

Thinking of Contemporary Ceramic Art and Public Environmental Art based on Big Data Analysis

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Abstract

Modern environmental ceramics organically integrates the subjective consciousness of people with the beauty of the natural environment, and carries out artistic creation, which injects flexibility and affinity into the public space. In order to explore the application effects of contemporary ceramic art in public environmental art, this paper improves the big data technology, proposes several criteria for the difference of interval value data, and defines several related metrics from the perspective of probability models. In addition, this article uses big data technology to study the feasibility of the application of ceramic art in public environmental art, the current status of talents, the current status of practice, and the prospects. Through research, it can be seen that ceramic art and public environmental art have a good auxiliary effect in the process of urbanization in our country, and ceramic art ideas can be incorporated into the subsequent public environmental art design.

Keywords: Big data; contemporary ceramic art; public environment; art

1. INTRODUCTION

With the continuous expansion of people's living space, environmental art has extended the way of existence of ceramic art, and the artistic beauty of environmental ceramic art has caused more changes in visual space. Facing the increasingly industrialized living environment, human beings always use culture to alleviate spiritual loss. With its unique charm, earthy warmth and flowing glaze, ceramic materials make people feel close and expand a wider living space [1]. People began to use the material properties and unique aesthetics of clay to beautify the urban public environment and create a special aesthetic [2].

As an important part of traditional culture, ceramic art represents a specific national character and a special aesthetic standard in a specific historical period. Moreover, environmental ceramics can more complement the modern architectural environment that lacks cultural and historical feelings. Environmental ceramics includes the creation of spatial physical forms, which organically integrate spatial functions, history and other elements, and it pays special attention to humanistic care. In the current urban construction, the unique cultural characteristics and cultural characteristics of the city are of great significance [3].

The color glaze and unique texture of modern ceramics can adapt to the environment regardless of the circumstances. It has the advantages of rich glaze color, hard texture, acid and alkali resistance, corrosion resistance, aging resistance, and waterproofness. The use of environmental pottery in public space reflects the integration of materials and space. It is a special cultural language symbol, and its environmental orientation is more clear. At the same time, pottery art has natural publicity, which satisfies people's desire to return to nature and meets the public's aesthetic and psychological needs. However, modern environmental ceramics uses ceramic materials to improve the overall design and creation, and there are certain limitations. For example, because pottery works are easily damaged, they may bring certain safety hazards to public spaces, and large ceramic murals on buildings still have difficulties in relocation. However, the advantages of modern ceramic art's involvement in public art outweigh its limitations. Modern environmental ceramics embodies cultural needs and has the advantages of natural simplicity and inheriting history. The integration of modern ceramic art and the environment has broadened the expressive power of other artistic languages, and has become an important part of environmental design, architectural design, and landscape design. At present, my country's research on public environmental ceramics is in the exploratory stage. Each city is faced with many different historical and cultural resources, and each city hopes to establish urban public environmental space that conforms to it. As one of the expression forms of urban public environmental space, environmental pottery has positive significance.

2. RELATED WORK

The use of ceramic decoration in public spaces has gone through a long process. In the 15th century, the Italian pottery sculptor Roga della Robbia has applied pottery sculptures to public spaces. At the end of the 19th century and the beginning of the 20th century, a new decorative material, ceramic art, appeared in the public environment. It was then that ceramic art began to be widely used in space, and ceramic art during this period has been greatly developed [4]. Gaudí used a large number of pottery

plates and mosaics to express his works. For example, "Gill Park" and "Vincent Apartment" are inlaid with a large number of ceramic pieces on the surface of the building. The use of painted ceramic tiles far surpasses the ceramic art itself. It is integrated into the environment design through the artist's creation and processing, and is connected with the space, which brings the development of modern ceramic art into a new milestone [5]. In the first half of the 20th century, modern ceramic art in the West had a diversified development and entered a large number of creative practices in the public environment. After the 1950s, modern ceramic art and education continued to develop, and Western ceramic artists re-examined their position as artists. They pay attention to the problems and concepts between art and culture, so that modern ceramic art breaks the concept of "artifacts" [6]. At this time, ceramic art creation was introduced as a course to universities and academies of fine arts, which provided more enthusiasts with opportunities to learn and communicate. After the 1980s, a large number of ceramic artists engaged in ceramic art creation, so many ceramic art works entered the public space [7].

As pottery works continue to enter the public space, a new face of global ceramic artists' artistic creation has emerged. In the 1990s, ceramic art entered a period of neutral style. At this time, due to the diversification of global art, ceramic art, like other art, is no longer just a form of creating beauty. It pays more attention to human nature, society, and the environment. At this time, the public pottery works are also more colorful. Although there are more and more art works applying pottery art to public spaces, from the perspective of the whole world, contemporary pottery art as a purely independent and relatively complete art category is not yet mature. In addition, due to the fragile limitations of ceramic materials, even Western developed countries have invested heavily in ceramic art, but ceramic art as an artistic form of expression in public spaces has not been better and more comprehensively promoted and used. Therefore, it has broader development potential, and ceramic artists also have more opportunities to explore and research [8].

The core of public art is the publicity of art. The premise of publicity is respect for the individual, and at the same time publicity means communication and communication, emphasizing the common social order and personal social responsibility. In China, the proposal of publicity has epoch-making significance, which means that Chinese society is undergoing a profound transformation, and the Chinese people have begun to consider their rights in public space from a new perspective [9]. Public art is a comprehensive discipline based on the research of modern art and environmental disciplines, which integrates the knowledge of various disciplines. It uses various media such as metal and ceramics as the intermediary to show its spiritual core. The difference of media produces different Expression [10]. The ceramic art intervention environment is based on the special craftsmanship of modern ceramic art. Modern ceramic art, as a form of public art, has expansion and its own special value [11]. Modern ceramic art in public art is based on the subjective consciousness of human beings, built outside the beauty of the natural environment, combined with the beauty of the natural environment, and the ultimate pursuit of human spiritual beauty [12]. The application of ceramic materials is not only the expansion of visual needs, but also the impulse of human homesickness, the yearning for nature, and the embodiment of modern material and spiritual civilization. Ceramic art in the public environment created from the perspectives of cultural vision and artistic expression reflects the survival ideal of modern humans to a certain extent in the self-art form [13]. With the advancement of society and the development of science and technology, people's life needs tend to be diversified, and they have more specific requirements for spatial forms and their environment. The spiritual realm given to the environment or place is also diversified. The modern environment and its environment The characteristic of public art is the organic combination of artistic function and high-tech [14]. The form of the environment is a systematic project composed of multiple system elements. It is multi-faceted, not single. It must cover specific levels from the material function and the spiritual and cultural function, and requires the perspective of public art. It is positioned and organized organically from the aspects and perspectives of culture and art, history and modernity, technology and economy, function and demand, and future and development [15]. The participation of ceramic art meets this requirement, and ceramic culture is a powerful supplement to the diversity of spiritual culture. The earth is a ceramic sphere composed of silicon and aluminum. After hundreds of millions of years of differentiation, the surface of the earth has formed a mountain range of mud, and the earth is sintered by potters to make ceramics. The ceramic medium is taken from the natural environment and returned to the public environment created by mankind in the form of public art, which is a re-creation of the environment [16].

3.DATA DISTRIBUTION ANALYSIS ALGORITHM

In an interval, the common distribution is a uniform distribution, that is, the probability of each point is equal. For the interval $I = [a, b]$, we assume that it obeys a uniform distribution, denoted as $I \sim U[a, b]$. The probability density function and cumulative distribution function are as follows:

$$f(x) = \begin{cases} \frac{1}{b-a}, & \text{if } x \in [a, b] \\ 0, & \text{otherwise} \end{cases} \quad (1)$$

$$f(x) = \begin{cases} 0, & \text{for } x < a \\ \frac{x-a}{b-a}, & \text{if } x \in [a, b] \\ 1, & \text{for } x \geq b \end{cases} \quad (2)$$

The probability density of x falling at a certain point on the interval $[a, b]$ is only related to the length of the interval, and has nothing to do with the position of the interval. It can be seen that the larger the interval, the smaller the probability density of each value, the larger the variance of the distribution itself, and the greater the uncertainty.

Uniform distribution is more common and easy to do further processing and analysis. For example, when the age range is not very large, it can be assumed that the ages are approximately uniformly distributed (note: it does not hold when the range is very large). Its mean and variance are easy to calculate, and the formula is as follows[17]:

$$E(I) = \frac{a+b}{2} \quad (3)$$

$$VAR(I) = \frac{(b-a)^2}{12} \quad (4)$$

The normal distribution is a probability distribution that is very important in the fields of mathematics, physics, and engineering. If the random variable X obeys a normal distribution with a location parameter of μ and a scale parameter of σ , it is recorded as:

$$X \sim N(\mu, \sigma^2) \quad (5)$$

Then, its probability density function is:

$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{(x-\mu)^2}{2\sigma^2}} \quad (6)$$

When $\mu = 0, \sigma = 1$, it is called the standard normal distribution.

The normal distribution has many very beautiful mathematical properties. Its expectation is $E(X) = \mu$, the variance is $VAR(x) = \sigma$, and the sum and difference of the two normal distributions still satisfy the normal distribution.

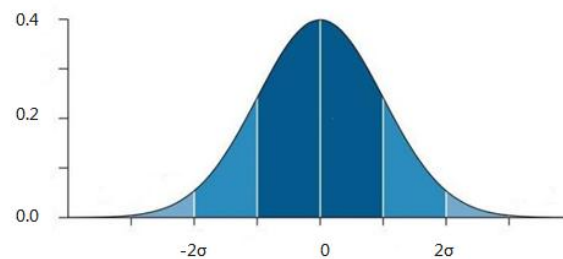


Figure 1 Probability density distribution diagram of normal distribution

Theoretically, it can be proved that if many small effects are added together as a variable, then this variable obeys a normal distribution. 68.27% of the area under the function curve is within one standard deviation of the mean. 95.45% of the area is within two standard deviations of 2σ from the mean. Figure 1 shows the characteristics of the probability density distribution of the normal distribution.

Since the normal distribution is in the range of the entire coordinate axis, the interval is only a closed part. It should be noted that most of the probability quality of the normal distribution is concentrated in the four variance length regions around the center. This article uses appropriate parameters to limit most of the probability quality to the interval, so that the normal distribution can be used to describe the interval well. For example, for the interval $[a, b]$, we take the center of the interval as the mean $\mu = \frac{a+b}{2}$ and set $\sigma = \frac{b-a}{4}$. In this way, approximately 95% of the probability quality falls in the interval $[a, b]$. If $\sigma = \frac{b-a}{6}$ is taken, then there is about 99.7% probability that the quality falls in the interval $[a, b]$. In this paper, method $I \sim \left(c, \frac{r^2}{4}\right)$ is used to model the interval, where $c = \frac{b+a}{2}$ is the center of the interval and r is the radius of the interval.

Several criteria for the difference of interval-valued data are proposed, and several related metrics are defined from the perspective of probability models. The basic idea is that a large interval has a large uncertainty, and thus has greater dissimilarities

from other intervals. The following only considers one-dimensional situations, and multi-dimensional data can be easily expanded.

First, when considering the dissimilarity of interval values, there are more reasonable criteria that should be met.

Definition 1. (Relative position) We set $I_1 = (c_1, r_1)$, $I_2 = (c_2, r_2)$, and $I_3 = (c_3, r_3)$ to be three intervals. If $r_2 = r_3$, $|c_1 - c_2| < |c_1 - c_3|$, then $0 \leq d_I(I_1, I_2) \leq d_I(I_1, I_3)$.

This property requires that when the interval length is equal, the distance between the center of the interval is larger, and the dissimilarity of the "distance" is greater. When the interval length is 0, it degenerates into the standard data situation, which reasonably reflects the distance between points[18].

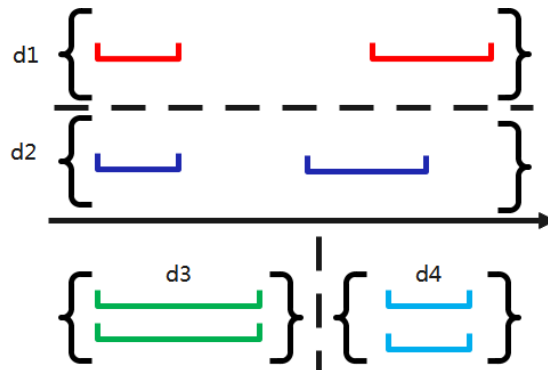


Figure 2 Diagram of the dissimilarity measure of interval-valued data

If we set $I_1 = (c_1, r_1)$ and $I_2 = (c_2, r_2)$ to be two interval values, then $d_I(I_1, I_1) \geq 0$ and $d_I(I_2, I_2) \geq 0$. If $r_1 < r_2$, then $d_I(I_1, I_2) \leq d_I(I_2, I_2)$.

The first part of this property expresses the positiveness of difference. The second part assumes that the larger the interval, the greater the dissimilarity. If $d_I(I_1, I_1) > 0$ and $d_I(I_1, I_1) < d_I(I_2, I_2)$ are satisfied, we call it strongly uncertain.

If the interval value difference measure satisfies the strong uncertainty, then these properties force the uncertainty of the interval itself to be taken into account in the interval difference measure. The larger the interval, the greater the difference. It should be noted that these properties violate a property defined by the usual distance, that is, the distance from oneself to oneself is zero. Figure 2 briefly shows the above two properties. $d_3 > d_4$ indicates the influence of the relative distance factor, and $d_3 > d_4$ satisfies the characteristic of strong uncertainty.

In fact, the measurement of interval value difference in this article requires the following two aspects: Relative position and Uncertainty measure. Dissimilarity can be expressed in the following form:

Dissimilarity = Relative position + Uncertainty measure

Taking into account the uncertainty of interval value data, the previous section proposed two criteria for measuring interval value difference. This section defines some interval-value difference measures based on probability models, and briefly discusses the relationship between these measures and the previous criteria.

This article regards the interval as a random variable corresponding to a certain distribution. The dissimilarity of two intervals is actually a measure of the difference of two random variables. Random variables take different values with different probabilities. A natural idea is to consider the expectation of the distance between different values. The idea is formalized as follows:

Definition 3. We set $I_1 = [a_1, b_1]$ and $I_2 = [a_2, b_2]$ to be two intervals. The difference between I_1 and I_2 is defined as follows:

$$d_1(I_1, I_2) = \int_{-\infty}^{+\infty} \int_{-\infty}^{+\infty} |x - y|^q P(x, y) dx dy \quad (7)$$

Among them, x, y are random variables related to I_1, I_2 , q is a positive real number, and $P(x, y)$ is the joint distribution of x and y .

It is easy to find that definition 3 is the expectation of $|x - y|^q$. For the convenience of processing, if it is assumed that X and Y are independent, then $P(x, y) = p(x) * p(y)$. Different q corresponds to different metric. In this paper, q = 2.

We give the interval $I_1 \sim U(a_1, b_1)$, $I_2 \sim U(a_2, b_2)$ and q=2. When they are substituted into Definition 3, the integral simplified is:

$$d_I^{uni}(I_1, I_2) = \left[\frac{(a_1+b_1)}{2} - \frac{(a_2+b_2)}{2} \right]^2 + \frac{1}{3} \left[\left(\frac{(b_1-a_1)}{2} \right)^2 + \left(\frac{(b_2-a_2)}{2} \right)^2 \right] \quad (8)$$

It can also be abbreviated as:

$$d_I^{uni}(I_1, I_2) = (c_1 - c_2)^2 + \frac{1}{3}(r_1 + r_2)^2 \quad (9)$$

When the interval $I_1 \sim N(c_1, r_1^2/4)$, $I_2 \sim N(c_2, r_2^2/4)$, q= 2 is substituted into definition 3, we get:

$$d_I^{uni}(I_1, I_2) = (c_1 - c_2)^2 + \frac{1}{4}(r_1^2 + r_2^2)^2 \quad (10)$$

It can also be written as:

$$d_I^{uni}(I_1, I_2) = \left[\frac{(a_1+b_1)}{2} - \frac{(a_2+b_2)}{2} \right]^2 + \frac{1}{4} \left[\left(\frac{(b_1-a_1)}{2} \right)^2 + \left(\frac{(b_2-a_2)}{2} \right)^2 \right] \quad (11)$$

In addition to considering the expectation of the distance between random intersections, a well-known metric for measuring the distance between distributions is the Kullback-Leibler divergence. For the distributions P and Q, the KL divergence between them is defined as follows:

$$d_{KL}(P||Q) = \int_{-\infty}^{+\infty} \ln \left(\frac{p(x)}{q(x)} \right) p(x) dx \quad (12)$$

When P and Q are normally distributed $P \sim N(\mu_1, \sigma_1^2)$ and $Q \sim N(\mu_2, \sigma_2^2)$:

$$d_{KL}^{dav}(P||Q) = \frac{\mu_1 - \mu_2}{2\sigma_2^2} + \frac{1}{2} \left(\frac{\sigma_1^2}{\sigma_2^2} - 1 - \ln \frac{\sigma_1^2}{\sigma_2^2} \right) \quad (13)$$

Because KL divergence does not satisfy symmetry, this article uses the following strategy to define the difference based on KL divergence:

$$d_{KL}^{dav}(P, Q) = (d_{KL}^{dav}(P||Q) + d_{KL}^{dav}(Q||P)) / 2 \quad (14)$$

The above is based on the differences in the definition of one-dimensional data. The expansion of multi-dimensional data is as follows:

Definition 4. We set two samples $x_i = ([a_i^1, b_i^1], \dots, [a_i^p, b_i^p])^T$ and $x_j = ([a_j^1, b_j^1], \dots, [a_j^p, b_j^p])^T$. The difference between these two samples is defined as follows:

$$dis(x_i, x_j) = (\sum_{k=1}^p d_i(x_i^k, x_j^k))^{\frac{1}{q}} \quad (15)$$

4.THINKING OF CONTEMPORARY CERAMIC ART AND PUBLIC ENVIRONMENTAL ART BASED ON BIG DATA ANALYSIS

The environment involved in public art is the mountains, rivers, trees, cities, rural areas and neighborhoods in which we live, specific residences, and accommodations in the natural world within the scope of our existence. This complex environment is a structural model formed after the industrial revolution. The emergence of the modern information society has created a tight relationship with this structure. In this new structure, the most prominent point is the public building. It makes the relationship between humans become very close, and humans rely on public buildings to transmit information or direct traffic and engage in industrial and commercial activities. The rise of public buildings has increased the frequency of communication and at the same time made the transportation system more developed. The emergence of public art marks the arrival of a new era. Modern environmental sculpture appears in this context. It first appeared in public places, large-scale building groups, or the space of large-scale buildings. For this reason, when designing environmental sculptures, we must master the aesthetic rules of architecture, and only a deep understanding of the beauty of architectural space can we make the "design positioning" of modern sculptures. In addition to the clear understanding of the architectural part, we should also have a clear understanding of the

environment outside of the architecture, that is, those seashores, mountains, green spaces that nature has given us, and even the environment a little farther away from us. Then, we penetrate the connotation of modern sculpture into the environment so that the two can inspire each other. This is the most important premise in the modern sculpture design process.

Just as the ways human beings approach nature are multi-directional, so are the ways in which ceramic art intervenes in the environment. In the usual sense, the public ceramic art that intervenes in the public environment includes ceramic murals, ceramic reliefs and pottery sculptures, ceramic installations, and ceramic landscapes. Among them, ceramic murals and ceramic reliefs were the first to intervene in the public environment. In addition to various forms, it also has profound humanistic spiritual content. Moreover, the environment is diverse, and it is not simply the existence of matter. When there are people in the environment, the human spirit will be reflected and refracted in the environment. Even if the natural environment is kept in the most primitive state, due to the existence of human spirit, the environment is more or less humanized and possesses human spirit. Therefore, the environment includes both natural environmental factors and humanistic environmental factors. The natural environment is the precious living environment given to humans by nature, and the humanistic environment is the comprehensive manifestation of the characteristics of the times, social consciousness, cultural psychology, aesthetic appeal, and the emotion, style, environmental nature, and environmental significance of the specific environment. Today, while human beings are paying attention to the transformation and improvement of the natural environment, they are also paying more and more attention to the positioning, improvement and improvement of the human environment. When the spiritual content of modern ceramic art in the public environment is regarded as the center of adult perception, modern ceramic art in the public environment becomes the visual image, and the human environment in which it is located becomes the background. Once public ceramic art appears in the environment, it will inevitably have a relationship with the environment. Therefore, how to handle the relationship between the public ceramic art form and content and the natural environment and human environment in which it is located is the key to the successful combination of modern ceramic art and the environment in the public environment.

This article uses big data technology to analyze the relationship between contemporary ceramic art and public environmental art. First, analyze the current problems.

As a kind of artistic personal creation, due to the constraints of the size and craftsmanship of the work, ceramic art has long been used as a small-scale artwork, interior decoration, and ornaments to stay in small areas such as museums, exhibition halls, and museum shelves. The environment lacks an expanded relationship. Some of the reasons for this phenomenon come from the public and ceramic artists' preconceived views on ceramic art works. They subjectively believe that the ceramic art in the impression should only belong to the interior, causing conceptual backwardness. Of course, the craftsmanship of ceramic works is also quite restricted. Large-scale ceramic works often have to be more laborious in shaping, glazing and firing. The clay properties of ceramics will also be affected to a certain extent after the works are enlarged. The limitations are difficult to play. The birth of a large-scale pottery work often requires a larger venue and strong capital, manpower and material resources to back up. These factors are all practical issues that must be considered in the process of realizing a potter's work from conception to implementation. In addition, the scope of application of environmental pottery works is also relatively limited. If the government does not support and encourage them, these works will be difficult to complete. Therefore, how to restore pottery works to the general environment of human life has become a major problem that needs to be solved urgently.

Theory plays a guiding role in practice, and modern ceramics has not formed a complete scientific theoretical system based on logic. Because environmental pottery is a new art, there are not many examples that can be used for learning and reference in real life. Many ceramic art books are just a brief introduction to some of the newly released works, without in-depth theoretical analysis, which limits people's thinking to a certain extent. Sometimes some words can be seen in criticism, but most of them lack constructive and high-level explanations.

There is not much attention and discussion about environmental ceramics in the Chinese art circle. The general public has also been vague about the concept of modern ceramic art, and lacks enthusiasm for ceramic art. Although there is a pottery craze in some places, commercial sales are also booming in other areas such as the capital. This can only show that certain porcelain districts have a good reputation in the city and a fashion and cultural consumption phenomenon. . Generally speaking, even the mass base of ceramic art is still quite weak, and China has not cultivated a very broad ceramic art appreciation group. This is also one of the reasons for the slow effect of environmental pottery. Of course, development is a process that requires progress while maintaining stability and cannot be rushed. After nearly 30 years of development, China's modern ceramic art has become the relatively most active area in the world's ceramic art circle, and the focus of people's attention. Ceramic art studios have been established in professional higher art colleges and some ordinary colleges and universities, responsible for professional ceramic art teaching and ceramic art elective courses. However, the new economic era and the rapid development of

high-tech have brought new impacts to our country's art and design education. The new generation of ceramic learners, as the inheritors and pillars of ceramic development, shoulder the mission of the future of ceramic art. How the traditional design education system should cultivate art design talents that meet the needs of the new economic era and how to develop new teaching models to adapt to the development of the times have become important issues that need to be resolved in the field of art design education in my country. There is still a big gap between my country's art and design education and the requirements of the new economic era.

Based on the above analysis, this paper uses big data technology to study the feasibility of the application of ceramic art in public environmental art, the status quo of talents, the status quo of practice, and the prospects. The results shown in the following Table 1-Table 4 and Figure 2-Figure 5 are obtained.

Table 1 Data mining analysis on the feasibility of the application of ceramic art to public environmental art

NO	Mining results	NO	Mining results	NO	Mining results
1	88.61	21	90.03	41	86.92
2	82.67	22	83.86	42	72.00
3	84.44	23	89.39	43	72.70
4	84.27	24	90.38	44	72.75
5	69.70	25	80.36	45	78.82
6	85.33	26	83.43	46	69.49
7	79.70	27	84.03	47	77.82
8	72.87	28	75.27	48	82.57
9	77.01	29	73.36	49	79.86
10	73.88	30	90.21	50	76.25
11	71.70	31	70.26	51	73.32
12	76.64	32	80.62	52	70.87
13	82.18	33	74.24	53	83.90
14	87.60	34	71.31	54	87.39
15	73.11	35	70.23	55	72.36
16	78.06	36	70.71	56	79.64
17	90.96	37	80.54	57	90.05
18	73.40	38	69.71	58	82.52
19	74.41	39	83.45	59	74.53
20	76.96	40	71.33	60	90.57

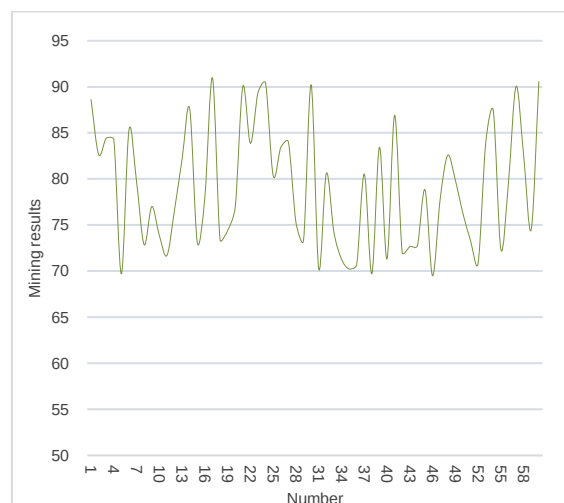


Figure 2 Statistical diagram of the feasibility study of the application of ceramic art to public environmental art

It can be seen from Table 1 and Figure 2 that the feasibility evaluation results of the application of ceramic art in public environmental art are good, that is, the application of ceramic art in public environmental art has certain feasibility.

Table 2 Data mining analysis of the current status of talents of the application of ceramic art to public environmental art

NO	Mining results	NO	Mining results	NO	Mining results
1	60.34	21	57.80	41	53.23
2	62.16	22	64.30	42	54.53
3	62.46	23	54.13	43	64.42
4	57.90	24	69.37	44	53.18
5	68.51	25	59.20	45	70.50
6	67.00	26	68.42	46	52.07
7	55.72	27	70.88	47	71.14
8	68.77	28	70.01	48	71.95
9	52.17	29	54.66	49	69.21
10	71.44	30	71.05	50	52.22
11	57.08	31	59.10	51	69.48
12	65.34	32	66.34	52	66.99
13	65.46	33	67.33	53	60.61
14	71.34	34	64.84	54	63.41
15	57.79	35	54.39	55	54.56
16	63.51	36	67.27	56	61.02
17	70.69	37	51.04	57	56.30
18	64.43	38	70.68	58	71.60
19	63.91	39	71.93	59	71.16
20	55.32	40	70.97	60	69.98

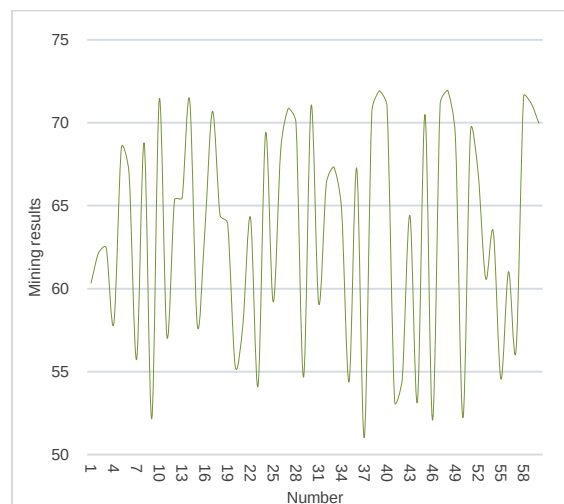


Figure 3 Statistical diagram of the current status of talents of the application of ceramic art to public environmental art

From Table 2 and Figure 3, it can be seen that there are fewer talents related to ceramic art in the application of public environmental art, especially in the process of accelerating urbanization, there is a large gap in my country's ceramic art related talents. Therefore, subsequent colleges and universities can use this as a reference in the training of professional talents and output more ceramic design talents.

Table 3 Data mining analysis of the current practice status of the application of ceramic art to public environmental art

NO	Mining results	NO	Mining results	NO	Mining results
1	62.79	21	62.37	41	60.85
2	64.95	22	57.26	42	53.56
3	60.04	23	54.40	43	55.93
4	59.62	24	54.80	44	50.54
5	51.92	25	50.16	45	62.34
6	63.33	26	55.82	46	62.25
7	61.19	27	54.89	47	58.90
8	63.07	28	52.64	48	50.98
9	57.46	29	49.62	49	60.78
10	64.11	30	64.33	50	59.09
11	62.23	31	61.98	51	62.70
12	59.52	32	61.48	52	63.21
13	60.51	33	51.95	53	49.42
14	61.40	34	57.91	54	59.25
15	52.59	35	59.00	55	60.32
16	58.31	36	61.30	56	62.86
17	55.30	37	51.39	57	63.22
18	58.60	38	61.23	58	59.72
19	54.35	39	54.19	59	52.92
20	55.32	40	52.02	60	64.41

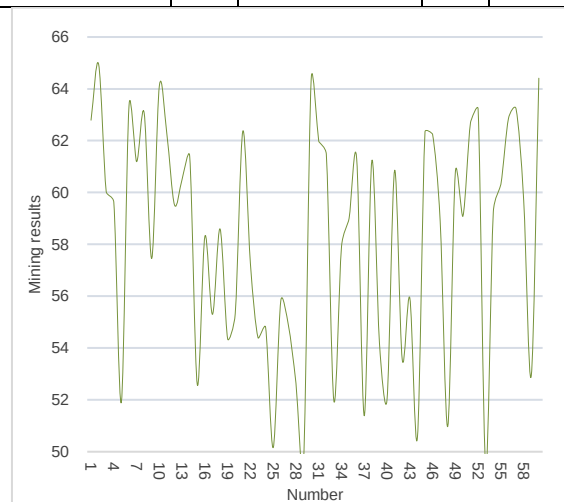


Figure 4 Statistical diagram of the current practice status of the application of ceramic art to public environmental art

It can be seen from Table 3 and Figure 4 that the current status of the application of ceramic art in public environmental art is not optimistic, and the application of ceramic art in public environmental art design needs to be further improved in the future.

Table 4 Data mining analysis on the prospects of the application of ceramic art to public environmental art

NO	Mining results	NO	Mining results	NO	Mining results
1	82.20	21	85.84	41	77.79
2	91.59	22	84.17	42	87.02
3	88.52	23	89.17	43	84.50
4	88.76	24	75.48	44	86.43
5	79.74	25	76.34	45	85.91
6	89.12	26	91.03	46	88.50
7	81.29	27	80.10	47	85.51

8	76.85	28	83.26	48	78.11
9	88.65	29	89.12	49	78.40
10	84.71	30	77.93	50	90.73
11	84.94	31	79.76	51	90.02
12	81.18	32	80.87	52	85.32
13	82.51	33	83.15	53	80.91
14	89.13	34	89.12	54	83.28
15	76.02	35	77.46	55	83.23
16	76.56	36	79.30	56	77.43
17	82.17	37	89.94	57	77.89
18	83.42	38	90.46	58	90.25
19	77.91	39	77.63	59	89.28
20	77.23	40	79.13	60	83.88

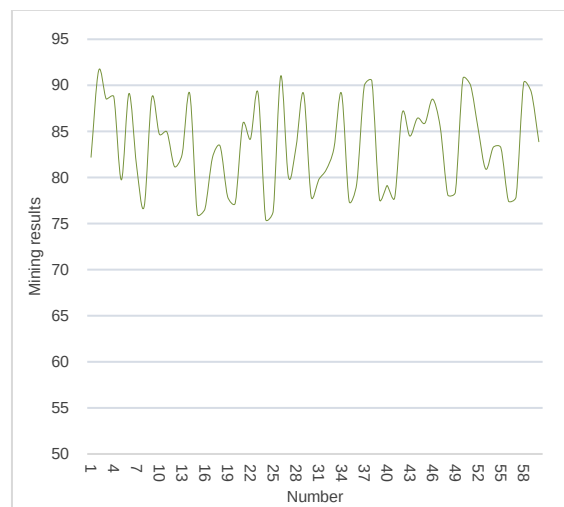


Figure 5 Statistical diagram of the prospects for the application of ceramic art to public environmental art

It can be seen from Table 4 and Figure 5 that ceramic art has a good application prospect in public environmental art.

5.CONCLUSION

Environmental pottery is based on traditional pottery, and has more diversified creative concepts and expression techniques. The current public environment space has tended to pay more attention to the postmodern style of harmony between man and nature, and new materials, new technologies and new art forms are also being used more and more in the public environment. In a sense, environmental ceramics uses ceramic materials to perfect the overall design. For ceramic environmental art works, we not only need to extend the viewer's perception process, but also upgrade the surrounding environmental design and the design of the environmental ceramic itself to an important position as the overall design.

This article analyzes big data technology and applies big data technology to contemporary ceramic art and public environmental art design. Moreover, this article uses big data technology to study the feasibility of the application of ceramic art in public environmental art, the status quo of talents, the status quo of practice, and the prospects. Through the research results, it can be seen that ceramic art and public environmental art have a good auxiliary effect in the process of urbanization in China.

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