Research on Propagation Strategy of Calligraphy in the Era of Big Data

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Abstract. Firstly, the necessity of the dissemination of calligraphy in contemporary society was elaborated. Then, big data technology was applied to analyze the regional, age, and gender distribution characteristics of calligraphy related groups, as well as the popularity distribution of different calligraphy styles and calligraphy topics on new media platforms. Afterwards, the transformation of the thinking paradigm from partial to holistic, from static to dynamic, and from causality to correlation in the era of big data was analyzed. Finally, five methods for promoting the spread of calligraphy are put forward, which are in turn to strengthen the guiding role of calligraphy functional units, pay attention to what the masses think, establish the ability to self renew, promote the jointly dissemination of techniques, contents and theories, and establish lofty ideals and be wary of the drawbacks of utilitarian thinking.

Keywords: Calligraphy, Big data, Propagation

1 Introduction

Calligraphy is an important carrier of Chinese culture, embodying the cultural essence of thousands of years. From early oracle bone script to later cursive script, regular script, etc., each type of script carries specific historical and cultural information, and contains a unique charm that will last forever.In contemporary society, fast-paced life puts people under various pressures. The dissemination of calligraphy helps people temporarily forget about external disturbances and enter a peaceful and relaxed psychological state; The dissemination of calligraphy can also enhance national cohesion and identity, allowing people to feel the influence of national culture and maintain the spiritual bond of the nation in the process of appreciating and learning calligraphy.

We are in the era of big data, and the dissemination of calligraphy is facing a completely new situation. On the one hand, the diversification of channels, enrichment of content, and precision of data have created convenience for calligraphy dissemination; On the other hand, information overload, technological dependence, and aesthetic convergence dilute the value of calligraphy. In this context, this paper studies the propagation strategy of calligraphy in the era of big data, and puts forward effective

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suggestions to promote the popularization and development of calligraphy through statistical analysis of calligraphy data on multiple data platforms.

2 Analysis of Calligraphy Attention Groups and Hotspots in the Perspective of Big Data

The research on calligraphy dissemination strategies is based on the conditions of the times. We are in the era of big data, and all aspects of people's lives, from communication and information acquisition to leisure and entertainment, and life services, are closely connected to big data[1]. According to the 55th Statistical Report on the Development of Internet in China released by the China Internet Network Information Center (CNNIC), as of December 2024, the number of Internet users in China has reached 1108 million, the Internet penetration rate has risen to 78.6%, and the per capita online time is 28.7 hours per week[2]. Mobile phones, computers, televisions, and digital devices can all become the source of "big data". We have never been able to capture and analyze so much data on human behavior as we can today[3]. Based on big data technology, the geographical, age, and gender distribution characteristics of calligraphy focus groups can be accurately counted, and the entire process of calligraphy creation, dissemination, and acceptance can be quantified as specific and observable indicators. This provides us with a real, reliable, and detailed basis for understanding the thoughts and ideas of the masses.

2.1 Age and Gender Distribution of Calligraphy Concern Groups

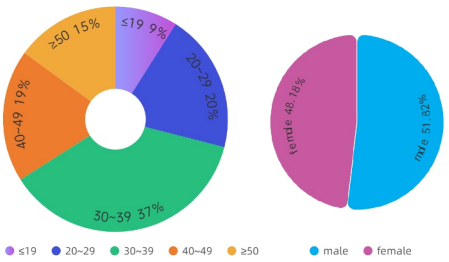

Fig. 1. Age and gender distribution

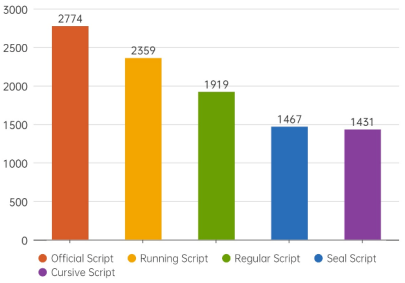

Fig. 2. Popularity of different calligraphy styles

Through the Baidu Index big data platform, the age and gender distribution of calligraphy concern groups at the current time (December 2024) were statistically analyzed as in Figure 1. At the "11th National Calligraphy Seminar" held in 2017, the article "Research on the Concern of Chinese Calligraphy under the Internet Big Data Technology" had made a study on the issue of calligraphy concern groups[4]. Through comparison, it can be found that the age and structural characteristics of calligraphy concern groups have undergone significant changes, among which the group aged 19

and below has increased from 6% to 9%, the group aged 50 and above has increased from 7% to 15%, and the female group has increased from 26% to 48.18%.

2.2 Distribution of Popularity among Different Calligraphy Styles

Through the Baidu Index big data platform, the search popularity of seal script, running script, regular script, cursive script, and official script was calculated within one year (December 2023 to December 2024) Represented by the daily average search volume within a year, the popularity distribution of the five calligraphy styles is shown in Figure 2. The data shows that official script has the highest search popularity, followed by running script, and regular script, seal script and cursive script have the lowest popularity.

2.3 Ranking of the Popularity of Calligraphy Related Topics on New Media Platforms

This part makes statistical analysis on calligraphy related topics of Rednote, Zhihu and Tiktok content platforms, and gives the content distribution of the top 100 topics with the highest popularity of each platform.

Figure 3 shows the content distribution of the top 100 most popular calligraphy topics on the Rednote platform. In the entertainment section, 25% of the photos are set in ancient costumes with calligraphy elements as the background, which has become a fashion trend for young women; In the teaching section, video based technique teaching accounts for 23%, and introductory guides account for 9%, with the main audience being beginners; In the exhibition section of their works, calligraphers often use philosophical quotes, life insights, or poetry that can be used to express their emotions as their writing content, demonstrating the importance of transcending form.

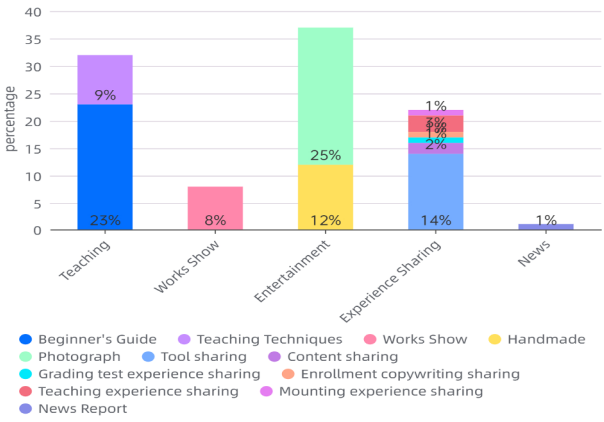

Fig. 3. Classification and summary of calligraphy topics on Rednote platform

Figure 4 shows the content distribution of the top 100 most popular calligraphy topics on the Zhihu platform. The topic content can be classified into four categories, in descending order of proportion: experience sharing (48%), ontological issues (27%), teaching (18%), and appreciation (7%).

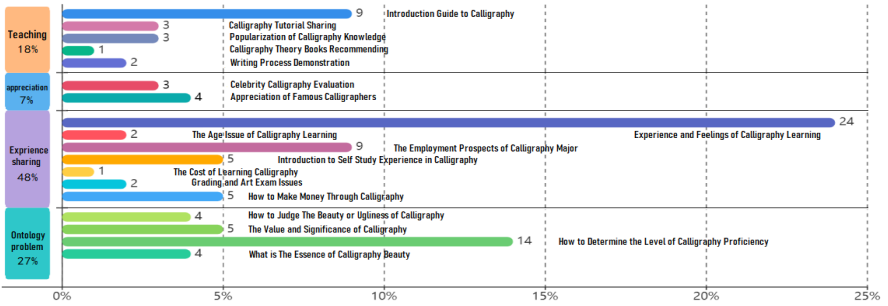

Fig. 4. Classification and summary of calligraphy topics on Zhihu platform

Figure 5 shows the content distribution of the top 100 most popular calligraphy topics on the Zhihu platform. The topic content can be classified into five categories, in descending order of proportion: teaching (45%), exhibition and sharing (35%), work appreciation (17%), entertainment (2%), and sales (1%). The teaching section can be further divided into three entry directions: calligraphy (25%), writing style (14%), and structure (2%); The display and sharing section mainly focuses on showcasing the writing process (32%), with finished product display as a supplement (3%); The appreciation of works is divided into two parts: appreciation of famous works (12%) and appreciation of famous works (5%), with entertainment and sales accounting for a relatively small proportion.

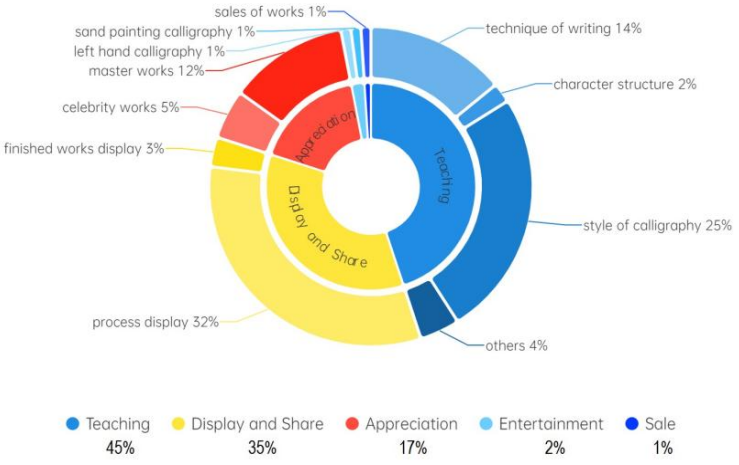

Fig. 5. Classification and summary of calligraphy topics onTiktok platform

3 The Paradigm Shift of Thinking in the Era of Big Data

Marx once pointed out that "science is also included in productive forces" and believed that knowledge can be transformed into direct productive forces. Therefore, some scholars have proposed that "big data" is a new type of productive force[5][6]. Big data not only displays the characteristics of calligraphy attention groups and the distribution of attention hotspots, but more importantly, it promotes a shift in thinking paradigms. Victor Sch ö nberg summarized three characteristics of big data: firstly, it is not a random sample, but all data; Secondly, it is not precision, but hybridity; Thirdly, it is not a causal relationship, but a correlation relationship. Correspondingly, the three major paradigm shifts in the era of big data are: firstly, the shift from partial thinking to holistic thinking; Secondly, the shift from static thinking to dynamic thinking; Thirdly, the shift from causal thinking to relational thinking.

3.1 Shift from Partial Thinking to Holistic Thinking

Before the emergence of big data technology, people relied on partial thinking of small sample induction to infer the typical characteristics of the whole. Big data can achieve accurate perception of all data, thus avoiding subjectivity caused by personal choices and judgments in the process of small sample processing. In the study of calligraphy dissemination strategies, the comprehensiveness of big data is reflected in three aspects: from the perspective of participating subjects, big data covers the entire chain and multi-dimensional information of participating subjects; From the perspective of the recipient, big data can deeply mine information such as gender, age, occupation, aesthetic preferences,, etc. of the receiving group; From the perspective of art work, big data can truly reflect the form, content, theory, techniques, creative process, application scenarios, and other information of the work. In summary, big data can provide a panoramic data foundation for the research of calligraphy popularization and improvement strategies.

3.2 Shift from Static Thinking to Dynamic Thinking

The development of human thinking has gone through a process of transition from static to dynamic. Our world is essentially in constant motion and change, and with the explosive development of technology, this change is showing an accelerating trend. The significance of big data technology lies in its powerful statistical analysis ability, which allows us to seek the certainty of slicing at a certain time in this complex world, and it can dynamically reflect the process of constantly changing objects of understanding. In the research on the popularization and improvement strategies of calligraphy, dynamic thinking prompts us to continuously improve our own level, timely understand the changes in people's preferences and needs, and make real-time updates on the popularization and improvement strategies of calligraphy based on the analysis results of big data on the target audience. Calligraphers should possess dynamic thinking patterns, actively embrace changes,

broaden their horizons, and enrich their knowledge, so as to live up to the mission of the times.

3.3 Shift from Causal Thinking to Relational Thinking

Research on big data shows that the real world is highly complex, and there are often no clear causal relationships between things or big data, but rather intertwined correlations. The theory based on the law of causality is an abstract and simplified understanding of complex worlds, which often fails to explain phenomena that involve complex dimensions such as time, space, society, and history. This is determined by the basic laws of cognitive development, and the understanding of emerging and complex phenomena must start with correlation, and then obtain causal answers through a tortuous process. As Sch ö nberg said, "Even if the cause of something cannot be found, it is enough to discover the phenomena and trends that drive it to happen." This is also the proposition of our current strategy research. Our research on calligraphy dissemination strategies can draw on this problem oriented thinking approach, starting from the correlations between specific problems revealed by big data, to develop the most direct and effective problem-solving solutions.

4 Five Methods to Promote the Dissemination of Calligraphy

4.1 Strengthen the Guiding Role of Calligraphy Functional Units and Cultural Institutions

The big data results show that the main participants in the interaction of content platforms are mostly individuals and teaching institutions, and the dissemination of content mainly focuses on basic teaching, entertainment, experience sharing, etc. Its depth and breadth are limited. Therefore, it is necessary for calligrapher associations, museums, cultural centers, libraries and other units and institutions at all levels to play a guiding role in the dissemination of calligraphy and excellent traditional culture[6]. Calligraphy is closely linked with characters, literature and history. Calligraphy functional units and cultural institutions should explore the typical materials that are easy to spread in the field of calligraphy, give full play to the Internet's strong role in promoting communication, launch calligraphy cultural works that are of contemporary significance and meet the needs of the people, and make calligraphy the fashion of the times.

4.2 Close to the Lives of the Masses, Pay Attention to Their Thoughts and Preferences

To do a good job in the dissemination of calligraphy, we cannot be limited by the narrow pattern of self appreciation and the tendency to distance ourselves from reality and the masses. There is a significant difference in the evaluation criteria for the beau-

ty of calligraphy between professional calligraphers and the general public. This can be seen from the doubts of the public about the level and standards of beauty and ugliness of works on various new media platforms. This reminds us that the popularization and improvement of calligraphy should be carried out in a form that is easy for the public to accept, and we should attach importance to the interesting and closely related forms of calligraphy expression provided by big data.

Big data provides us with macro regional, age, gender distribution characteristics, as well as specific needs and preferences of calligraphy attention groups. How to closely link calligraphy with people's lives, and make calligraphy go from tradition to the present, injecting the spirit of the times into calligraphy from form and content, is the direction of calligraphy workers' efforts.

4.3 Capable of Self-Renewal and Constantly Expanding One's Cognitive Boundaries

The era of big data is a rapidly changing one, which requires calligraphers to have the ability to self renew.In terms of theoretical concepts, we need to break through the focus boundaries of traditional calligraphy theory and widely draw on excellent literary and artistic theories from around the world; In terms of creative orientation, it is necessary to timely understand the changing needs of the masses and integrate traditional calligraphy into a colorful and ever-changing life; In terms of dissemination methods, it is necessary to fully utilize various forms of new media to assist in the dissemination of calligraphy content. In addition, it is also necessary to explore the broad possibilities of combining new technologies with calligraphy. The essence of the world is change, and calligraphers should actively embrace change, explore the direction of progress in change, climb artistic peaks, and realize the value of life.

4.4 Promote the Jointly Dissemination of Techniques, Contents and Theories

Through analysis of calligraphy tutorials on online platforms, it can be found that current calligraphy tutorials mainly focus on the direction of technique explanation, with insufficient presentation of theory and content. The doubts about the ontology of calligraphy on the Zhihu platform indicate that there is a need for the public to have a deeper understanding of calligraphy theory. Works written with philosophical quotes and life insights on the Rednote platform are more likely to be recognized, and the content of the instruction manual plays an indispensable role in the dissemination of calligraphy.

Therefore, it is necessary for calligraphers to convey the book theory and aesthetic theory, which were originally limited to academic discussions, to the general public in a simple way. They should also strengthen their attention to the writing content and promote calligraphy to better express the author's ideals, wishes, emotions, and values.

4.5 Establish Lofty Ideals and Be Wary of the Drawbacks of Utilitarian Thinking

In the era of big data, there is a tendency for artistic creation to be guided by traffic, which represents the possibility of monetization and profit. Only focusing on traffic can create works that meet user needs, but this method of creation tends to be repetitive and does not encourage innovation, and even has the possibility of compromising with low-level tastes.

There is a phenomenon in the current online dissemination of calligraphy that attracts traffic through non calligraphy elements such as behavior, speech, clothing, and appearance. This content production aimed at satisfying curiosity and sensory stimulation is not beneficial for shaping a healthy and positive national spirit. Calligraphers should resist the erosion of utilitarian thinking, adhere to artistic ideals, closely integrate life pursuits and artistic life with the future of the country and the destiny of the nation, and explore the meaning of life in the grand cause of serving the people.

5 Conclusions

Calligraphy, an ancient and charming art form, is radiating unprecedented vitality and brilliance in contemporary society. From the profound significance of cultural inheritance to the positive impact of aesthetic education; The value and role of calligraphy dissemination are self-evident, from the extensive promotion of social communication to the powerful driving force of economic development. Therefore, this article reveals the characteristics of calligraphy attention groups and the distribution of hot issues in calligraphy through big data, and explores the transformation of thinking paradigms triggered by the application of big data. Based on this, strategies for calligraphy dissemination are proposed.

No matter how the times change, the Chinese cultural spirit and aesthetic pursuit carried by calligraphy have always been the core and soul of its dissemination. We should hold a reverent heart, actively embrace new technologies and media, explore more scientific and effective communication strategies, so that calligraphy art can penetrate people's hearts and integrate into the fabric of society in the wave of the new era, becoming a cultural bond connecting the past and the future, tradition and modernity, East and West. Only in this way can calligraphy continue to bloom its unique charm in the long river of time, contribute inexhaustible strength to the progress and development of human civilization, and make this Chinese treasure shine on the world cultural stage, passed down from generation to generation.

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