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By: Layne Kalbfleisch, M.Ed., Ph.D., Educational Psychologist and Cognitive Neuroscientist

'Dr. K' is the founder of 2E Consults ® LLC, a practice serving the individual needs of learners through assessment and coaching at www.the2e.com

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DO RE BE – A Different Look at Memory and What School Teaches Us

Do you consider yourself imaginative? Creative? Adept at one thing in particular, be it in music, dance, sport, language, or something outside of the typical conventions of school learning? Would you agree that the activity or activities that you enjoy in one or more of these domains make up the 'stuff of life' – joy, play, fun, inspiration, contentment, and well-being? Think for a moment of the earliest memory you have of this? When did that spark ignite? How did it ignite? Was it curiosity that set in like a whisper and grew loud as you uncovered a bigger interest and discovered that you had something more to offer? Was it an experience that was so intense that it left you changed for every moment after? Was it something you sensed inside yourself or realized as a strength in comparison to your peers? Now, think about what went into the pursuit of that talent? How much of it went on during school? Would you describe 'schooled' as the way you acquired your expertise and gained competency? Or, did it at some point become effortless? Do you remember much of a time before you knew how to do 'this'? Did it come so easily that you assumed others must be the same way? What do these series of questions have to do with brain science and education? It's important to know that brain scientists are just getting a handle on what we could call a primer of human function – the brain reading, writing, adding, subtracting, problem-solving, reasoning and the like. It seems that these are the kinds of questions and data that could 'revolutionize' education. However, I offer the following insights from the neuroscientific study of human memory and a word of caution as we find ourselves confronting modern education. That is, much of school is designed to develop and train the processes of effortful cognition – with the emphasis on action, on 'DO' – think about Bloom's Taxonomy-type verbs such as remember, analyze, compare, evaluate, combine. These are processes that can be introduced and practiced in smart curriculum aligned according to scope and sequence and then broken down into developmentally appropriate tasks designed to coach competencies with basic and then more complex skills. This is the stuff of assessment and testing, whether standardized, formative, or summative. But, as adults, we finally choose our lifestyles and vocations based on our natural strengths and maybe these are well-practiced and hard-won. But, perhaps not.

The problem with education's focus on effortful cognition is that it underestimates human potential on a grand scale in people both young and old. Here's why: memory not only constitutes our ability to DO (remember facts and events, demonstrate talents and skills), but also what I call 'RE and BE' capacities.

One of my professors in graduate school called memory 'the study of RE'. Let's put that to the test. Put the prefix 're-' in front of any word you can think of. For instance: remember, reborn, reform, recall, reacquire, readjust, reappear, reapply. Now, take it away: member, born, form, call, acquire, adjust, appear, apply. How do those meanings change and what do they all share in common when you start each with 're'? According to Merriam Webster's dictionary, 'Re' in and of itself means 'again' or 'back'. Memory, then, is the study or exercise of bringing forth knowledge or performing skills again, to go back, to practice, to, instead of go back, bring to bear in a current moment what you have learned in the past. Do we know what specific activities support 're'? Neuroscience studies show us that exercise, music, the arts, sleep and play are processes that help promote effortful learning. Four of these do require effort, but what's inherently different about you when you engage in these? When the physical body is being exercised, it releases its own 'vitamins', chemicals that help lower stress, increase focus and concentration, and promote 're'. The extra benefit appears to come from distracting the mind from the effortful practice of one thing and letting it wander, reflect, and experience the moment. Which brings me to the third idea, the value of BE. Which has to do with something different entirely that we don't tend to incorporate during formal learning. Our ability to be. To sit quietly with ourselves in the moment, to offer ourselves rest or relief in pursuit of a skill. You may be tempted to think that a 'trained' brain is only defined by the effort you put into learning. But, neuroscience won't back you on this assumption. Because, in spite of our dogged persistence to understand the things that the brain is and does, it turns out the doing is only half of the story. And a story it is.

There is a system in the brain that is just as if not more so resilient. I call it the system of 'BE'. Neuroscience calls it the 'resting state'. What is the resting state? It has been called the daydreaming network, it is measured during self-reflection or when the mind is allowed to wander. Many scientists are beginning to surmise that it serves a homeostatic purpose, the brain's version of respiration or your heartbeat. Functionally, the resting state joins a series of areas in the brain that form a network of what the brain looks like when it is 'talking to itself'. It may even be the means by which the brain generates the imagination, pointing to the paradox that the brain is the one organ in our human physiology that is an open system, adaptive to the environment, feedback, and experience. This is why I am concerned about the scant time and attention we give to the processes in the modern routines of school that promote and maintain the lion's share of what memory really is (DO RE BE) and the resting state. Slashed budgets leave music, art, and recess in a scrap heap on the floor in favor of more seat time, more time on task, and greater dedication to effortful learning. What we don't realize is we're discounting nearly half of our brain's own natural resources.

