Investigation on the Use of Technology when Teaching Braille to Children, Adults and Seniors

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Introduction: Though there have been significant advances in refreshable braille technologies, little is known about how these innovations have impacted the teaching and learning of braille. This study explored how Teachers of Students with Visual Impairments (TVIs), who teach within educational systems, and Rehabilitation Specialists, who typically teach adult and senior clients, utilize technology while teaching braille.

Methods: A convenience sample (n = 40) of TVIs and Rehabilitation Specialists from the U.S. and Canada were surveyed about their instructional techniques and perspectives on the relationship between braille and technology. Respondents had on average 12.16 years (SD = 10) of braille teaching experience.

Results: Significant differences were found in the use of technology to teach braille across age groups: while only a quarter of respondents used technology when teaching braille to seniors, almost two-thirds of those working with adults, adolescents, and children reported doing so (p = .02). Rehabilitation Specialists felt significantly less knowledgeable about technologies than TVIs (χ^2 (3, N = 35) = 11.53, p = .006), and consequently used technology less frequently. On the other hand, TVIs felt more strongly that technology increased learner motivation and that the use of technology improved learning outcomes (z = -2.17, p = .03).

Conclusions: These results suggest that the degree of technological knowledge, familiarity and comfort held by professionals may inform whether technology is incorporated into braille instruction. This highlights the need to ensure that Rehabilitation Specialists and TVIs are provided ongoing training and support to implement technology within their teaching, where appropriate. Further study is required to explore in greater depth the motivational and learning benefits that such technologies may provide to better meet the needs of learners.