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Hand Movements and the Effect of Using Smart Teaching Aids: Quality of Writing Styles Outcomes of Pupils with Dysgraphia

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Abstract : Dysgraphia is a neurological disorder of written expression that impairs writing ability and fine motor skills, resulting primarily in problems relating not only to handwriting but also to writing coherence and cohesion. We investigate the properties of smart writing technology to highlight some unique features of the effects they cause on the academic performance of pupils with dysgraphia. In Amis, dysgraphics undergo writing problems to express their ideas due to ordinary writing aids, as the default strategy. The Amis data suggests a possible connection between available writing aids and pupils' writing improvement; therefore, texts' expression and comprehension. A group of thirteen dysgraphic pupils were placed in a regular classroom of primary school, with twenty-one pupils being recruited in the study as a control group. To ensure validity, reliability and accountability to the research, both groups studied writing courses for two semesters, of which the first was equipped with smart writing aids while the second took place in an ordinary classroom. Two pre-tests were undertaken at the beginning of the first two semesters, and two post-tests were administered at the end of both semesters. Tests examined pupils' ability to write coherent, cohesive and expressive texts. The dysgraphic group received the treatment of a writing course in the first semester in classes with smart technology and produced significantly greater increases in writing expression than in an ordinary classroom, and their performance was better than that of the control group in the second semester. The current study concludes that using smart teaching aids is a 'MUST', both for teaching and learning dysgraphia. Furthermore, it is demonstrated that for young dysgraphia, expressive tasks are more challenging than coherent and cohesive tasks. The study, therefore, supports the literature suggesting a role for smart educational aids in writing and that smart writing techniques may be an efficient addition to regular educational practices, notably in special educational institutions and speech-language therapeutic facilities. However, further research is needed to prompt the adults with dysgraphia more often than is done to the older adults without dysgraphia in order to get them to finish the other productive and/or written skills tasks.

Keywords : smart technology, writing aids, pupils with dysgraphia, hands' movement
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