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Research Article

The Texture and Color Matching of Oil Painting Materials Based on Multimedia Visual Communication

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The obvious tendency of modern artists to change the concept of painting is to pay more and more attention to personal feelings and spiritual expression. In modern oil paintings, there are more and more oil paintings that convey emotions and the emotional expression methods of the colors of the works are becoming more and more abundant. This article aims to study the application of multimedia visual communication in the texture and color matching of oil painting creation materials and to put forward the viewpoint of applying more multimedia visual communication to oil painting creation. This article first gives a detailed introduction to oil painting creation materials and their texture, oil painting color matching, and so on. In addition, experiments were conducted on the application of multimedia visual communication in the texture and color matching of oil painting creation materials. The experimental results show that the texture and color matching of oil painting creation materials based on multimedia visual communication are more popular with the public, and oil painters are also satisfied with this method. And, the expressiveness of oil painting texture has been improved by 10%. This shows that the texture and color matching scheme of the oil painting material in this study is effective.

1. Introduction

The diversification of contemporary oil painting materials and techniques has caused many oil painters to try various materials for oil painting creation. However, contemporary oil painters still have many deficiencies in the inheritance and development of traditional oil painting materials and techniques. Tempera Techniques also appear in the creation of contemporary oil painters, but they are rare. Regardless of the development of oil painting, oil painting materials and techniques always require artists to understand and master carefully. They complement each other and have an inseparable relationship. This article mainly studies the application of multimedia visual communication in the texture of contemporary oil painting materials and the artistic effects it presents. Art all the more conveys the inner spiritual world of the creators. The masters of painters abandon the pure description of the pursuit of returning to the true self, and gradually express the spirit of the subject's self in a free and diverse manner. The application of a large number of complex comprehensive materials in oil painting creation has become a topic of increasing concern for artists. In this process, they are faced with many unknown problems at the same time. In-depth research and exploration of them is a complicated and slow process. In the traditional western painting art, oil painting has been created for a long time. Material language, as the medium of modeling language and color language, has always been in a subordinate position. The art of painting has a long history, and art is closely related to life. There are various kinds of life in life. In the context of traditional painting, materials are used as the basis of artistic language, displaying their value through technology and playing their indirect role. Taking materials as the starting point to summarize and study the different periods of art painting, and to explore the role and function of materials in contemporary oil paintings is the primary factor for renewed special attention to easel painting since postmodern art. The use of real objects in life in oil painting

creation is not a retrogression of painting, which can be fully proved by the example of the use of materials by the artist Picasso. The fusion of material texture and multimedia visual communication breaks the traditional single phenomenon to a certain extent, and conforms to the development of social culture and art and people's spiritual needs.

In his research, Liu discussed the basic methods and general rules of the application of multimedia elements in the design of visual communication art under the background of the Internet, as well as the research on the emotional factors and interaction of multimedia elements on humans [1]. Lin proposed a research on the color visual transmission performance of impressionist painting based on machine vision under the background of wireless network [2]. In the related research on oil painting and its materials, Xia analyzed and discussed the role of sketch in the creation of realistic oil paintings on the basis of the overview and basic information of sketches [3]. Dutta and Gupta proposed an emotion-based oil painting technology that can be implemented and used in real-time in current smart devices without using any explicit hardware [4]. In a study, Ke revealed the scope of the problem of the influence of realistic art on the diversity of Chinese painting genres. Based on the analysis of the most typical paintings, a variant of the typology of Chinese figurative painting during the research period is proposed [5]. People are constantly in the process of color matching research. Wang establishes the seasonal color matching results of each landscape unit case based on the NCS color value data of each species in different seasons and the length of each season. The weighting method is used to evaluate the seasonal color matching results of each landscape unit case [6]. Asdagh et al. studied the color matching between the composite resin used for repair and the initial composite resin restoration after the aging process [7]. In the research of these researchers, most of them are doing research on the practical application of multimedia and visual communication, and they lack the research on these technologies themselves.

The innovation of this article lies in the in-depth analysis of the relationship between multimedia visual communication and the texture, color, and emotion in oil painting creation, and comprehensive analysis and related experiments on the application and function of multimedia visual communication in oil painting creation. , so as to hope that more multimedia visual communication and application in oil painting creation.

2. The Texture and Color Matching of Oil Painting Materials

2.1. Oil Painting Creation Materials

2.1.1. Oil Painting Materials. Regarding the oil painting material system, since the fifteenth century, the existing material has been continuously discarded according to the artist's own needs and material characteristics. With the advancement of science and technology and the improvement of production technology, new materials continue to appear and accelerate updates [8]. While maintaining the advantages of traditional materials, new materials continue to improve and become more economical. Some traditional materials have been replaced by more stable and reliable new materials, only the original names are retained, and the actual functions and characteristics are greatly maintained [9]. A large amount of information often confuses beginners. On the one hand, the data record used by the old painter may have the same name as the frequently contacted data, but the actual components and functions are inconsistent. On the other hand, when selecting materials for dazzling products, it is necessary to effectively select the necessary things while ensuring that the materials are essentially compatible and the functions are not repeated [10].

The use of oil painting materials did not suddenly appear because of the birth of a certain painter, but from Tempera's painting material system. In the 13th and 14th centuries before the birth of oil painting, the main materials for European painting exhibitions and murals were geranium paintings and murals [11]. Figure 1 is the current common oil painting materials:

2.1.2. Texture of Oil Painting Creation Materials. The material texture of oil painting refers to the concept of the visual beauty of the oil painting formed by the painter's choice of painting materials when making paintings. It is the final form of the expression of oil painting works and an extension of the artist's soul and thought expression [12]. Therefore, it is indispensable for the painter to master the characteristics and performance of oil painting materials directly related to his or her own thoughts, feelings, and artistic spirit [13]. Eastern and Western oil painting works can basically be divided into three types: paint, base material, and media agency. The texture of oil painting materials can be roughly divided into two aspects of performance characteristics. First, the performance characteristics of the texture of the oil painting material itself, etc., are expressed as the inherent physical characteristics of the texture of the oil painting material, such as soft, rough, detailed, texture, etc. Second, the spiritual characteristics of oil painting materials are expressed. Through people's first experience of the visual and tactile texture of oil painting materials, people have different feelings of the fineness and roughness of the texture of oil painting materials in their hearts. This is the effect of the texture of oil painting materials on people's psychological feelings [14]. When making oil paintings, the texture of oil painting materials can be divided into two aspects: spiritual characteristics and physical characteristics.

The texture effect of oil painting materials in oil painting production can be summarized into three aspects [15]. The first is the basic role of oil painting production, the second is the mutual promotion of the texture and artistic concept of oil painting materials, and the third is the role of oil painting materials in promoting the development of oil painting art. These three functions always exist in the process of oil painting production, and have a great influence on the

Figure 1: Common oil painting materials.

expression of the form, emotion and content of the oil painting.

2.2. Multimedia and Visual Communication. In the 1990s, with the accelerated development of the world's entry into the information age, multimedia technology also showed its strength in this big development trend, showing its corrective posture [16–18]. It has changed the way of human communication and transmission, greatly shortening the time-consuming information on the transmission path [19]. The technological development characterized by multimedia applications can be said to be another innovation in electronic computers. In the field of computer science, media has two meanings, the quality of the media and the role of the media [20]. The former is a physical object that can store information, and the U disk we often use is a kind of coal. The latter is the carrier used to send information, generally numbers, words, sounds, graphics, and images [21].

In the modern communication process, the advantage of multimedia technology is that it can integrate a variety of information carriers, bring more and more comprehensive sensory impacts to the audience, and quickly grasp the attraction of people [22]. At the same time, the information applied with multimedia technology has larger capacity and richer content than traditional media. People can get more information in relatively fragmented time [23].

The form of artistic design expression changes with time and is deeply influenced by regional culture and environmental factors. When we observe things, there are always some previous experiences of observing things that affect us, and at the same time we will be deeply affected by these experiences. Next, I will introduce the related application research of multimedia and visual communication in color matching to give people visual perception.

2.2.1. A Typical Visual Attention Mechanism Perception Model

(1) Feature Integration Model. A large part of the research foundation of existing visual attention mechanism algorithms can be attributed to the feature integration theory model. It assumes that the visual features are processed in parallel and independent of each other. After the feature map is generated, each feature competes with each other, and is processed by the primary visual cortex and then transferred to the back of the brain for processing [5]. Before the transmission of the primary visual cortex, the feature map is integrated into a saliency map. During the subsequent processing of the brain, only the useful information in the saliency map is processed, and the useless information is discarded, which improves the processing speed of the brain [24].

(2) Random Walk Model on the Graph. Hare proposed a visual attention model based on graph theory. Think of an image as a directed graph with all pixels connected to each other. Each pixel in the graph represents a node, which is represented by a subscript $(x, y) \in [m^2]$. Denote the feature of a picture as Q: $[m^2] \longrightarrow Z$. Use $M((x, y)||(a, b))$ to represent the difference between the feature vectors $Q(x, y)$ and $Q(a, b)$, defined as follows:

$$M((x,y)\|(a,b)) \propto \left|\log \frac{Q(x,y)}{Q(a,b)}\right|. \quad (1)$$

(3) Frequency Domain Analysis Model. Someone proposed a method of saliency feature extraction based on frequency domain from the perspective of information theory. The basic idea is that the image information contains a lot of redundant information, and only some key parts in most images will attract the attention of the human eye [25]. Someone observed that they have great similarities in the logarithmic frequency map of a large number of images. Therefore, extracting and removing these commonalities is the part that the human eye pays attention to. Someone proposed to perform logarithmic transformation on the Fourier-transformed image, and use the mean filter to filter the logarithmic frequency map of each image as the redundant information of the image, and use this information for saliency detection [26].

The specific implementation method is to give a picture, first down sample it to a picture with a width or height of 64 pixels for the convenience of calculation, and use $N(a)$ to represent the information after log transformation of the down sampled picture. Use $T(a)$ to represent the spectral residual of a given picture, and its information can be expressed as follows:

$$h(T(a)) = h(N(a) \mid W(a)). \tag{2}$$

Since the logarithmic domain spectral information of the mean image is approximately linear, mean filtering can be done on the original image to imitate the mean image. It can be expressed as follows:

$$\begin{aligned} W(a) &= h_n(a) * N(a) \\ T(a) &= N(a) - W(a). \end{aligned} \tag{3}$$

Then, the inverse Fourier transform of $N(a)$ can get the saliency map.

2.2.2. Saliency Extraction based on Visual Attention Mechanism. The combination of features is a bottom-up model, which uses a biological central peripheral filter structure to extract low-level features on several spatial scales, and obtains the saliency of the features generated by the combined feature map corresponding to the color. The location information is obtained through an exponential function, and then a saliency map is obtained through information theory. The maximum value point with the larger significance value is paid attention first. The neural network is then focused on the currently most salient image region, and when the transient inhibition returns to inhibiting the current attention location, attention can be shifted to the next most salient location. Figure 2 shows the visual attention mechanism model.

(1) Image Feature Extraction. In multiscale sampling, the original image is at the bottom layer, from bottom to top, each layer image is obtained by filtering and resampling its adjacent lower layer images, and the image resolution decreases by a factor of 2 in the horizontal and vertical directions, respectively. Figure 3 describes the pyramid data structure of the Gaussian difference filter.

In actual calculations, feature contrast is transformed into the difference of image feature maps at different scales. The specific method is that the original input image is subjected to a linear decomposition Gaussian filter with a decomposition factor of 2, and a series of images are obtained by convolution. The lowest Gaussian pyramid is the original image, and one layer of Gaussian pyramid image is obtained by sampling the rows and columns of the original input image, and the other layers of Gaussian pyramid decomposition images are obtained by analogy, as shown in the following formula:

$$R(\alpha + 1) = \frac{R(\alpha)}{2}, \alpha \in [0, 8]. \tag{4}$$

Using a, b, and c to represent the three color channels of the input image, the gray-scale image of the image can be expressed by the following formula:

$$R = 0.2989 * a + 0.587 * b + 0.1140 * c. \tag{5}$$

The strong gray-scale contrast in the human visual system can be detected by the human brain. This gray-scale contrast is either a black area surrounding a bright color or a bright color area in a black area. For the brightness image, 6 feature maps are obtained by calculating the central and peripheral difference:

$$R(x, y) = |R(x) - R(y)|. \tag{6}$$

Itti constructs four new color channels based on three color channels. They are

$$\begin{aligned} A &= \frac{a - (b + c)}{2} \\ B &= \frac{b - (a + c)}{2} \\ C &= \frac{c - (a + b)}{2} \\ T &= \frac{(a + b)}{2} - \frac{|a - b|}{2} - c. \end{aligned} \tag{7}$$

The second set of features is composed of four newly constructed color channels. Based on this feature and the four color channel maps that have been constructed, Itti has established two models for these four types of neurons: in its proposed model, it corresponds to the characteristic picture of red/green and green/red antagonism is

$$HL(x, y) = |(H(x) - L(x)) - (H(y) - L(y))|. \tag{8}$$

The characteristic map corresponding to blue/yellow and yellow/blue antagonism is obtained by the following formula:

$$BY(x, y) = |(B(x) - Y(x)) - (Y(y) - B(y))|. \tag{9}$$

12 feature maps can be obtained by calculating the central peripheral difference.

In the Itti model, the third set of features is converted from Gabor features. The Gabor filter mimics the direction-

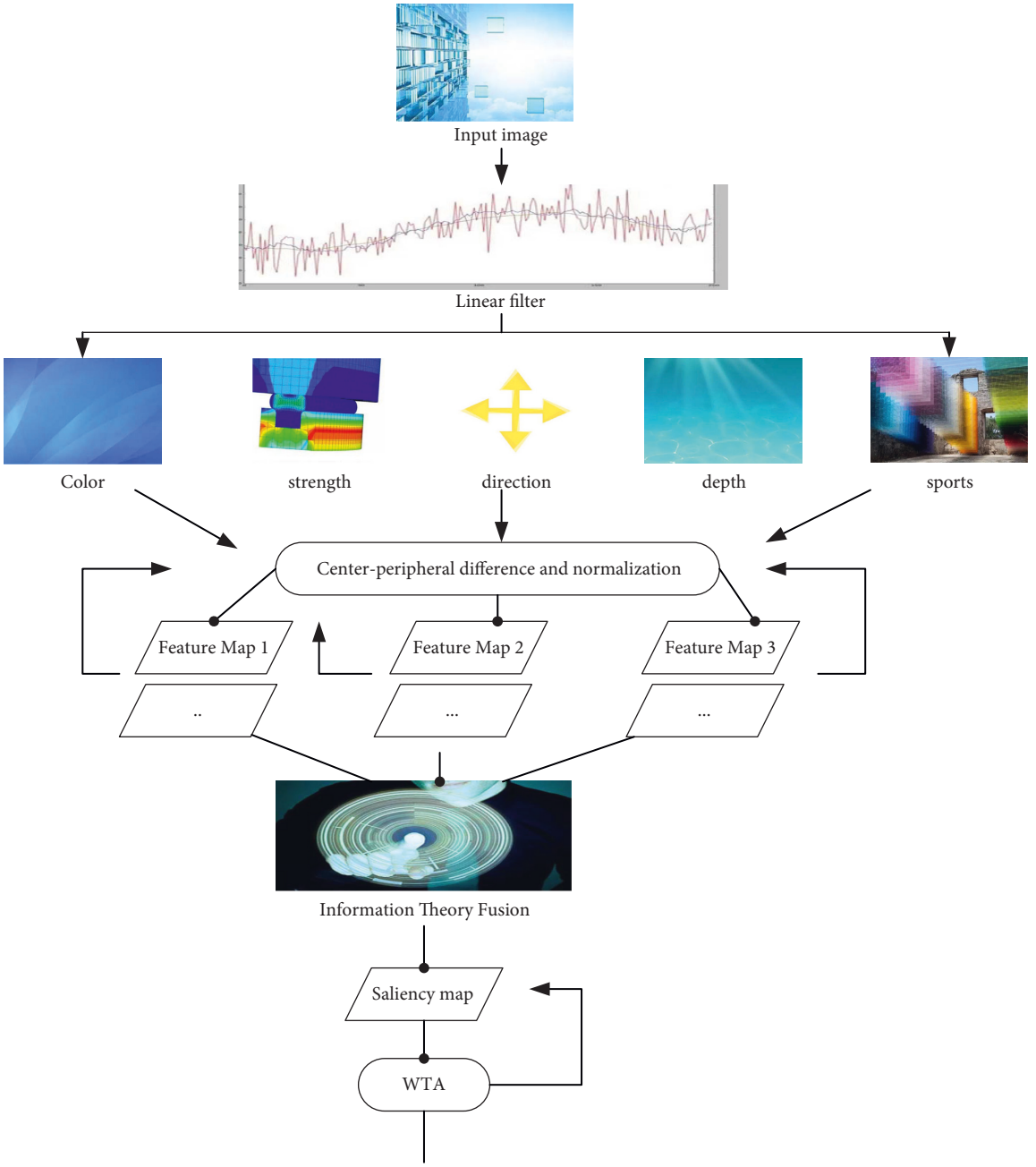

Figure 2: Visual attention mechanism models.

sensitive neurons in the visual cortex of the brain. This article uses exponential filter instead of Gabor filter to extract the direction information of the image. The expression of the exponential filter is as follows:

$$G_{\theta,\partial,\chi}(a,b) = \exp\left(-\frac{\left((a\cos\theta + b\sin\theta)^2 + \chi^2(b\cos\theta - a\sin\theta)\right)^2}{2\alpha^2}\right). \tag{10}$$

The exponential filter pyramid $J(\alpha, \theta)$ can be established according to the difference in resolution and direction, where $\alpha \varepsilon \{0...8\}$ and $\theta \varepsilon \{0,45,90,135\}$. And each exponential filter feature corresponds to the following formula:

$$J(x,y,\theta) = |J(x,\theta) - J(y,\theta)|. \tag{11}$$

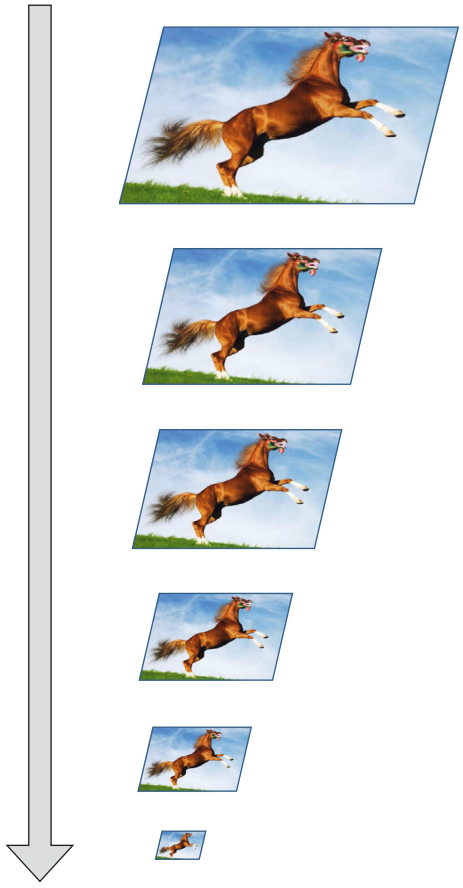

Figure 3: Pyramid of Gaussian difference filter.

Each direction generates 6 feature maps; a total of 24 directional feature maps can be obtained.

(2) Merge Multiple Feature Maps. After obtaining feature saliency maps of different dimensions and features, these saliency maps need to be merged according to certain rules to become a saliency map. In 1965, Rodieck proposed to use the difference of two Gaussian functions to simulate the receptive field of ganglion cells. The central-peripheral antagonistic characteristics of the receptive fields at all levels in the human visual pathway are just similar to the properties of the Gaussian difference function. Therefore, in response to these problems, Itti et al. proposed another merger strategy-local iteration method. The process of this method is as follows.

First, the eigenvalues of each feature map are normalized to the same range, and then the Gaussian difference function is introduced. The formula is as follows:

$$DOG(a,b) = \frac{1}{2\pi\alpha_x^2}\exp\left(\frac{-r^2}{\alpha_x^2}\right) - \frac{1}{2\pi\alpha_y^2}\exp\left(\frac{-r^2}{\alpha_y^2}\right). \tag{12}$$

Then, convolve the normalized eigenvalues with the Gaussian difference function as follows:

$$N = |N + N * DOG - t| \geq 0. \tag{13}$$

Among them, the constant C is a bias constant. Figure 4 shows the weighted effect diagram of a local iterative method.

It can be seen from the figure that by increasing the number of iterations, the significant part is enhanced, and the nonsignificant part is suppressed. The saliency map generated by the local iteration method is closer to the sparse distribution. Through the merging strategy, the multiple saliency maps generated by each feature are merged into the saliency maps of their respective channels, which are, respectively, the brightness saliency map, the color saliency map, and the directional saliency map.

$$\begin{aligned}
\overline{L} &= \bigoplus_{z=2}^{4} \bigoplus_{y=x+3}^{x=4} M(L(x,y)) \\
\overline{Y} &= \bigoplus_{x=2}^{4} \bigoplus_{y=x+3}^{x=4} [M(HL(x,y))] \\
\overline{F} &= \sum_{\theta\in\{0,45,90,135\}} M\left(\bigoplus_{x=2}^{4} \bigoplus_{y=x+3}^{x=4} M(F(x,y,\theta))\right).
\end{aligned} \tag{14}$$

After the feature maps of each component are obtained, multi-channel fusion needs to be combined into a saliency map. The existing fusion methods based on feature integration generally lack the corresponding biological basis. The information theory model is a model that has been proven to indirectly and indirectly explain the working mechanism of $V1$ cells and simulate the information processing mechanism of the cerebral cortex. Therefore, when merging multiple feature maps, the fusion is carried out in a probabilistic manner, and the saliency map is finally formed in the form of Shannon's self-information. Define the probability that any point (a, b) in the image is concerned as $G(a, b)$, then

$$G_k(a,b) = (F = 1|L = (a,b), c = k). \tag{15}$$

F is a binary random variable, indicating whether the current (a, b) is a significant point, L indicates the position of the point in the image, and c represents each channel. Gk (a, b) represents the probability that the point (a, b) in the k-the channel of the image is noticed by the human eye. Since each channel is independent of each other, formula (15) can be written as follows:

$$H(a,b) = \prod_{k=1}^{n} G_k(a,b). \tag{16}$$

According to Shannon's self-information theory, the final saliency picture is as follows:

$$Z = -\log(H(a,b)) = -\sum_{k=1}^{n} \log\left(G_K(a,b)\right). \tag{17}$$

(3) Focus Shift. The three components of visual attention: the first part is to apply visual attention to a target; the second part is to remove attention from an object; the third part is to transfer attention to a new object. After selecting the most prominent object, visual attention can focus on the object, so

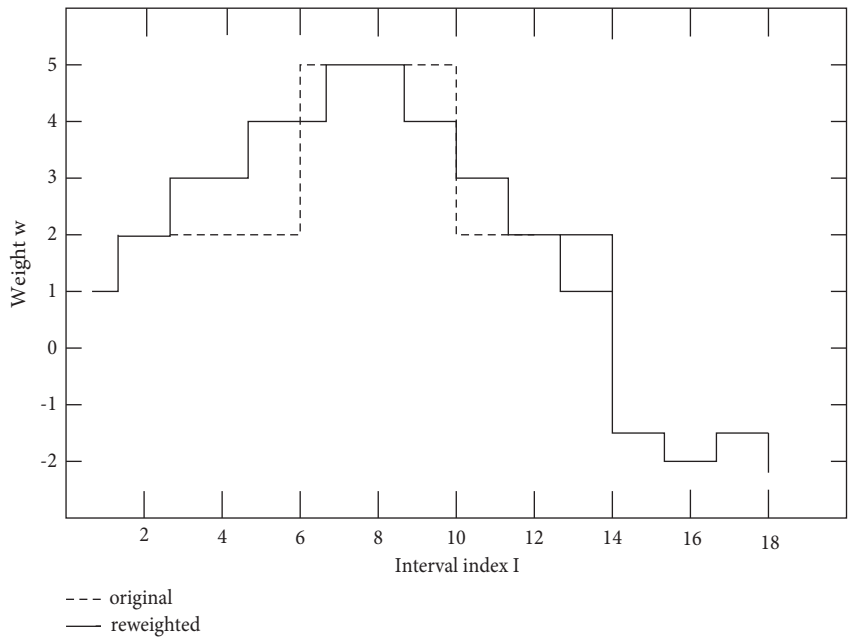

Figure 4: Iterative results.

that tasks such as object segmentation, search, and recognition can be performed. This part corresponds to applying visual attention to an object. After the final interest map is generated, each target shown in the interest map attracts attention through a competition mechanism. Regarding the shift of viewpoint, Zabrodsky gave several psychological factors and influences:

(1) Target size: the larger the visual object, the easier it is to attract attention:

$$\partial_1(Z_i) = \frac{Z_i}{Z_{image}}. \tag{18}$$

(2) Mutuality: a salient object has a greater influence on other salient objects that are closer than those that are farther away:

$$\partial_2\left(Y_{x,y}\right) = 1 - \exp\left(\frac{Y_{x,y}}{2\alpha^2}\right). \tag{19}$$

(3) Center effect: the salient object at the center of the image is more likely to attract attention:

$$\partial_3(E_i) = 1 - \exp\left(-\frac{E_i^2}{2\alpha^2}\right). \tag{20}$$

Studies have shown that once human vision has paid attention to an object, it will have an inhibitory effect on the object. Objects that have been paid attention to during visual search will no longer attract visual attention. This mechanism is called the forbidden return mechanism of attention. It corresponds to the short-term memory function of human vision. After that, the focus of attention turned to other more prominent objects. When there are two objects to be paid attention to with the same prominence, the focus will turn to the object to be paid attention to that is closest to the current winning target according to the "proximity principle." This part corresponds to shifting attention to the new object. Figure 5 is a diagram of the visual focus shifting process.

2.3. Color Matching. Color is the universal language of mankind. The colorful colors in nature decorate the bits and pieces of our lives. The blue sky, white clouds, and green trees are the harmonious colors given to us by nature. The color experience that human beings feel in nature is applied to painting and becomes the most direct way for painters to express emotions and describe things. With the progress of the times and the development of science and technology, humans have easier access to pigments and colors, and through color coordination, painters use colors to express emotions more skillfully. The influence and stimulus of color on people's vision has the original influence as well as the influence of the physical characteristics of the color itself.

Emotion is a subjective reflection of the objective external environment produced by individuals in their practical activities. This subjective reflection has different forms, such as the emotions and sorrows that humans often have. In the production of oil paintings, the painter expresses his or her personal feelings by controlling the rich colors. Color can be said to be the language used by painters to convey emotions in the production of oil paintings. This comes from the painter's inner emotional needs, which are the painter's feelings. The artistic feelings expressed in the colors of oil painting works are embodied in three aspects. One is to express the true mood of the oil painting author, and the other is to express the painter's feelings with colors. Excellent oil paintings can not only depict real masterpieces with realism but also express strong feelings in the heart of the artist. Through perfect integration, works will become more attractive.

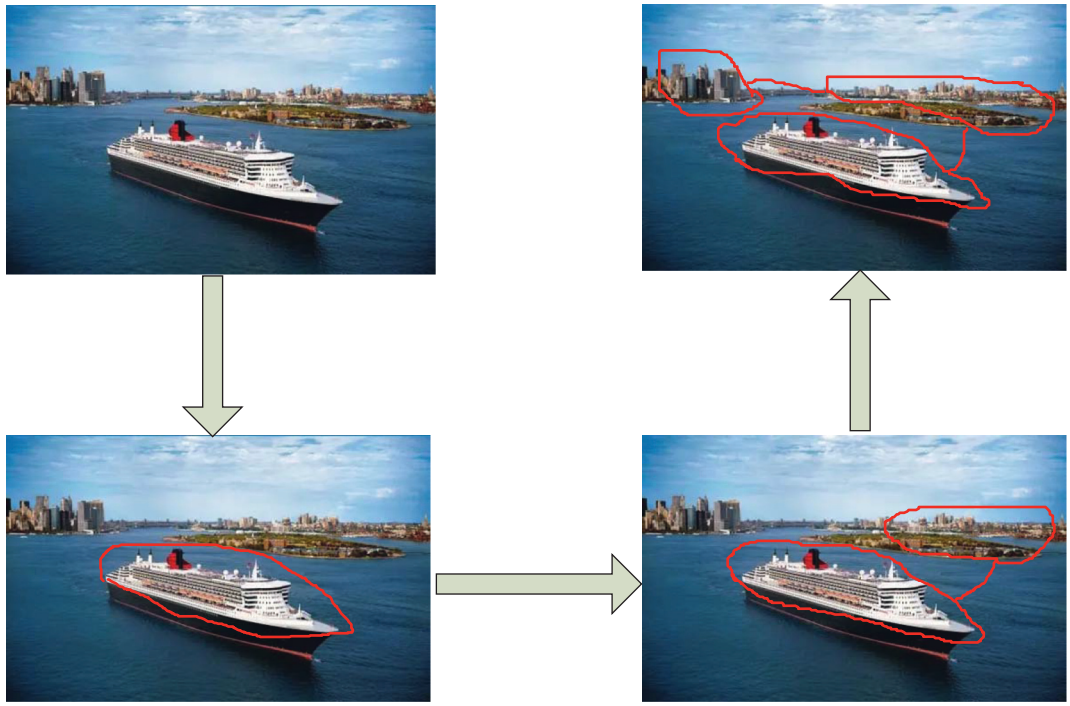

Figure 5: Visual focus shift process.

The subjectivity of the expression of color emotion is reflected in the painter's analysis and observation of objective things, looking for the color that best expresses his or her heart and emotion, and conveying his or her personal emotions to the audience through his or her paintings, so that the color leaves a deep mark in the viewer's heart. This kind of color has the subjective characteristics of the painter and is a reflection of the painter's personality and temperament. It not only depicts the original color, but the painter uses personal emotions as the basis for selection, and creates with the color that best reflects his or her emotions. Because painters have different experiences, backgrounds, and personalities, painters also have different psychological feelings and emotions about colors. Therefore, in oil painting, the combination of colors is not only to improve the space effect, meet the composition requirements, and pursue overall unity but also the emotional expression of the painting artist. An outstanding work of art is the perfect combination of the artist's own feelings and subjective feelings, and the perfect combination of aesthetic inclination and emotions. Figure 6 is a representative oil painting.

3. Exploring the Texture of Oil Painting Materials and Experimenting with Color Matching

3.1. Experimental Design and Data Statistics for Texture and Color Matching of Traditional Oil Painting Materials. In this experiment, in order to explore the importance of texture and color matching, this experiment first studied four newly created oil paintings with different themes, different design styles, and different color combinations. Table 1 shows some content parameters of the four oil paintings in this experiment.

In addition to some statistics on the theme, design style, size, etc., of oil paintings, this experiment also conducted statistics on the collocation of the main colors in the four oil paintings. The statistics are shown in Table 2.

After statistics on the texture and color matching of these oil paintings, the drying time of the oil paintings was calculated during the experiment. The statistical results are shown in Table 3.

3.2. The Texture and Color Matching of Oil Painting Creation Materials Based on Multimedia Visual Communication. The texture of oil painting materials not only defines the differences and beauty characteristics of different painting types but is also an important factor in demonstrating the artist's expression technique and way of thinking. The texture of oil painting materials is an important medium for artists to express their emotions, and it is also the foundation of oil painting creation. By correctly mastering and understanding the texture of oil painting materials, you can create better works of art. In this experiment, the technology based on multimedia visual communication was also applied to the oil painting creation materials. The related content of the multimedia visual communication was also studied and data statistics were carried out on four improved oil paintings in this experiment. Table 4 shows the statistical data of the content of each oil painting before and after the improvement.

Figure 6: Representative oil paintings.

Table 1: Content parameters of oil painting.

	Theme	Size	Texture expression (%)
1	Figure	27∗22	61
2	Still life oil painting	33∗22	58
3	Realism	65∗46	31
4	Impressionism	81∗54	56

Table 2: The main color matching of each oil painting.

	1 (%)	2 (%)	3 (%)	4 (%)
Bright red	6	12	6	25
Orange	1	8	15	10
Olivine	1	6	3	9
White	26	14	21	8
Flesh-colored	35	26	16	12
Black	19	14	9	28

Table 3: Oil painting drying time.

	1	2	3	4
Natural air drying	12 days	15 days	19 days	16 days
"Quick-drying oil" blend	1 day	2 days	1 day	3 days

3.3. Oil Painting Research Experiment Based on the Texture and Color Matching of Oil Painting Creation Materials Based on Multimedia Visual Communication. In this experiment, 100 people were selected to conduct a mass satisfaction survey on the eight paintings created in this experiment (1–10 points, the higher the score, the higher the satisfaction). The 100 middle-aged, adult, and elderly people selected this time are 30, 30, and 40, respectively. Table 5 is the statistical table of the satisfaction survey obtained in this experiment.

Table 4: Statistics on the content of the improved oil painting.

	Theme	Size	Texture expression (%)
1	Figure	55∗46	82
2	Still life oil painting	46∗33	69
3	Realism	92∗65	61
4	Impressionism	146∗97	72

Table 5: Satisfaction survey situation.

	Traditional oil painting	Improved oil painting works
Youth	6	9
Adult	5	8
Elderly	8	9

4. Exploring the Texture of Oil Painting Materials and Analysis of the Experimental Results of Color Matching

4.1. Analysis of the Experimental Results of the Texture of Oil Painting Materials Based on Multimedia Visual Communication. According to Table 1, this experiment obtained a comparison of the texture of the oil painting before and after the improvement, as shown in Figure 7:

According to Figure 7, it can be seen that the texture of oil paintings based on the optimized creation materials of multimedia visual communication is much higher than that of traditional oil painting creation materials. Through multimedia and visual communication, oil painters can see the essence of various things more clearly and better. Find a creative method to express his or her emotions. It can be seen from Figure 7 that the texture of oil paintings based on the optimized creative materials of multimedia visual communication has improved by at least 10%.

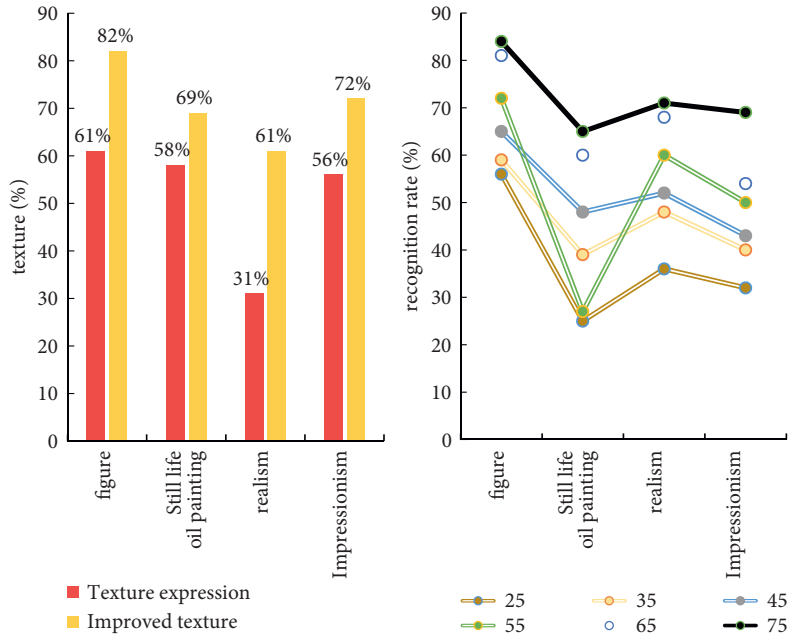

Figure 7: Comparison of the texture of the oil painting before and after the improvement.

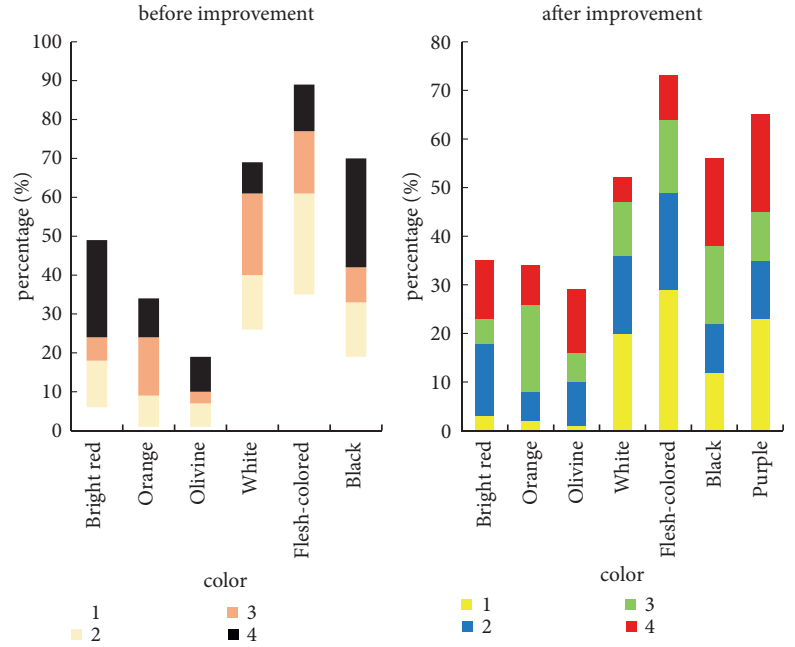

Figure 8: Comparison of the use of oil paints before and after the improvement.

4.2. Analysis of the Experimental Results of Color Matching and Pigment Changes in Oil Painting Creation Based on Multimedia Visual Communication. Through the analysis of Table 2, combined with some original data, a comparison chart of the use of oil paints before and after the improvement is obtained, as shown in Figure 8.

According to Figure 8, it can be seen that in the optimized creation based on multimedia and visual communication, the use ratio of various pigments has changed, and more and more colors are integrated into the creation of oil painters. It can be seen from Figure 8 that the ratio of each color has changed by 5% on average.

Figure 9 shows the air-drying situation of each oil painting during the air-drying process.

According to Figure 9, it can be seen that traditional oil paintings often take a lot of time to air dry, and adding some blending agents to the paint can help oil paintings dry quickly and greatly reduce the oil drying time. In this experiment, the air-drying time of oil painting with blending agent was reduced by at least 6 days.

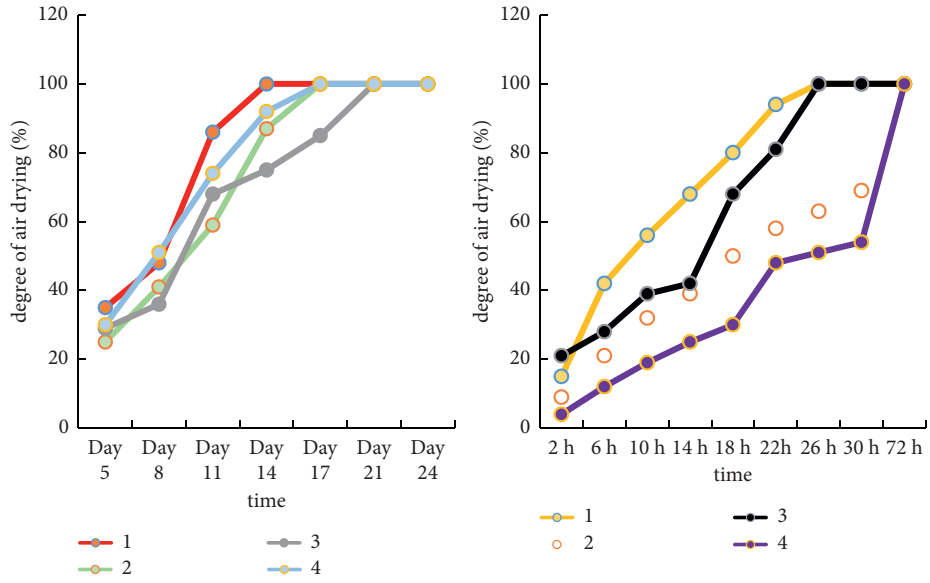

Figure 9: The oil painting is air-dried.

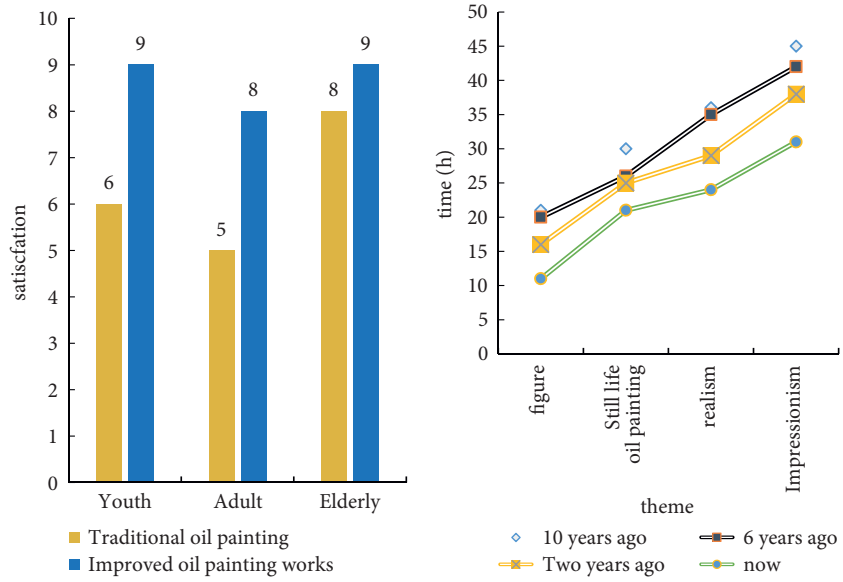

Figure 10: Satisfaction survey situations.

4.3. Analysis of Oil Painting Satisfaction Results Based on Multimedia Visual Communication. According to the investigation of this experiment, the survey results of people and oil painters' satisfaction with the texture of oil painting before and after the improvement are drawn, as shown in Figure 10.

According to Figure 10, it can be seen that oil paintings based on multimedia visual communication are more enjoyable in the eyes of ordinary people and oil painters. And in the eyes of oil painters, oil paintings based on multimedia visual communication can not only express their high artistic level in oil painting creation but also express their emotions better. In this experiment, it can be seen that the comprehensive score of oil painting satisfaction based on multimedia visual communication is above 8 points. It shows that oil paintings based on multimedia visual communication are more popular.

5. Conclusions

Through the experimental research and analysis of this article, we have reached the following conclusion: the texture of oil painting creation materials can not only help oil painters create better oil paintings but also help oil painters better express their emotions through oil paintings. Based on multimedia visual communication, oil painters can obtain more creative materials and express more creative emotions. In the experimental

analysis of this article, it is concluded that the texture of oil painting based on multimedia visual communication has been improved by 10%. This research only studies some aspects of oil painting, not oil painting.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that there are no conflicts of interest with respect to the research, authorship, and/or publication of this article.

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