## World Academy of Science, Engineering and Technology International Journal of Psychological and Behavioral Sciences Vol:17, No:05, 2023

## Research on the Aesthetic Characteristics of Calligraphy Art Under The Cross-Cultural Background Based on Eye Tracking

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Abstract: Calligraphy has a unique aesthetic value in Chinese traditional culture. Calligraphy reflects the physical beauty and the dynamic beauty of things through the structure of writing and the order of strokes to standardize the style of writing. In recent years, Chinese researchers have carried out research on the appreciation of calligraphy works from the perspective of psychology, such as how Chinese people appreciate the beauty of stippled lines, the beauty of virtual and real, and the beauty of the composition. However, there is currently no domestic research on how foreigners appreciate Chinese calligraphy. People's appreciation of calligraphy is mainly in the form of visual perception, and psychologists have been working on the use of eye trackers to record eye tracking data to explore the relationship between eye tracking and psychological activities. The purpose of this experimental study is to use eye tracking recorders to analyze the eye gaze trajectories of college students with different cultural backgrounds when they appreciate the same calligraphy work to reveal the differences in cognitive processing with different cultural backgrounds. It was found that Chinese students perceived calligraphy as words when viewing calligraphy works, so they first noticed fonts with easily recognizable glyphs, and the overall viewed time was short. Foreign students perceived calligraphy works as graphics, and they first noticed novel and abstract fonts, and the overall viewing time is longer. The understanding of calligraphy content has a certain influence on the appreciation of calligraphy works by foreign students. It is shown that when foreign students who understand the content of calligraphy works. The eye tracking path is more consistent with the calligraphy writing path, and it helps to develop associations with calligraphy works to better understand the connotation of calligraphy works. This result helps us understand the impact of cultural background differences on calligraphy appreciation and helps us to take more effective strategies to help foreign audiences understand Chinese calligraphy art.

Keywords: Chinese calligraphy, eye-tracking, cross-cultural, cultural communication

Conference Title: ICPCEBS 2023: International Conference on Psychology, Cognitive, Education and Behavioral Sciences

**Conference Location :** Montreal, Canada **Conference Dates :** May 15-16, 2023