

Individual Paper Session 12
Testing
Wednesday, July 5
11:15-11:45am

The assessment of Chinese character writing skills: a computerized model

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This research examines the assessment of Chinese character writing skills using a computerized model that we recently developed. This assessment model is based on both the theory of 'five indexing systems of Chinese characters' proposed by Chen Lifu, and the rules of stroke orders published by the Ministry of Education in Taiwan. Instead of typing on a keyboard, the learner can input the characters through a hand writing computer input device. The system will then provide immediate feedback on the input character in terms of its stroke order, stroke direction, proportion and the total number of strokes. This interactive system also demonstrates the correct writing techniques for each character, stroke by stroke through animation, allowing the learner to verify their writings against the animation.

This paper presents data from an evaluation involving 89 primary school students in Taiwan. Each participant was required to input 8 Chinese characters twice, and a total of 1424 items was collected. Initial data analysis indicates that the system can accurately identify character writing problems such as wrong stroke order, inappropriate character structure and wrong stroke direction.

This model promises a solution to the difficulty of identifying problems (e.g., the wrong direction of a stroke) in a traditional paper-pen based character writing test. More importantly, data from this research demonstrates that this system could be an excellent tool for learners of character based languages (e.g., traditional and simplified Chinese characters, and Japanese Kanji) to practice and monitor their character writing outside class.