, the problem of the research is determined in answering the main question. following:

The research problem is determined by answering the following question:

What are the criteria by which an artistic work can be judged for its belonging to the field?

Citation: Afaf Khader (2024), A proposed vision for a set of criteria for judging ceramic works, International Design Journal, Vol. 14 No. 6, (November 2024) pp 79-87

Research Importance:

Its importance lies in showing:

- 1- Standards that may be useful in judging ceramic works.
- 2- Standards that may be useful in judging competitions.
- 3- Criteria that may be useful in judging students' production in the field of ceramics.
- 4- Standards that may be useful in the educational field.

Research Aims:

The research aimed to formulate and crystallize a set of criteria by which an artistic work can be judged and whether it belongs to the field of ceramics or not.

Search Hypothesis:

- There is a positive relationship between analyzing the ceramic field (its materials - shaping techniques - its parts...), and establishing a set of standards by which the artwork can be judged and whether it belongs to the ceramic field or not.

Theoretical Framework:

It is divided into four main categories: standards for materials, standards for forming techniques, standards for ceramic parts, and standards for leveling and fire.

Specific material standards refer to the characteristics of the raw materials used to make porcelain products. These parameters include factors such as chemical composition, particle size, and impurities of raw materials, and the properties of raw materials play an important role in determining the quality of the final porcelain product (Semiz, 2017).

Molding technology standards refer to the methods used to shape raw materials into the desired shape, and these standards include factors such as the pressure applied during molding, the speed of the molding process, and the temperature at which molding takes place. These factors can significantly affect the quality of ceramic products (Meshalkin et al., 2020).

Ceramic cutting standards refer to the characteristics of the finished porcelain product, such as its shape, size, and surface texture, and these standards also include factors such as product uniformity and lack of defects.

Finally, tempering and firing standards refer to the firing process used to harden a ceramic product. These parameters include factors such as the temperature at which the firing takes place, the time spent in the firing process, and the cooling rate after firing, as these factors can greatly influence the final properties of the ceramic form (Wiśniewska et al. 20201).

Overall, the theoretical framework of this research provides a comprehensive and systematic approach to evaluating the quality of ceramic form from an analytical philosophical point of view.

First - standards for the material:

Specific material standards are an important aspect of the theoretical framework for evaluating a ceramic figure, as the raw materials used to make and produce a ceramic figure are essential because they ultimately determine the final properties of the figure, including its strength, durability, color and texture.

The chemical composition of raw materials is one of the most important factors that must be taken into consideration, as the presence or absence of chemicals can greatly affect certain the characteristics of the ceramic form, such as its color and durability. For example, the presence of iron oxide can result in a red or brown discoloration, while the presence of titanium oxide can result in a white discoloration. The chemical composition can also affect the strength of the ceramic product, stacking during firing, and other physical properties (Kagonbe et al., 2021).

The grain size of the raw materials is another key factor to consider, as finer particles tend to produce smoother surfaces, while larger particles can produce a rougher surface texture, and particle size can also affect product strength and shrinkage during firing. For example, smaller particles can lead to more consistent packing, resulting in a stronger, denser form. In contrast, larger particles can produce a more porous and weaker form (Ulusoy, 2023).

Impurities in the raw materials can also have a significant impact on the quality of the final ceramic figurine, because impurities, such as dirt, sand, or organic materials, can cause defects or weak points in the ceramic figurine; Which leads to reduced durability and hardness. Contamination of raw materials with other substances can also lead to harmful chemical reactions that affect the properties of the ceramic form (Silva et al., 2017).

In conclusion, specific material standards are an important aspect of evaluating the quality of a ceramic figure, and a comprehensive understanding of raw material properties and their effect on the final form can help ensure that the ceramic figure meets the required quality and performance standards. By carefully selecting and controlling the properties of raw materials, designers can produce high-quality ceramic shapes that meet desired needs.

Second - Standards for shaping techniques:

Forming standards refer to the methods used to shape raw materials into the shape required to make ceramic figures. The forming process is essential because it can affect the product's shape, size, texture, and other physical properties.

Ο

One of the important factors that must be taken into consideration in determining standards is the pressure applied during the molding and design process, as the amount of pressure affects the density, uniformity and consistency of the product (Baudín, 2014). For example: a high-pressure molding process can result in a more compact and consistent product, while a low-pressure molding process can result in a more porous and weaker product.

Another important factor to consider is the speed at which the design and shaping process takes place, which can affect the uniformity, look and feel of the product. For example: a faster design process can lead to a smoother, smoother surface, while a slower design process can lead to a rougher surface texture (Tholt et al., 2006).

The temperature at which molding takes place is another crucial factor to consider, and temperature can affect the shape, size and texture of the product as well. For example, a higher temperature can lead to the formation of a denser product, while a lower temperature can lead to the formation of a more porous and weaker product (Kingery et al, 1976).

Other factors that must be considered in ceramic form design criteria include the use of additives, such as binders or lubricants; To improve the efficiency of the design process and use specific molding techniques, such as casting or extrusion, to achieve a specific shape or size (Lakhdar et al., 2021).

Finally, setting standards plays an important role in using raw materials as required to make ceramic figures. By carefully controlling factors such as pressure, speed, temperature and additives, manufacturers can produce high-quality ceramic figures that meet the required standards for shape, size and texture. Understanding and implementing these standards can help ensure that the final product meets customer needs in a wide range of applications.

Third - Standards for ceramic figure parts:

Establishing ceramic form standards is an essential aspect of ensuring that the product meets the desired functionality. Ceramics are used in a wide range of applications, including the aerospace, automotive, biomedical, electronic and industrial sectors. The specific physical and chemical properties of ceramic materials make them highly desirable for use in these applications, but It is necessary to evaluate the quality of ceramic figures based on specific criteria.

The mechanical strength and durability of a product are key factors to consider when setting standards for ceramic form, and ceramic parts must be able to withstand the required loads and stresses without cracking or breaking. The mechanical properties of a ceramic form can be affected by several factors, including the characteristics of the raw materials, the manufacturing process, and design engineering. The product's mechanical strength and durability can also be tested through several methods, such as tensile strength, compressive strength, bending strength, and hardness testing (Arabic Encyclopedia website: arab-ency.com. sy).

Another crucial factor to consider is the thermal properties of the product, including its ability to withstand high temperatures without deformation or cracking. Ceramic parts are often used in high temperature applications, such as furnace liners, combustion chambers and heating elements. Thermal shock resistance is also а kev consideration for a ceramic form, especially in applications involving rapid temperature changes. Thermal shock testing can help determine a product's resistance to thermal shock (Jard, 2014).

Chemical resistance is another important factor to consider when establishing criteria for evaluating a ceramic finish. Ceramic parts must be able to withstand exposure to corrosive environments without deteriorating or becoming corroded over time. Chemical resistance testing can help evaluate a product's resistance to chemicals. And various other materials (Inventory, 2014).

The surface finish of ceramic parts is also an important consideration and criteria, and it is essential that the surface finish is suitable for the intended use and must meet the necessary aesthetic requirements. Surface finish can be evaluated through several methods such as surface roughness testing, visual inspection and microscopic examination (www.iloencyclopaedia.org).

Other criteria factors to consider in ceramic form include dimensional accuracy, electrical properties and biocompatibility, where applicable. Dimensional accuracy testing ensures that the product or design meets the required dimensions and tolerances. Electrical property testing is essential for ceramic parts used in electronic applications, such as insulators and capacitors. Biocompatibility testing is critical for ceramic parts used in biomedical applications, such as dental implants and... Bone restoration.

Standards for ceramic form parts are essential to ensure that the product meets the functional requirements necessary for the intended application. By carefully controlling factors such as mechanical strength, thermal properties, chemical resistance, surface finish and dimensional accuracy, manufacturers can produce high-quality ceramic shapes that meet the needs of customers in a wide range of industries. Understanding and implementing these standards can help ensure that the final look works well and meets the desired functional requirements.

81

In addition to the above factors, there are other considerations in ceramic form criteria that are crucial in evaluating design quality. For example, the porosity of ceramic parts is an important factor to consider in design, especially in applications where the product must be able to withstand high pressures or prevent liquid or gas penetration. Porosity testing can help determine the level of porosity in the product (Jard and Soliman, 2016).

Another key factor to consider is product color, especially in applications where aesthetic appearance is paramount. Colorimetric testing can help evaluate the accuracy and consistency of a product's colors.

The chemical composition of ceramic parts is also an important consideration. Chemical composition can greatly affect product properties, such as mechanical strength, thermal properties and chemical resistance. Chemical analysis, such as Xray fluorescence, helps determine the chemical composition of the product (Jard, 2014).

Environmental factors such as humidity, temperature, and UV exposure also affect the performance of the ceramic form over time. Therefore, testing the resistance of the ceramic form to environmental factors is essential to ensure its long-term durability and reliability.

Quality control procedures are necessary to maintain the consistency and reliability of ceramic figures. Quality control measures include testing the characteristics of the ceramic figure during the manufacturing or molding process, such as sintering temperature and time, and performing quality checks on the final form before distribution. In conclusion, standards for ceramic form are essential to ensure product quality and reliability in various applications, by carefully controlling factors such as mechanical strength, thermal properties, chemical resistance, surface finish, dimensional accuracy, porosity, color, chemical composition, and environmental factors. Manufacturers can produce high-quality ceramic figures that meet the needs of customers in a wide range of industries. Through quality control measures, they can also maintain the consistency and reliability of their products, ensuring that they perform well and meet the necessary functional requirements.

Fourth - Fire standards:

Fire standards are an important aspect of evaluating the quality of a ceramic form, especially those used in high-temperature applications, and ceramic forms are highly desirable for use in hightemperature applications due to their ability to withstand extreme temperatures without being affected by melting or deformation. However, it is necessary to ensure that porcelain products meet the necessary fire standards to ensure their safety and reliability.

One of the basic factors that must be taken into account in fire standards is the product's ability to withstand high temperatures without cracking, deforming, or collapsing. The product's ability to withstand high temperatures is affected by several factors, such as the raw materials used in the manufacturing and formation process, the product's design and engineering, and the manufacturing process. The same, testing the product's ability to withstand high temperatures can be done through methods such as thermal cycling, where the product is exposed to rapid changes in temperature, or steady-state testing, where it is exposed to a constant high temperature for an extended period (Al-Muqrin, 2021).

There is an important factor that must be taken into account, which is the thermal conductivity of the product, which can affect the ability of the ceramic form to transfer heat or resist thermal shocks, and using a thermal conductivity test can contribute to evaluating the ability of the product to transfer heat or resist thermal shocks under conditions Different.

Fire resistance testing is another important aspect of evaluating the quality of a ceramic figure. Fire resistance testing helps determine the ability of a ceramic figure to resist ignition, sustain a flame, and emit toxic gases during a fire. Fire resistance testing can be performed via several methods, including an endurance test. Fire, where the product is exposed to a controlled temperature for a specific period, or fire spread testing, where the product's ability to withstand the spread of fire is evaluated (El-Gendy, 2017).

Thermal expansion of the ceramic form is also an important consideration in fire standards, and affects its ability to withstand thermal shock and maintain its structural integrity during exposure to high temperatures. Thermal expansion testing can help evaluate a product's ability to withstand thermal shock and maintain its structural integrity during exposure to high temperatures.

addition to the above factors, In other considerations in fire standards include the thermal stability of the product, the ability to resist corrosion, and impact resistance. Understanding and implementing fire standards helps ensure that ceramic products are safe, reliable, and perform well in high-temperature applications. It is also necessary to have proper manufacturing and testing procedures in place to ensure that porcelain products consistently meet the necessary fire standards. Quality control measures, such as testing product characteristics during the manufacturing process and performing quality checks on the final product before distribution, are essential to



maintaining the consistency and reliability of ceramic figures (Nelson, 1966).

One of the challenges in applying fire standards to ceramic products is the complexity and diversity of product characteristics, as ceramic products vary widely in terms of raw materials, manufacturing processes, engineering, and intended applications. Therefore, it is necessary to develop appropriate test methods and standards that can accurately evaluate the product's fire resistance and other properties. То face this challenge; Many organizations have developed fire testing standards specifically for porcelain products. For example: The American Society for Testing and Materials (ASTM) has developed standards such as ASTM C1161, which specifies procedures for evaluating the thermal shock resistance of porcelain materials, and ASTM C1145, which describes procedures for determining the oxidation resistance of porcelain (Chappell, 1977).

Other organizations such as the International Organization for Standardization (ISO) and the European Committee for Standardization (CEN) have also developed fire testing standards for porcelain products. These standards cover various aspects such as fire resistance, thermal conductivity, and thermal expansion, and provide guidance on test methods, equipment, and procedures.

It can be concluded that the application of these standards can contribute to ensuring that ceramic products meet the necessary fire requirements and are safe and reliable for use in high temperature applications.

Methodological Framework: First - Research Methodology:

This research adopts the descriptive-analytical approach, which includes critical thinking about the researcher's own experiences and understanding of ceramic art. This approach is well suited to exploring the subjective and personal nature of evaluating ceramic form based on specific criteria, and provides insight into these criteria used from the perspective of the researcher.

Second - Selecting the sample and collecting data:

Since the research is based on the personal analysis approach; No formal sample was selected or relevant data collected. Instead, the researcher employed her experiences, knowledge, and understanding of ceramic art to develop a set of criteria for evaluating ceramic form.

Third - Data analysis and interpretation:

The data analyzed in this study are the researcher's own experiences and understanding of ceramic art. The data was analyzed using critical thinking and analysis tools to identify the main themes and categories that emerge from the data. These themes were used to develop a set of criteria for evaluating the ceramic form.

Fourth - The validity and reliability of the research:

The validity and reliability of the research was enhanced by a rigorous and systematic data analysis process. The researcher took a critical and reflective approach to analyzing her own experiences and understanding of ceramic art, ensuring that the analysis was transparent and consistent.

Fifth - Analyzing the results and testing the hypothesis:

To test the hypothesis: There is a positive relationship between analyzing the ceramic field (its materials - shaping techniques - its parts...), and establishing a set of criteria by which the artwork can be judged and whether it belongs to the ceramic field or not.

Four proposed criteria were considered: technical excellence, conceptual coherence, aesthetic quality, and cultural significance.

1- Technical excellence:

Technical excellence refers to the quality of the technical aspects of a work or art form, including the use of different materials in its design and manufacture, the level of performance and craftsmanship, and the skill and precision of the forging and firing processes. Understanding the standards for materials and formation techniques covered by the theoretical framework is crucial in achieving technical excellence in ceramic artwork.

For example, a ceramic artist who wants to design a functional ceramic product (a teapot) that works well and is aesthetically pleasing must pay attention to the technical details of the work, and must ensure that the clay being used is suitable for the intended purpose (e.g. a teapot) and that the The correct firing temperature to achieve the desired level of durability and consistency.

Throughout history, technical excellence has been highly valued in the ceramic arts. In ancient China, for example, ceramic production was secret and closely guarded, and potters were highly respected for their artistic skills. In the modern era, artists such as Peter Voulkos and Betty Woodman have pushed the artistic boundaries of ceramics forward (Figure 1), discovering new forms and techniques that expand the possibilities of the medium.



Figure (1): A pillow-shaped vase by artist Betty Woodman, challenging the traditional boundaries of the craft. (From: themarksproject.org)

2- Conceptual consistency:

Conceptual cohesion refers to the extent to which a work of art demonstrates a coherent, meaningful, and meaningful concept, and how well the concept is expressed through the elements forming the work of art. The artist's intention must be clear in the artwork, and the concept must be communicated well through the formal elements that make up the artwork, as understanding the standards of ceramic parts is essential to creating a cohesive and harmonious artwork.

We can cite the following example to illustrate: A visual artist who wants to create a set of dishes inspired by nature must pay attention to the conceptual coherence of the work. He must ensure that the main elements of the artwork, such as the shape and texture of the vessels, reflect the natural world and that the overall concept of the work is well depicted through the artwork.

Ceramic artists have long used several mediums to explore complex concepts and ideas. For example, in the 19th century, British artist William de Morgan created intricate ceramic tile designs depicting scenes from medieval literature and myth (Figure 2), and in the mid-20th century, Japanese artist Kenkichi Tomimoto used ceramics to explore ideas of identity and cultural heritage, creating sculptures. Which combines traditional Japanese techniques with modernist forms.



Figure (2): A vase by William de Morgan containing reliefs depicting fantastic creatures, with revivals of mythological figures. (from: demorgan.org.uk)

3- Aesthetic quality:

Aesthetic quality can be defined as the degree of beauty, harmony, and visual appeal of a work of art, as well as the emotional and intellectual impact it generates on the viewer. The aesthetic quality of a work of art depends on various factors, such as the use of color, texture, and shape. Understanding the standards for materials and formation techniques covered by the theoretical framework is important. It is extremely important in achieving the required aesthetic quality in ceramic artwork.

For example: A ceramic artist who wants to create a visually stunning and emotionally moving sculpture must pay attention and focus on the aesthetic quality of the work, and must use appropriate colours, textures and shapes to create an artwork that attracts the viewer's attention and elicits their emotional response.

Ceramic arts are known for their beauty and visual appeal, and many examples of this can be found throughout history, from the complex geometric patterns of Islamic tiles to the delicate floral designs of Ming Dynasty Chinese porcelain (Figure 3). In modern times, artists such as Beatrice Wood and Hans Koper have created works that challenge notions. Traditional aesthetics, using ceramics to explore ideas of form, texture and materiality



Figure (3): Vessels from the Chinese Ming Dynasty. (From: Metmeuseum.org)



4- Cultural importance:

Cultural significance means the importance of the artwork and its importance in its cultural and historical context, in addition to its contribution to the development of ceramic art. Understanding ceramic cutting standards and firing standards is essential for creating culturally significant artworks that contribute to the development of ceramic art and the evaluation of ceramic form.

The following example can be mentioned here: A ceramic artist who wants to create a piece of art that

reflects his cultural heritage must pay attention to the cultural significance of the work. He must also ensure that the artwork is closely related to his cultural background and that it reflects the history and traditions of his culture. The firing techniques he uses must also be appropriate. For the intended purpose of the artwork, and reflect the historical techniques used in its culture, the artwork must contribute to the development and preservation of its cultural heritage.



Figure (4): Eighth-century pottery from the Maya civilization in Guatemala. The outstretched wings of bats are decorated with crossed bones on the left and extruded eyeballs on the right. Since bats live in caves and swoop at night, they reflect Maya beliefs about creatures from the underworld. They Both terrifying and respected. University of Pennsylvania Museum of Archeology and Anthropology. (From: The Wall street Journal)

TT 11 /	(1) D	\ 1	•, •	C	evaluating	•	C	1	.1 .	• 1•	· •
I anie (1 V P	ronosed	criter13	tor	evaluating	ceramic	torm	and	their	1mn11ca	tione -
I able (1/.1	TOposcu	cr nor na	IUI	cvaruating	coranne	IOIIII	anu	unon	mpnea	uons

Standard	Significance	Example				
Technical excellence	The quality of the technical aspects, including the materials involved in the molding processes and design methods	Ancient Greek pottery techniques using the potter's wheel, high quality glaze and firing processes ensure consistency and corrosion resistance				
Conceptual coherence	Expression through form and the connection of meaning	The use of pottery and porcelain in the Japanese tea ceremony emphasizes simplicity and the use of natural materials to create an atmosphere of calm and harmony				
Aesthetic quality	The degree of beauty, harmony, attractiveness and influence	Chinese porcelain from the Ming Dynasty, which is characterized by intricate designs, shapes, and bright colors that reflect the aesthetic and cultural values of that time.				
Cultural importance	Importance in the historical and cultural context and contribution to the development of ceramic art and industry	Maya pottery and ceramics, which reflects the religious and cultural practices of the Maya civilization, as well as the development of complex techniques for creating decorative vessels and sculptures				

Citation: Afaf Khader (2024), A proposed vision for a set of criteria for judging ceramic works, International Design Journal, Vol. 14 No. 6, (November 2024) pp 79-87

Through the four proposed technical standards, some examples were cited that support the researcher's point of view. In terms of the first criterion (technical excellence), the work of American artist Betty Woodman meets this criterion. She skillfully uses the ceramic medium and creates complex shapes and patterns. She has drawn inspiration from a wide range of sources, including classical art, architecture and the natural world. As for the second criterion (conceptual consistency), the work of De Morgan, who was known for his innovative and highly decorative ceramic designs that were inspired by Islamic and Persian art, was cited. One of the hallmarks of his his commitment to conceptual work was consistency as he believed that a ceramic piece should also convey a deeper meaning or message. To achieve this, he carefully selected the motifs, colors and shapes that he used in his designs, ensuring that they were consistent with the overall concept or theme of the piece. As for the third criterion (aesthetic quality), we see that ceramics belonging to the Ming Dynasty era are best represented by its quotation of natural landscapes and their use to give an extremely beautiful artistic form. Regarding the fourth criterion (cultural importance), Maya artists represented symbols that express their traditions and beliefs on the space of ceramic pieces, using them to convey special cultural contents through artistic symbols.

It can be concluded from the above that ceramics played an important role in cultures throughout history, from the ancient Greeks and Romans to the indigenous peoples of the Americas. For example, in ancient Greece, ceramics were used for everything from storing food and water to honoring the gods through elaborate burial rituals. In more recent times, artists such as Magdalene Odundo and Grayson Perry have used ceramics to explore issues of identity, history and cultural heritage, creating works that engage with contemporary social and political issues.

Overall, these examples illustrate the close relationship between the analysis of the ceramic field and the development of criteria for judging ceramic form. By studying the technical, conceptual, aesthetic and cultural aspects of ceramics, a deeper understanding of the medium and its possibilities can be gained, and more precise and complex criteria for evaluating ceramic forms and designs developed.

Results:

1- This study suggested a set of criteria for evaluating ceramic form, from an analytical and philosophical perspective, and using critical analysis, the need to develop a new set of criteria was highlighted.

- 2- The theoretical framework explored the basic criteria for evaluating ceramic form, philosophical perspectives on its nature, and the relationship between form and function. These ideas allowed for the development of a comprehensive set of criteria that can be used to evaluate ceramic form more objectively.
- 3- The methodology used in this study followed a personal analysis method to evaluate a group of samples of ceramic art. A set of criteria was developed that included elements of design, craftsmanship, creativity, and overall aesthetic appeal. These criteria were projected onto the samples, and the results showed that they were effective and consistent.
- 4- The proposed new criteria provide a more objective and comprehensive approach to evaluating ceramic form.

Recommendations:

This study recommends conducting research on a larger scale that includes more diverse samples of ceramic art, which will help validate the proposed set of standards and identify any limitations or challenges when applying them.

References:

- Jared, Hossam Sabah. (2014). Using red kaolin clay to produce low-temperature porcelain. Babylon University Journal, Volume 22, Issue 5.
- 2- Jared, Hossam Sabah, Munther Muhammad Suleiman. (2016). The aesthetics of the raku technique in British ceramics. Babylon University Journal, Volume 24, Issue 2.
- 3- Algendy, Muhammad Samir. (2017). An exploratory study of the development of ceramics through the various Islamic eras. International Design Journal, Volume 7, Issue 3, pp. 187-193.
- 4- Hassan, Diaa, and Salah Mahdi Hamza. (2019) Aesthetics of Exhibition in Hideaki Miyamura Ceramics. Babylon University Journal of Human Sciences, Volume 27, Issue 6, pp. 269-289.
- 5- Al-Sawalhi, Salwa Ibrahim, Muhammad Suleiman Abu Shuqair, and Muhammad Suleiman. Hammoud (2022).The effectiveness of a proposed educational program in light of contemporary trends in producing developing the skills of contemporary ceramic form among female students of the Art Education Department at the College of Fine Arts at Al-Aqsa University.
- 6- Abdel Aziz, Dalia Ali Abdel Moneim. (2017). The effect of Fournoy's diagrams on the construction of ceramic figures. Architecture and Arts Magazine, Issue 8.

Ο

- 7- Al-Muqrin, Abeer bint Saad bin Hamad. (2021). Movement and its relationship to the perception of contemporary ceramic form. Journal of Architecture, Arts and Humanities, Issue 2.
- Baudín C. (2014) Processing of Alumina and Corresponding Composites, Editor(s): Vinod K. Sarin, Comprehensive Hard Materials, Elsevier, Pages 31-72.
- 9- Chappell, james : The potter is Complete book of clay and Glazes, Watson _Guptill publication, New York, 1977.
- 10- 3- Kingery, W. D., Bowen, H. K., Uhlmann, D. R., (1976) Introduction to Ceramics, John Wiley and Sons, NY.
- 11- Lakhdar Y, Tuck C, Binner J, Terry A, Goodridge R, (2021) Additive manufacturing of advanced ceramic materials, Progress in Materials Science, Volume 116, 100736.
- 12- Meshalkin, Valerii P., and Alexey V. Belyakov. 2020. "Methods Used for the Compaction and Molding of Ceramic Matrix Composites Reinforced with Carbon Nanotubes" Processes 8, no. 8: 1004.
- 13- Nelson, Glenn. C. : Ceramics A Potter hand book second Edition , holt . Rinehart and Winston, New york, 1966 .
- 14- Semiz B. (2017) Characteristics of clay-rich raw materials for ceramic applications in Denizli region (Western Anatolia). Applied Clay Science 137.
- 15- Silva R, Birto J, Lye C, Dahir R. (2017) The role of glass waste in the production of ceramic-based products and other applications: A review. Journal of Cleaner Production 167(1):346-364

- 16- Tholt B, Miranda-Junior W, Prioli R, et al., (2006) Surface Roughness in Ceramics with Different Finishing Techniques Using Atomic Force Microscope and Profilometer. Operative Dentistry 31(4):442-9
- 17- Wiśniewska K, Pichór W, Kłosek-Wawrzyn E. (2021) Influence of Firing Temperature on Phase Composition and Color Properties of Ceramic Tile Bodies. Materials (Basel). 14(21):6380.
- 18- Ulusoy, U. (2023) A Review of Particle Shape Effects on Material Properties for Various Engineering Applications: The wall street journal. Ancient Mayan pottery. Available from Macro to Nanoscale. Minerals, 13, 91.
- 19- https://www.wsj.com/articles/SB12414646647 9284317
- 20- https://www.metmuseum.org/art/collection/sea rch/42532
- 21- https://www.demorgan.org.uk/discover/the-demorgans/william-de-morgan/
- 22- https://www.themarksproject.org/marks/wood man
- 23- https://www.google.com/url?sa=t&source=we b&rct=j&url=https://arabency.com.sy/ency/details/2021/1&ved=2ahUK Ewiu18WYg7r9AhVtTaQEHRkBDioQFnoEC A0QAQ&usg=AOvVaw2eoBFfP7diJso0AUB 2i6U2
- 24- https://www.google.com/url?sa=t&source=we b&rct=j&url=https://www.iloencyclopaedia.or g/ar/part-xvii-65263/health-care-facilities-andservices/chemicals-in-the-health-careenvironment%3Fstart%3D320%26start%3D32 0&ved=2ahUKEwibjLDsiLr9AhVXUaQEHZ TGA9EQFnoECE8QAQ&usg=AOvVaw0ihph -7Dqv5_K7IujUloxV

87