

## The Plastic Potential of the Slide as an input for Creating Ceramic works for Specific Education Students

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### Abstract:

The ceramic slice formation technique is one of the methods that highlights the eloquence of expression and achieving the concept of freedom from the effects of gravity. The power of the technique of forming ceramic works with the slice technique is clearly evident in contemporary ceramic art through its ability to define the void and fill the space surrounding it. The problem of the research becomes clear that, despite Of the many methods of ceramic formation, the field of ceramics requires greater investment in many new visions to develop innovative and unconventional ceramic forms. Therefore, the research aimed to identify the most important structural foundations and ways to invest them in ceramic chip formation, and to identify whether there is a relationship between the study of The plastic potential of the ceramic slide and the application of new ceramic works. The most important results were that there is a positive and statistically significant correlation between the plastic potential that varies in strength with all aspects of the evaluation of the ceramic work. There are large differences with very high statistical significance between the results of the specialists' evaluation of the ceramic works of the students of the College of Specific Education. In total and in all aspects of the evaluation of each ceramic work, which indicates that there are large individual differences between students in the quality of their ceramic works.

### Keywords:

plastic potential- the slide-creating

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### Introduction:

Contemporary ceramics is considered one of the plastic arts that is based on the consistency of the relationship between form as a mass in space and how its surface is treated through ceramic techniques, achieving integrated unity in plastic formulations and expressive content. Fine ceramic techniques have many uses to reveal the expressive and constructive values of the ceramic artistic work. The ceramic chip comes alone or overlaid with similar chips to achieve many contemporary constructive and expressive concepts. The concept of the chip does not theoretically mean anything other than those visual elements that are characterized by only two dimensions. However, if we examined its nature and found that it must have a thickness that represents a third dimension, so it can be said scientifically that "if length and width dominate the thickness in a composition, then this composition or visual element is considered flat, but if the thickness has a consideration and appearance, then it is considered a visual element." Holographic . (Riad 1994)

The power of the technique of forming ceramic works using the slide technique is clearly evident in contemporary ceramic art through its ability to define the void and fill the space surrounding it, and its plastic ability is demonstrated in achieving the constructive and expressive concept through its use as a constructive means in various artistic

contexts, whether these contexts are flat, arched, or Repetitive, specific, creating space, or overlapping.

### Research Problem:

Despite the many methods of ceramic formation, the field of ceramics needs greater investment in many new visions to create innovative and unconventional ceramic forms. It also requires moving away from stereotyping in thinking about constructing ceramic work and trying to find new ways of working while realizing the role of space in the work. **The research problem is determined by answering the following questions:**

- 1- How can we benefit from slide repetition and emphasize the role of space in building innovative ceramic works?
- 2- To what extent is it possible to benefit from the structural foundations and repetition of the ceramic chip as an input for creating innovative ceramic works?

### Objectives:

- 1- Identifying the most important structural foundations and their investment in ceramic chip formation, and the types of repetition and benefiting from that
- 2- Explaining and clarifying the concept of repetition, its methods, and the approaches to applying this in segment formation.
- 3- An explanation of the concept of space in ceramic work and an emphasis on its importance.

- 4- A presentation of the most appropriate technical methods and manual methods through which the ceramic form can be built using the chip and benefiting from iterative methods, structural foundations, and the role of space in this.

### Hypothesis:

There is a positive relationship between studying the formative capabilities of ceramic chips and applying new ceramic works.

### Significance:

- 1- Trying to find new approaches that would be a starting point for enriching the teaching of ceramics and taking ceramic work out of stereotypes into some innovative images.
- 2- An attempt to create new ceramic forms that enrich the outlook on the aesthetic concept and the spatial dimension.
- 3- Staying away from old ways of working, which lead to unwanted stereotyping.
- 4- Introducing constructive artistic methods that give different, unconventional forms.
- 5- Emphasizing the positive role of visual space in ceramic work.
- 6- Repeating a part in a ceramic work to form a shape may have a positive impact on creating new shapes.
- 7- Enhancing the investment of space in ceramic works, not only the internal or external space, but both and the space resulting from the use of slice repetition, and enhancing the importance of the role of repetition in ceramic work.
- 8- This research helps enhance students' ability to express themselves creatively, as slice modeling opens doors for creativity and experimentation in designing ceramic works.

### Terminology:

**The structural concept of form:** The construction of a work of art is the distinctive form of the interconnection of its parts, but the way in which the parts are interconnected with the whole is what sets the style and style of the artistic construction.(Attia 1997)

**The structural concept of form procedurally:** In this research, what is meant is that cohesive entity with structural relationships that make the form a whole with its own characteristics, and space and repetition play a major role in it.

**The form in the structural sense is:** The classical concept of form, which is a degree of harmonious or proportional connection between parts with each other, can be analyzed. ( Read1981)

**Space:** Theoretically, emptiness is a space without matter, but in Ibn Sina's philosophy it is a type of place, that is, a subject that has no control over it,

that is, an extension that is not occupied by an occupant.

Emptiness can be characterized as the unlimited breadth from all sides, such as the spatial space of the work as a whole, or for the taster or the artist, or limited breadth (such as internal emptiness), or it is the emptiness of the thing. Artists have used that term to describe the space or standard dimensions between points based on visible or perceived distances.( Ahmed 2006)

**Slide:** It is a rectangular mud flat with a thickness and a length relatively greater than its width. (Operational definition)

### Procedures :

#### First: Research methodology:

In light of the research objectives and hypotheses and in accordance with what the scientific methodology requires, the researcher followed the quasi-experimental method, given its suitability to the nature of the research.

#### Second: The research population and sample:

The research community was represented by students from the Faculty of Specific Education at Damietta University, who numbered (26) students. The research sample was chosen randomly from the research community and their number was (12) students, with a percentage of (46.15%) from the total research community.

### Theoretical Framework:

#### The concept of structural foundations and formulations:

This research means by the foundations and formulations that law on the basis of which the parts and elements that make up the body of an artistic work are organized. The designer, while constructing the design, must research, analyze, and color its elements to achieve systems and proportional and reciprocal relationships between the elements, and they operate according to a mathematical law that allows them to be consistent and combined in a tight structural system.

**The concept of structural foundations as a term refers to the set of aspects that must be present to build a design, which can be defined as follows:**

- 1- Formative elements (formative vocabulary) are the elements of building a design.
- 2- The structural system is the structural structure that defines the axes of movement of the design elements and its formal form.
- 3- Structural foundations (formative relationships), which are some of the relationships that connect the formative elements.
- 4- Aesthetic foundations (design foundations), which specify the systems of repetition of elements and their formative relationships to

the design and confirm the aesthetic values within the design so that it is characterized by beauty.

### **Slide formation to achieve the structural concept:**

Slice formation is considered one of the techniques used in ceramics to achieve the constructive concept of three-dimensional artistic composition. Ceramic construction, in its compositional relationships, depends on the harmony of the elements of the composition with the surrounding space in order to show the aesthetic aspect of the totality of slices used in the body of work.

### **Through repetition and connection:**

Placing more than one slice in a reciprocal relationship leads to a distinctive interactive aesthetic form that plays an important role as a structural mediator for an expressive ceramic form. These formations depend largely on the repetition of the slice element in its various sizes to achieve rhythm through the placement of the slices, the directions they take in the process of their repetition, and the spaces resulting from them. Its conditions, which allows the recipient to clarify the escalation and progress in what is called development, and from here produces a temporal element that accompanies the repetition process, represented by the control of a repetitive rhythmic time called the continuous rhythm, which is based on the interconnection of the segments and is confirmed by the movement of the various segments, whether horizontal or vertical.

### **By defining and creating space:**

Vacuum is considered one of the basic elements in constructing three-dimensional ceramic works of art. Form cannot be perceived except through space in its various forms (surrounding, permeable, interstitial, and extended). However, the concept of space in modern works of art has developed beyond being an immaterial field through which it is perceived. Forms, to consider it as an element that is just as important as form, which prompted many modern artists. (Farhat 2004)

Thus, in modern and contemporary arts, emptiness is considered a type of form. "Empty is not something different from form, but it is an ethereal form in which movement is facilitated." (Collier 1998)

There are three ways in which it is clear how a flat ceramic chip interacts with each other and creates a vacuum:

### **Slice assembly:**

A space can be formed when a number of flat, curved and wavy slices are grouped together. The space between these combined slices is confined and becomes part of the body of the ceramic work.

### **Overlapping slices:**

A void can also be created when planar slices overlap and extend in a helical or interlaced structure. This overlay can create distinctive visual effects and add complexity to the design.

### **Slices meet:**

A void can also appear when plane slices meet to create a specific composition. This opposition can create intentional shapes and create balance and harmony in the ceramic work.

### **Slide formation as a medium to achieve the expressive concept:**

#### **• Through color:**

The success of using color in ceramic formation with slices depends on the artist's ability to achieve harmony and harmony between colors and exploit the effects of light and shadows. Ceramic slices are characterized by various spaces. This means that color can be applied in multiple ways and its visual effects depend on its interaction with those spaces. Through the use of color, concepts can be expressed. Multiple functions, such as movement, optical illusions, a sense of emptiness and depth, and achieving distinctive aesthetic and expressive effects in ceramic works, make color one of the basic elements that add great artistic value to ceramic art.

#### **• Through texture:**

Touch has a prominent role, which is used in ceramic chips to express the appearance of the surface and the significant symbolic effects it reflects. Artists have used it to reach meanings related to life concepts such as roughness and smoothness, clarity and disorder, high and low, and others. Because the slice has various plastic possibilities, the potter can reflect these concepts through his formations with ease and strength of expression.

#### **• Through (discretionary) movement:**

Al-Didi states, "The feeling of movement is linked to time, but the nature of that feeling in artistic works depends on cognitive powers. The work must be the result of a special systematic process, which is the organization of the elements in which its movement is composed, for this movement is sufficient to give it a temporal character." "It makes him exist alive." (Fattah 1991)

The ceramic slices that represent movement give the artwork an interactive vitality, and it is a type of action that occurs between a sender and a recipient with a mutual influence between them. Therefore, the idea of mutual influence is fundamental and necessary in understanding this concept instead of unidirectional influence. (Mabrouk 2015)

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Whether these segments are of a spatial or temporal nature, it is necessary to note their material unity, which makes them a sensory subject characterized by cohesion and harmony on the one hand, and they also have their inner meaning that refers to a special

subject and expresses a spiritual truth on the other hand, that ideas are what confirm or deny. A certain value. It is possible to combine multiple artistic values within the ceramic chip, such as movement, proportion, balance, and unity, and some of them may disappear or one of them may dominate the general shape and appearance inside and outside that chip.

**The second axis: models for research applications**

Table No. (1) Ceramic models of creative ceramic works for specific education students

			Form
Form(1)	Form(2)	Form(3)	
			Form
Form(4)	Form(5)	Form(6)	
			Form
Form(7)	Form(8)	Form(9)	
			Form
	Form(10)	Form(11)	



**Design arbitration form:**

The researcher designed a form that includes all the formal capabilities of ceramic work, artistic values,

and creative elements for specific education students, then presented it to the arbitrators. Its initial form was as follows:

Table (2) A questionnaire of academics' opinions regarding the creative ceramic works questionnaire for specific education students

Items	Hierarchy	Link to the axis	Match the statement to the axis	Modify the wording of the phrase
<b>First: the plastic capabilities of the ceramic chip that was used in the proposed design</b>				
1- The ceramic chip helps in shaping the ceramic work easily, especially in bending and bending				
2- It facilitates the presence of the ceramic chip on ceramic workpieces				
3- The ceramic slide helps unload the ceramic work				
4- The ceramic chip can be soldered and connected to the rest of the ceramic work				
<b>Second: Potential in the surface treatment process</b>				
5- It is possible to add tactile effects to ceramic work				
5- Other ingredients can be added to the ceramic work surface				
7- The ceramic work surface can be colored (glaze paint).				
<b>Third: The extent to which a set of plastic values are available in the construction of ceramic work that increases: aesthetic quality</b>				
8- The slide is characterized by movement as it is repeated in different ways, which makes the artwork attractive to viewers				
9- The slide is characterized by a balance between mass, space, and shape, which increases the degree of harmony				
10- The slide is characterized by rhythm (by investing in repeating the slide)				
11- The slide is characterized by diversity, which generates a different emotional and intellectual impact with each viewer				
<b>Technologies</b>				
12- Ceramic work uses high-quality materials				
13- The ceramic work reflects the skill of the maker				
14- The ceramic work demonstrates the precision of the shaping processes				
<b>Idea and content</b>				
15- The ceramic work shows a meaningful idea or concept				
16- The extent of coherence of the idea or concept expressed by the ceramic work				
17- The ceramic work can display a coherent idea				
18- The ceramic work expresses the idea or concept with high quality				
<b>Creativity in constructing shapes that enhances cultural importance</b>				
19- The segment is characterized by its fluency, which contributes to its global spread				
20- The chip is characterized by flexibility, which helps in developing the ceramics profession				
21- The slide is characterized by its originality, which enhances its historical importance				

**Study Results:**

**First: Research tools and verifying their reliability and validity:**

Preparing a questionnaire to survey the opinions of specialists in the field of ceramic artwork on a group of designs from the works of students at the College of Specific Education: It included three axes as follows:

**The first axis:** The plastic capabilities of the ceramic chip that was used in the design, and four phrases are listed below it

**The second axis:** The capabilities of the surface treatment process. Below it are three phrases.

**The third axis:** The extent to which a set of plastic values are available in constructing ceramic work. Below it are four sections:

- 1- Aesthetic quality, below which there are four phrases
- 2- Technical excellence, which includes three phrases
- 3- Conceptual cohesion, below which there are four phrases
- 4- Creativity in constructing shapes that enhance cultural importance, and three phrases are listed below them

Thus, the total number of questionnaire statements is twenty-one, and the questionnaire consists of a

five-point rating scale (very weak, weak, acceptable, good, very good), so that five degrees are given to very good as the highest degree, and one degree to very weak as the lowest degree.

**Validity of the questionnaire:**

What is meant is the extent of the questionnaire's ability to measure what it was designed to measure and its reliability on this measurement. The validity of the content was verified and the reliability was verified, that is, the extent of the test's objectivity and validity. To verify the validity of the questionnaire, the following was confirmed

**Basic validity is construct and content validity:**

The initial version of the questionnaire was presented to a group of specialists in the field of ceramics to verify the validity of the construct and the validity of the content and to express an opinion on it in terms of the accuracy and clarity of the linguistic formulation of the phrases, the sequence and organization of the phrases, the extent to which the questionnaire achieves the goal of the research and the number of phrases. They acknowledged its suitability for application after making modifications in It concerns the arrangement and wording of some statements, and the following table shows the percentages of agreement.

Table No. (3) Percentages of arbitrators' agreement on the items of the specialists' opinions questionnaire

N	Arbitration clauses	the agreement	Lack of agreement	percentage%
1	Formulation and clarity of expressions	9	1	%90
2	Sequencing and organizing phrases	10	0	%100
3	Linking phrases to the axis	10	0	%100
4	Fit the phrases to the axes	9	1	%90

It is clear from Table (3) that the arbitrators' agreement on the questionnaire items was high, ranging between (90% and 100%), which indicates construct validity and content validity.

**Exploratory study:**

Reliability and statistical validity:

The reliability of the questionnaire was confirmed by coding the data and entering the data into the statistical analysis program SPSS (Ver. 26). The Cronbach's Alpha coefficient was calculated, and the questionnaire's validity coefficient was calculated, which is equal to the square root of the Cronbach's Alpha coefficient. The following table shows the results of that.

Table (4) values of the correlation coefficients between the score of each axis and the total score of the academics' opinions questionnaire

Questionnaire axes	Number of phrases	Stability coefficient Cronbach's alpha	Honesty coefficient
First: The plastic capabilities of the ceramic chip that was used in the ceramic work	4	0.783	0.885
Second: Potential in the surface treatment process	3	0.718	0.847
Third: aesthetic quality	4	0.769	0.877
Third: Technical excellence	3	0.898	0.947
Third: Conceptual coherence	4	0.764	0.874
Third: The possibility of achieving creativity in constructing shapes in a way that enhances cultural importance	3	0.945	0.972
Third: The extent to which a set of plastic values are available in constructing ceramic work	14	0.896	0.947
The questionnaire	21	0.865	0.93



It is clear from Table (4) that the Cronbach's alpha coefficients are higher than 0.7 for all the main and sub-axes and for the questionnaire as a whole. Therefore, it can be said that the scale is stable, and that it actually measures what it was designed to measure. Also, the honesty coefficient ranges between 0.847 and 0.972, which are very high values that indicate the validity of the questionnaire and that it actually gives the same Results every

time , To determine the extent to which there are statistically significant differences between specialists' evaluation of ceramic works

The sum of the ratings of specialists, including professors specializing in the field of ceramics, was calculated for each statement and for each ceramic work, taking into account that the questionnaire is five-pointed and the cutoff limits in the five-pointed questionnaire are as shown in the following table:

Table (5) Categories of cut-off scores for different response levels and their percentages

[	Degree categories	Percentage of limits	Estimation in the study tool
1	Less than 1.8	less than 36%	Very weak
2	1.8 : 2.59	Between 36% and 51.9%	Weak
3	2.6 : 3.39	Between 52% and 67.9%	Acceptable
4	3.4 : 4.19	Between 68% and 83.9%	Good
5	Greater than or equal to 4.2	Greater than or equal to 84%	Very good

Source: The researcher's calculations based on the basics of the five-point Likert scale

Then the researcher calculated the mean and standard deviation for each axis and for each

ceramic work using the statistical analysis program SPSS, and the results were as shown in the following table:

Table (6) Average specialists' evaluation of ceramic works for specific education students and standard deviation

Sample	The first axis		The second axis		The third axis: 1		The third axis: 2		Third axis: 3		Third axis: 4		Total third axis		Overall evaluation of ceramic work	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
1	2.92	0.75	2.84	0.6	3.15	0.44	2.68	0.6	2.63	0.39	2.66	0.82	2.78	0.36	2.81	0.57
2	2.48	0.77	2.79	0.57	2.91	0.57	2.64	0.48	2.83	0.23	2.89	0.41	2.82	0.06	2.82	0.38
3	2.79	0.79	2.75	0.58	2.91	0.58	2.67	0.47	2.83	0.23	2.86	0.42	2.82	0.06	2.81	0.38
4	2.85	0.78	2.78	0.56	2.91	0.56	2.67	0.47	2.82	0.24	2.9	0.42	2.82	0.06	2.82	0.38
5	2.84	0.82	2.75	0.58	3.02	0.58	2.75	0.63	2.9	0.45	2.94	0.49	2.9	0.34	2.87	0.53
6	2.59	0.79	2.62	0.81	3.13	0.81	2.22	0.85	3.12	0.51	3.43	0.38	2.98	0.46	2.87	0.6
7	2.33	0.19	2.41	0.27	3.23	0.27	2.07	0.25	3.01	0.18	3.28	0.38	2.9	0.26	2.75	0.29
8	2.33	0.56	2.13	0.3	4.5	0.3	2.98	0.51	3.35	0.51	3.79	0.74	3.66	0.49	3.25	0.54
9	2.56	0.77	2.16	0.37	4.77	0.37	3.15	0.45	3.39	0.25	3.95	0.5	3.82	0.35	3.4	0.46
10	3.06	0.47	3	0.47	3.45	0.37	2.57	0.82	2.45	1.01	2.45	0.86	2.74	0.72	2.82	0.66
11	2.94	0.53	3.2	0.53	3.19	0.53	2.35	0.19	2.07	0.13	1.74	0.44	2.34	0.12	2.55	0.28
all	2.73	0.71	2.67	0.71	3.38	0.73	2.61	0.62	2.86	0.57	2.99	0.81	2.96	0.53	2.89	0.65

**It is clear from the previous table that:**

- 1- The average grades of ceramic work specialists for students of the College of Specific Education for the first axis, which is "the plastic capabilities of the ceramic chip that was used in the ceramic work," ranged between 2.33 and 3.06 degrees, and it ranges from weak to acceptable in terms of ease of bending, bending, forming and creating the space, welding and connecting the slides, that is, it is There will be difficulty if you want to order large quantities of these works.
- 2- The average grades of specialists for ceramic works for students of the College of Specific Education for the second axis, which is "Capabilities in the Surface Treatment Process," ranged between 2.13 and 3.2 degrees, and it ranges from weak to acceptable, which means that these designs can

be developed by adding tactile effects to them, coloring them, or adding materials. other on its surface.

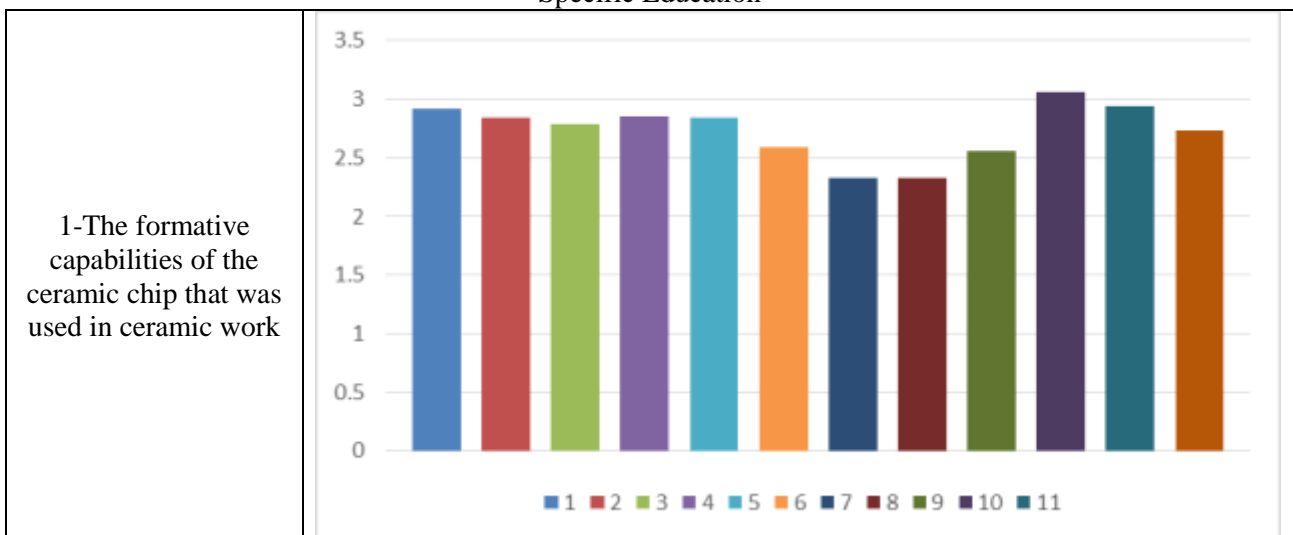
- 3- The average grades of ceramic work specialists for students of the College of Specific Education for the third axis, which is "the extent of the availability of a set of plastic values in constructing ceramic work," ranged between 2.34 and 3.66 degrees, ranging from weak to good, and in aesthetic quality the average ranged between 2.91 degrees and 4.77 degrees. In technical excellence, the average ranged between 2.07 degrees and 3.15 degrees, and in conceptual coherence the average ranged between 2.07 degrees and 3.39 degrees, and in creativity that enhances cultural importance, the average ranged between 1.74 degrees and 3.79 degrees.

- 4- The grades for each ceramic work varied according to each axis:
- The specialists' grades varied in the plastic capabilities of the plastic segment in each ceramic work, and the grades ranged from weak with an average of 2.33 grades for ceramic work No. 7 to acceptable with an average of 3.06 grades for ceramic work No. 10.
  - The specialists' grades varied in the surface treatment capabilities of each ceramic work, and the grades ranged from poor with an average of 2.13 grades for ceramic work No. 8 to acceptable with an average of 3.2 grades for ceramic work No. 11.
  - The specialists' grades varied in the aesthetic quality of each ceramic work, and the grades ranged from acceptable with an average of 2.91 degrees for ceramic works No. 2, No. 3, and No. 4 to very good with an average of 4.77 degrees for ceramic work No. 9, which indicates the presence of the aesthetic sense in the students.
  - The specialists' grades varied in the technical excellence of each ceramic work, and the grades ranged from poor with an average of 2.07 grades for ceramic work No. 7 to acceptable with an average of 3.15 grades for ceramic work No. 9.
  - The specialists' grades differed in the conceptual coherence of each ceramic

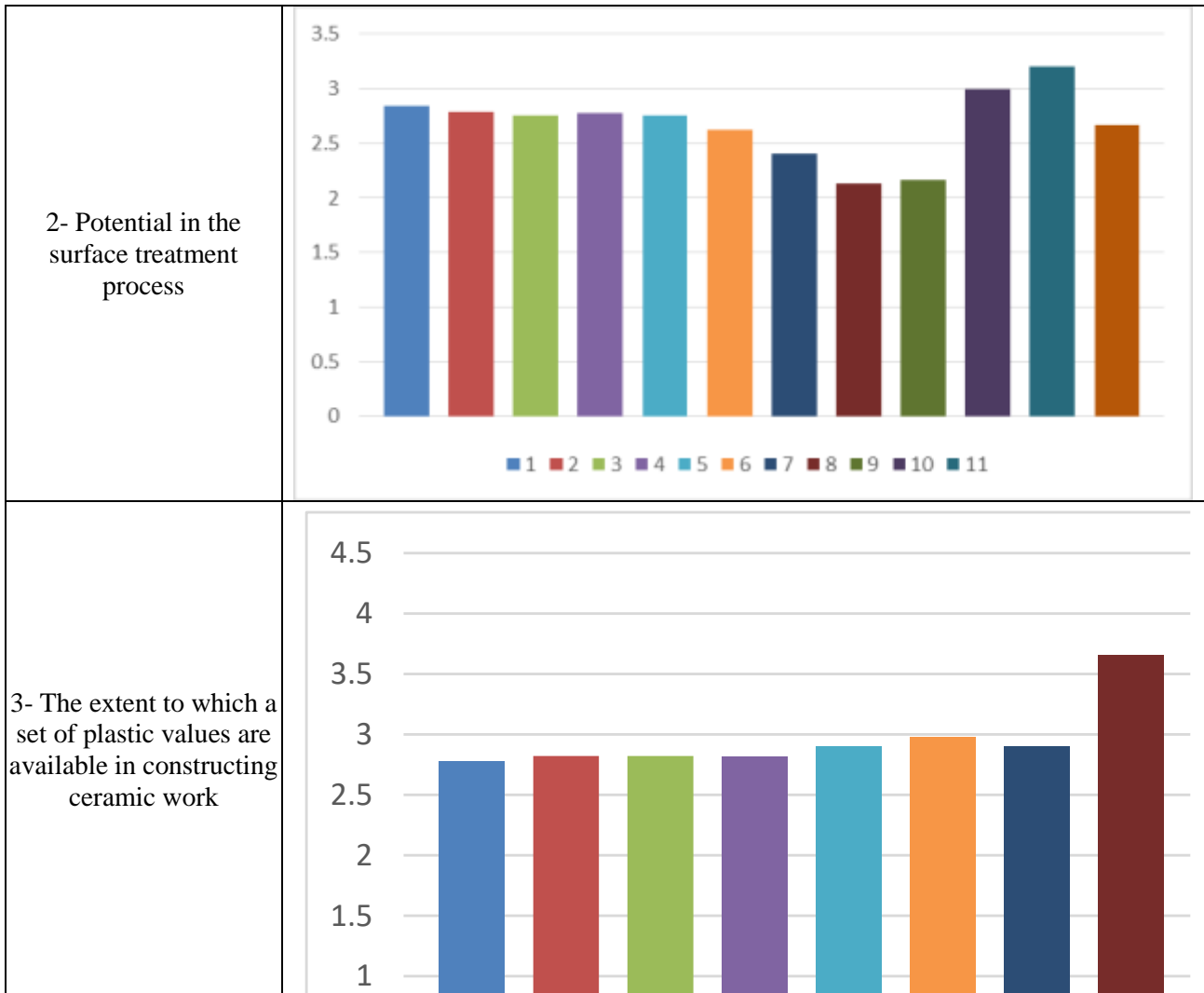
work, and the grades ranged from weak with an average of 2.07 grades for ceramic work No. 11 to acceptable with an average of 3.39 grades for ceramic work No. 9.

- The grades of the specialists varied in the creativity that enhances the cultural importance of each ceramic work. The grades ranged from very poor with an average of 1.74 degrees for ceramic work No. 11 to good with an average of 3.95 degrees for ceramic work No. 9.
- The specialists' grades varied in the total plastic values of constructing the ceramic work and for each ceramic work. The grades ranged from poor with an average of 2.34 degrees for ceramic work No. 11 to good with an average of 3.82 degrees for ceramic work No. 9.
- The specialists' grades varied in the overall evaluation of each ceramic work, and the grades ranged from poor with an average of 2.55 degrees for ceramic work No. 11 to good with an average of 3.4 degrees for ceramic work No. 9.
- The following graphs show the average value of each axis for ceramic works submitted by students of the College of Specific Education

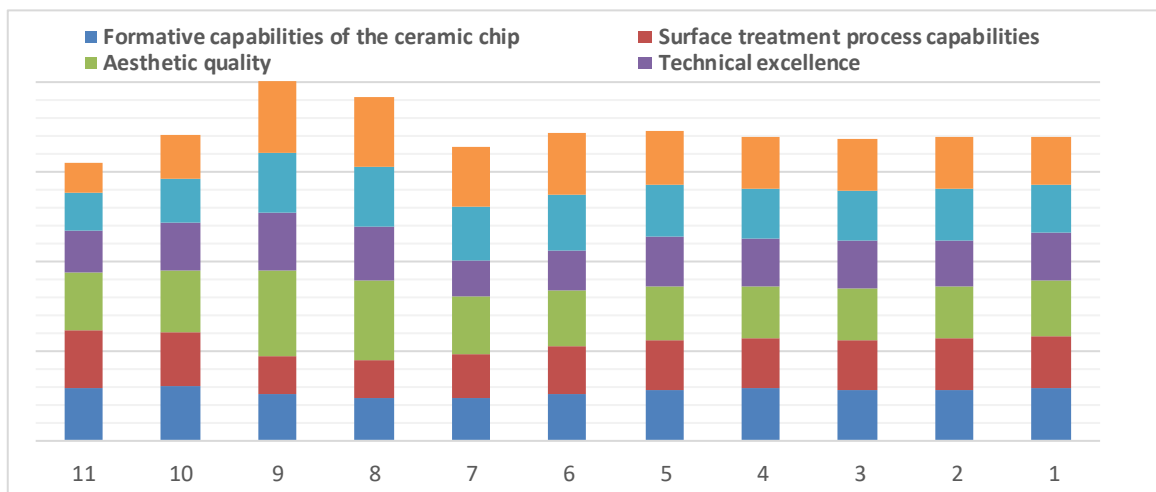
Chart No. (1) shows the specialists' evaluation scores for the ceramic works of students at the College of Specific Education







The following figure shows the total points for each model according to the different evaluation axes  
 Chart No. (2) shows the specialists' evaluation scores for each model of ceramic work



It is clear from the previous graph that the best evaluation of a ceramic work by specialists is ceramic work No. 9, and that the least rated ceramic work by specialists is evaluation No. 11. To verify

whether there are real differences between the ceramic works, the statistical analysis program SPSS (Ver. 26) was used. For analysis of variance, the results were in the following table:

Table (7) Analysis of variance for ceramic works by specific education students

The axis	Sum of squares	Degrees of freedom	Mean sum of squares	F value	P value
First: the plastic capabilities of the ceramic chip that was used in the design	18.635	10	1.863	3.939	0.001
Second: Potential in the surface treatment process	33.29	10	3.329	12.464	0.002
Third: 1- Aesthetic quality	128.388	10	12.839	74.283	0.001
Third: 2- Technologies	30.389	10	3.039	9.705	0.001
Third: 3- The idea and content	45.327	10	4.533	22.601	0.001
Third: 4- The possibility of achieving creativity in constructing shapes in a way that enhances cultural importance	119.623	10	11.962	37.534	0.00
Third: The extent to which a set of plastic values are available in constructing ceramic work	54.337	10	5.434	41.162	0.00

The previous table shows that there are very high statistically significant differences between the ceramic works submitted by students, as the level of significance is less than 0.01 in all aspects of the study, and to answer the question: How can we benefit from repeating the slide and emphasize the role of space in building innovative ceramic works?

The researcher tested the extent to which there was a correlation between the various capabilities of the ceramic chip and the rest of the axes of evaluating the ceramic work, and the following table shows the correlation coefficients between these capabilities and the rest of the axes of the evaluation.

Table (7) Pearson correlation coefficients between the capabilities of the ceramic chip and the ceramic work evaluation axes

Formative capabilities of the slide The axes	The ceramic chip helps in bending and bending	The ceramic chip makes it easier for the ceramic work to be done	The ceramic slide helps unload the ceramic work	The ceramic chip facilitates soldering and joining of ceramic work
Surface treatment	0.556**	0.148*	0.584**	0.718**
Aesthetic quality	0.092	0.19*	0.409**	0.293**
Technologies	0.17*	0.09	0.066	0.03
Idea and content	0.236**	0.214**	0.25**	0.031
Creativity enhancing cultural significance	0.188*	0.053	0.83	0.095

\*\*Statistically significant at 0.01, \*Statistically significant at 0.05

The previous table shows the existence of positive, statistically significant and different strength correlations, as:

- 1- The ability of the chip to bend and fold is positively related to the rest of the axes of evaluating ceramic work, except for creativity that enhances cultural importance.
- 2- The ability of the chip to create and modify space is positively correlated with the surface treatment and aesthetic quality and weakly with conceptual cohesion, which answers the question of creating innovative and unconventional ceramic forms. It also requires moving away from stereotypes in thinking about constructing ceramic work and trying to find new ways. At work, realizing the role of leisure in work.
- 3- The ability of the chip to solder and join the ceramic work is strongly linked to the surface

treatment of the artwork and weakly linked to its aesthetic quality.

**Results:**

Based on the ideas, data, and treatments presented for the research problem, and the analysis and study of the expressive structural concept of slice formation in contemporary ceramic works, the researcher reached the following results:

- 1- It was possible to achieve a group of ceramic formations that demonstrated the linguistic importance of the ceramic slice in contemporary ceramic arts, as it is one of the most capable ceramic formation vocabulary in achieving the constructive and expressive concept of the form of a ceramic artistic work.
- 2- Ceramic works based on the use of slices in contemporary formation show the compatibility between constructive and expressive plastic values through a set of plastic approaches based on a set of artistic



values and aesthetic relationships that serve as the main pillars in applications such as: (repetition, overlay, confinement and creation of space, color, texture, and movement)

- 3- By investing in a group of plastic chips' plastic capabilities, the potter can emphasize symbolic connotations and ideas linked to the concept of contemporaneity and through them reflect the dynamic rhythm and rapid changes of modern life, which takes him out of the stereotypes that some people are accustomed to in their work, which leads to monotony in the forms of produced works. .
- 4- The use of slide in ceramic artwork is linked to many artistic trends that have influenced the contemporary arts arena, such as abstraction, expressionism, constructivism, compositionism... and other schools of modern art.
- 5- From the field study, the following was concluded:

- It is connected to the void that the ceramic sheet facilitates its creation.

- Surface treatment by adding tactile effects to the ceramic work
- Aesthetic quality, as it is repeated in different ways, which makes the artwork attractive to viewers, and the balance between mass, space, and form, which increases the degree of harmony, and rhythm through investing in the repetition of the slide, which generates an emotional and intellectual effect.
- Conceptual cohesion, where the slide shows the idea or concept of the ceramic work, makes it have a coherent meaning, and expresses it with high quality

- Plastic capabilities have positive and statistically significant relationships that vary in strength with all aspects of evaluating ceramic work.

- There are large differences with very high statistical significance between the results of the specialists' evaluation of the ceramic work of the students of the Faculty of Specific Education in the overall and all aspects of the evaluation of each ceramic work, which indicates the presence of large individual differences between the students in the quality of their ceramic work.

The individual differences between the grades of the students' ceramic works ranged from the lowest, which is very weak, with an average score from specialists of 1.74, in creativity, which enhances cultural identity, for ceramic work No. 11, to the highest, in aesthetic quality, which is very good, with an average score of 4.77, for ceramic work No. 9.

### Recommendations:

In light of the findings of this study, it recommends the following:

- 1- Benefiting from contemporary experiments and studies that dealt with the use of the ceramic slide as a plastic and expressive element in the arts in general and in ceramic art in particular.
- 2- The necessity of investing in holding discussion panels and artistic workshops in the field of ceramics to demonstrate the importance of using slide in contemporary formation and its expressive and artistic possibilities, in order to enrich the field of teaching and keep pace with contemporary thought.
- 3- Linking formation techniques in ceramics - especially formation techniques using ceramic chips - to achieving contemporary constructivist, expressive and artistic concepts in teaching.

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