

Connelly, V., Gee, D., & Walsh, E. (2007). A comparison of keyboarded and handwritten compositions and the relationship with transcription speed. *British Journal of Educational Psychology*, 77, 479-492. doi: 10.1348/000709906X116768

Quantitative or Qualitative: Quantitative

Purpose of the Study:

- This study examined the relationship between handwriting fluency and keyboarding throughout primary school and the link between the quality of word-processed compositions and keyboarding fluency toward the end of primary school.
- Two studies were conducted:
- Study 1 examined the relationship between handwriting and keyboarding fluency
- Study 2 examined if slower speed of keyboarding has an impact on the quality of composition for children using keyboards? It is hypothesized that since the keyboarding fluency of these children who did not receive keyboarding instruction, the written composition will be superior in handwriting than keyboarding.

Length of Study: Not specified. Students from reception to Grade 6 were tested. There was not experimental component.

Number of Participants (Sample):

- Study 1: N= 312 students aged 4-11 years old (178 boys average age 97.5 and 157 girls, average age 97.8).
- Study 2: N=48 (25 females and 23 males); Subset of Grade 5(n = 29) and Grade 6 (n = 19) students from study 1

Method Used:

- Each primary school taught ICT (Information Computer Technology) classes for 1 hour a week. The ICT lessons included keyboard familiarization in the early grades but a progressive touch-typing course was not part of the school curriculum. Writing and ICT suites were integrated and demonstrated through a word processing package.
- Concentrated on allowing the children to develop revising and editing skills and use of spellcheckers. Different writing genres were introduced and practised through ICT, such as formal letters, invitations, book reviews etc. These different genres were introduced using a range of other ICT software packages such as Powerpoint. The topics chosen for integration generally supported class topics in literacy current at that point in time.
- For both handwriting and keyboarding task, students were asked to copy a simple sentence that contained every letter of the alphabet for 2 minutes. Handwriting and keyboarding speeds were recorded.
- Study 2: The Weschler Objective Language Dimensions (WOLD) written expression subscale (Rust, 1996) was used to sample the writing skills. This consisted of a 15-minute free writing task to a written prompt. The task was analyzed for ideas and development, organization, unity and coherence, vocabulary, sentence structure and variety, grammar and usage, capitalization and punctuation.

- Study 2: Data was collected 1 week after the handwriting fluency measures. Writing prompts for a creative writing piece were given to both the handwriting group and keyboarding group and they were stopped after 15 minutes.

Results:

Study1:

- A repeated measures analysis of variance was used to analyze the data. Method of text was the within-participants variable (handwriting vs. keyboarding) and year group (reception year to year 6) was the between-participant variable.
- There was a main effect for method of text production and year group. There was an interaction between method of text and year group. On average handwriting speed was faster than keyboarding across all grades except between year 2 and 3.
- This study did find significant correlation between handwriting fluency and keyboarding fluency within the sample.
- A small percentage (6%) of students in year 5 and (15%) year 6 had superior keyboarding fluency over handwriting.

Study 2:

- There was a main effect for method of text production (handwriting vs. keyboarding).
- The handwriting essays on average received higher scores than the keyboarding essays.
- Year 6 students received higher scores than year 5 students on both handwriting and keyboarding texts.
- There were significant correlations on performance of handwriting and keyboarding fluency measures and the WOLD total scores. Those who were fast hand writers and keyboarders produced better quality essays (for both handwriting and keyboarding fluency and essays).
- Handwriting fluency was positively correlated with compositional quality of keyboarding essays and vice versa.