



## **A solution to the quantitative analysis of children's handwriting difficulties**

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In Hong Kong, academic performance is often viewed as the key indicator of success for school children. Handwriting performance has been found to be strongly related to academic achievement. This presentation will introduce a method of quantitative analysis of children's handwriting difficulties by using advanced technology.

Handwriting assessment is a key assessment tool for handwriting difficulties. Traditional handwriting assessments are often based on paper-and-pencil tasks in which the final handwriting output is reviewed subjectively on legibility and speed. An objective computerized handwriting system (CHAS) was developed in 2008 to assess the Chinese handwriting performance of children studying in Primary School. The actual writing time and writing trajectory would be captured by the CHAS using Wacom Intuos Pro tablet, thus allowing objective assessment on the handwriting process (time and speed) and product (accuracy). Accuracy is analyzed with pre-set criteria to avoid variations in judgment among human raters. Normative data has been collected, and the system can be used as a screening tool for children with handwriting difficulties. Furthermore, the specific handwriting problem could then be analyzed in details for training and remediation.

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In future, with the improvement in technology, a new and handy online platform of handwriting assessment will be established. A new A4 sized Wacom tablet with recording function will use to replace the current tablet. Accuracy of recognition and error identification for Chinese characters will be further improved. Chinese and English handwriting assessment tools will also be incorporated in this new platform, allowing for more comprehensive handwriting analysis and screening for children with handwriting difficulties.