



Questioned Documents Section – 2010

J9 Study on the Physical Measurements of Hangul Final Consonant

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After attending this presentation, attendees will learn how the alteration of individual handwriting and handwriting changes according to the measurement program and visual methods in handwriting identification were studied.

This presentation will impact the forensic science community by exposing attendees to the examination of Hangul writing.

Handwriting is a personal biometric that has long been considered to be unique to a person. When a child first begins to learn the art of handwriting, penmanship books of the different characters are placed before them. Their first step is one of imitation only, by a process of drawing. Handwriting is influenced by physiology, psychological effect, training, environment and other behavioral factors. Once the forms of the characters and their manual execution have been crystallized by long usage and graphic maturity, identifying characteristics will undergo only slight, if any change as times goes on. Formation of letters is unquestionably the most important and comprehensive in handwriting identification. Handwriting identification is usually based on empirical knowledge of a professional and valued mostly through visual examination from a professional rather than physical measurement and standardized handwriting measurements. Based on measurements of inside angles and external angles by a computer, the objectivity of handwriting examinations and its efficiency through automation can be improved.

Hangul is a phonetic alphabet, not an ideograph, as some may think it is. Hangul has 24 basic characters, 14 basic consonantal characters, and 10 basic vowel characters. Each Hangul syllable is composed of an initial consonantal character, a syllable-peak vowel character, and an optional final syllable consonantal character. Because handwriting is different and individual, position of character with individual handwriting characteristics can be identified by comparing external shapes. Ten people's Hangul handwriting samples were measured, specifically using the Hangul final consonant. Visual methods which include the direction of an initial stroke, stroke bond, and terminal stroke were measured by empirical knowledge of a professional. The writing was classified according to constancy (specific and characteristic handwriting features that were repeated) and scarcity (fixed handwriting features of an individual) by calculating measured values from inside angles, external angles, and ratio of the lengths of letters. The features of Hangul final consonant were analyzed by various methods and could be used to identify handwriting as coming from the a particular handwriting sample.

Handwriting, Identification, Hangul