Handwriting – It's Good for Your Brain!
By: Laurel Van Maren, Founder

There is a Chinese dance recital video in which Chinese teenagers show the remarkable dance skills they have learned during the course of their studies. The title of it is "Be more beautiful also need hard to pay".

In the western tradition, a classical education seeks to instill in children a capacity to identify and a desire to exemplify the Good, the Beautiful, and the True. There is only one pathway to this: "be more beautiful also need hard to pay."

The price of mastery is, indeed, hard to pay, but it is achievable by the diligent. To reach a goal, to master a skill, to seek after knowledge, there is only a "hard to pay" pathway. And as we and our students pay, as we work, practice, improve, and study, we become quicker, stronger, better, tougher, and more knowledgeable. The work becomes who we are and who we want to be.

This talk was originally given to the faculty and the original essay was written in longhand. It was composed first in hand-written notes, and then edited and rewritten with pen and paper. Why? Because this is an essay about what we expect our students to do with our penmanship program and it didn't make sense to type it into a computer, and use a computer editor, when we are asking our Liberty students to commit to improving their pen hand and creating something beautiful with their writing by the slow, careful work of writing things by longhand.

Writing with pen and paper is a very sensory-infused experience - this is so much the case that it actually changes the way our brain works when we do it. More areas, and larger portions of those areas, do more work when we physically put pen to paper.

"The brain's "reading circuit" of linked regions that are activated during reading (is) activated during hand writing, but <u>not</u> during typing. "

"Why Writing by Hand Could Make You Smarter" by Dr. William Klemm

"Moreover, cursive handwriting stimulates brain synapses and synchronicity between left and right hemispheres, something absent from printing, typing or keyboarding."

"Brain Research and Cursive Writing" by Dr. David Sortino

Studies of children show that access to vocabulary, ideas, and speed are all increased when they write by hand, but not when keyboarding. In a study of sixty 2nd graders, thirty were given extra math and thirty were given extra spelling instruction. The thirty students who got the extra spelling improved in not just spelling but also sentence structure, fluency, writing, and composition skills.

Students in another often-cited study *"demonstrated that printing, cursive writing, and typing on a keyboard are all associated with distinct and separate brain patterns — and each results in a distinct end product. When the children composed text by hand, they not only consistently produced more words more quickly than they did on a keyboard, but (they) expressed more ideas. And brain imaging in the oldest subjects suggested that the connection between writing and idea generation went even further. When these children were asked to come up with ideas for a composition, the ones with*

better handwriting exhibited greater neural activation in areas associated with working memory — and increased overall activation in the reading and writing networks."

"What's Lost as Handwriting Fades" NYTimes.com

Language is incredibly important to the brain. And the depth and form language takes when it goes from the written page as it is read, to the brain as it is processed, to the pen on paper as it is expressed, is amazing. And very profound. How we think and use language flows out of us in a very different way when it goes from the read page to the brain, and then to a keyboard.

PET and MRI technology have allowed doctors and scientists to detail the incredible changes in a child's brain when that child puts pen to paper: changes that do not happen when that child writes or composes at a keyboard. Handwriting also allows children to extract more meaning from text and lecture, to spell more accurately, and to interpret more correctly the context of words and phrases. Why? Maybe because "the brain's reading circuit of linked regions" that are activated during reading are also activated during handwriting — but not during typing.

Cursive handwriting also helps the two sides of the brain talk to one another, which is especially important for boys, who have a thinner corpus callosum than girls. Which students always want to print instead of use cursive? Boys. It isn't good for them and it isn't good for their brains when boys don't learn a clean, cursive pen hand that they can use now, and later as an adult.

"In dysgraphia, a condition where the ability to write is impaired, sometimes after brain injury, the deficit can take on a curious form: In some people, cursive writing remains relatively unimpaired, while in others, printing does.

"In alexia, or impaired reading ability, some individuals who are unable to process print can still read cursive, and vice versa — suggesting that the two writing modes activate separate brain networks and engage more cognitive resources than would be the case with a single approach."

"What's Lost as Handwriting Fades - NYTimes.com

Do students love to use and practice good penmanship? Mostly, no. But they also don't love to make their beds, pick up after themselves, do their homework, and eat properly. As H.I. Marrou is quoted in Climbing Parnassus, "…the only point of education is to teach the child to transcend himself." Developing a good pen hand is a part of the hard work we do here in order to prepare our students to be clear thinkers and active participants in their own education. Be more beautiful also need hard to pay. The Chinese dance students know this, and so do the students of Liberty Common High School.