

An Evaluation of the Auxiliary Instructional App Amid Learning Chinese Characters for Children with Specific Learning Disorders

Authors : Chieh-Ning Lan, Tzu-Shin Lin, Kun-Hao Lin

Abstract : Chinese handwriting skill is one of the basic skills of school-age children in Taiwan, which helps them to learn most academic subjects. Differ from the alphabetic language system, Chinese written language is a logographic script with a complicated 2-dimensional character structure as a morpheme. Visuospatial ability places a great role in Chinese handwriting to maintain good proportion and alignment of these interwoven strokes. In Taiwan, school-age students faced the challenge to recognize and write down Chinese characters, especially in children with written expression difficulties (CWWDs). In this study, we developed an instructional app to help CWWDs practice Chinese handwriting skills, and we aimed to apply the mobile assisted language learning (MALL) system in clinical writing strategies. To understand the feasibility and satisfaction of this auxiliary instructional writing app, we investigated the perceive and value both from school-age students and the clinic therapists, who were the target users and the experts. A group of 8 elementary school children, as well as 8 clinic therapists, were recruited. The school-age students were asked to go through a paper-based instruction and were asked to score the visual expression based on their graphic preference; the clinic therapists were asked to watch an introductory video of this instructional app and complete the online formative questionnaire. In the results of our study, from the perspective of user interface design, school-age students were more attracted to cartoon-liked pictures rather than line drawings or vivid photos. Moreover, compared to text, pictures which have higher semantic transparency were more commonly chosen by children. In terms of the quantitative survey from clinic therapists, they were highly satisfied with this auxiliary instructional writing app, including the concepts such as visual design, teaching contents, and positive reinforcement system. Furthermore, the qualitative results also suggested comprehensive positive feedbacks on the teaching contents and the feasibility of integrating the app into clinical treatments. Interestingly, we found that clinic therapists showed high agreement in approving CWWDs' writing ability with using orthographic knowledge; however, in the qualitative section, clinic therapists pointed out that CWWDs usually have relative insufficient background knowledge in Chinese character orthographic rules, which because it is not a key-point in conventional handwriting instruction. Also, previous studies indicated that conventional Chinese reading and writing instructions were lacked of utilizing visual-spatial arrangement strategies. Based on the sharing experiences from all participants, we concluded several interesting topics that are worth to dedicate to in the future. In this undergoing app system, improvement and revision will be applied into the system design, and will establish a better and more useful instructional system for CWWDs within their treatments; enlightened by the opinions related to learning content, the importance of orthographic knowledge in Chinese character recognition should be well discussed and involved in CWWDs' intervention in the future.

Keywords : auxiliary instructional app, children with writing difficulties, Chinese handwriting, orthographic knowledge

Conference Title : ICISE 2021 : International Conference on Inclusive and Special Education

Conference Location : Vancouver, Canada

Conference Dates : August 05-06, 2021