Why teach handwriting in the computer age?

Recent brain imaging research is showing that the actual act of learning to write letters helps develop the literacy areas of the brain – even before we can read!

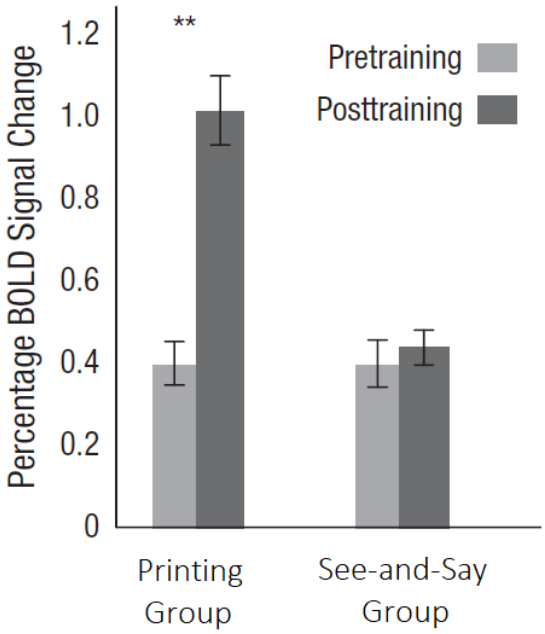

Figure 1. Results from the study by James (2010) showing brain activation in 4-year-olds before and after training to learn alphabet letters. Adapted from James (2017).

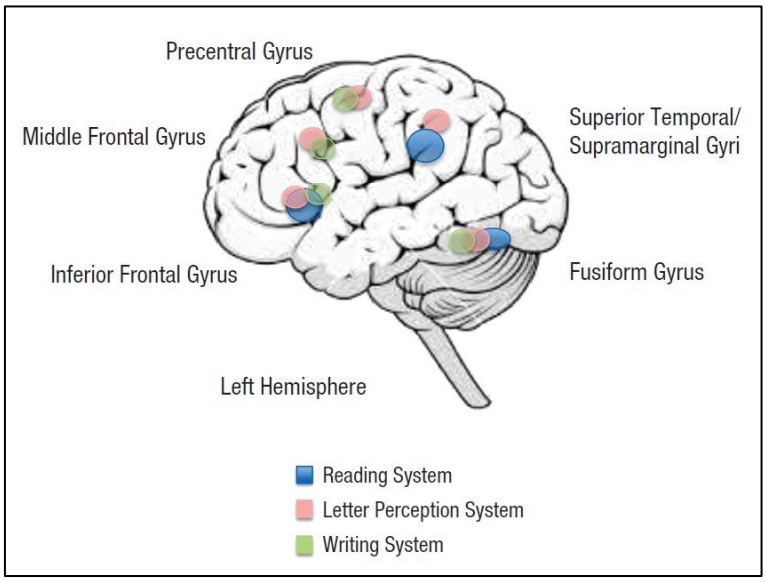

Figure 2. A schematic showing the overlap of the visual-motor letter-processing systems in the adult brain. Adapted from James (2017).

The results shown in Figure 1 demonstrates the amount of brain activation in a reading region of the brain after 4-year-olds were taught the letters of the alphabet in one of two ways.

1. The Printing Group were shown letters and practised handwriting them.
2. The See-and-Say Group were shown letters and spoke them aloud.

The results showed that, after 4 weeks of training, children in the Printing Group had significantly more activation in the brain area of interest than the children in the See-and-Say Group (James 2010). The findings support the idea that printing letters by hand helps form the adult reading system in the brain (shown in Figure 2).

In addition, it was later found that neither learning by typing letters or learning by tracing letters produced the same effect as handwriting letters (James & Engelhardt, 2012).

To read the published research go to:
https://earbmc.sitehost.iu.edu/pubs/James_aps_2017.pdf