

Docendo Discimus

1

Portrait of the Artist in the Education Landscape

Michelangelo considered Raphael's genius as having been acquired by study, and upon his own as a natural gift: Learning as opposed to talent; though this is mere pedantry, with all due respect to the great pedant himself. For what is talent but a name for an older piece of learning, experience, exercise, appropriation, and incorporation, perhaps as far back as the times of our ancestors, or even earlier! And again: He who learns from his own talents, only learning is not such an easy matter and depends not only upon our willingness, but also upon our being able to learn at all. Frederic Nietzsche

The title Docendo Discimus (we learn by teaching) and the above quote essentially express the same idea. We learn by teaching. To express it another way, Virginia Woolf states there are two impossibilities in life: teaching and preaching (both a form of teaching). With the absence of teaching, learning is the only remaining option.

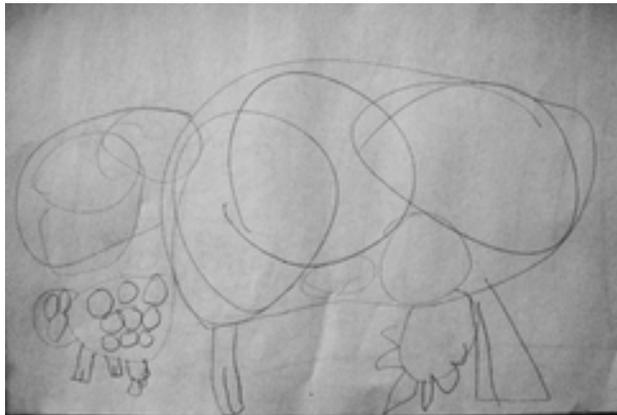
The Woolf and Nietzsche quotes place the learner in the role of a teacher responsible for self-learning. These statements assert that learning is an active, independent, and experiential process. The idea of Raphael's genius being acquired by formal academic study discredits Raphael's own learning ability. It should be clear to everyone that objective, elemental techniques can be learned from institutional instruction. However, the ability to use the learned techniques cannot necessarily be taught. For example, practically everyone can read and write, but only a very few can write a literary work of art. The ability to apply learned skill is separate from knowledge of skill, and therefore both Michelangelo and Raphael, despite their difference in background, were self-learners who learned what could not be taught.

There are millions of artists who have great technical skill but are unable to create a work of art of any cultural universal significance. Acquiring knowledge through external resources, such as instructors or participatory educational programs, is much the same as studying the work of an established artist or text reading. Aristotle would refer to this learning process as cooperative thinking, where the ideas of the resource are added to the ideas of the learner. In this act of learning, the resource may be constant but the outcome will be varied, based on the individual thinking that is applied to the resource. This is primarily what separates Raphael from Michelangelo, or more generally, anyone from anyone else. It defines learning as an independent individual process that can occur both within and outside of educational institutions.

Nietzsche's reference to being able to learn should not be viewed through the eugenic lens used to promote classism and racism. Instead, it can be clarified by cognitive scientist Howard Gardner's theory's of multiple intelligences. Each intelligence category represents a thought-processing system

and skill set conducive to operating within a specific domain, such as visual art, math, science, music, and so on. In other words, one would not expect Beethoven to be capable of positing the theory of relativity with his musical intelligence, or Einstein of composing the 9th symphony with his logical-mathematical intelligence. However, Einstein played the piano and violin. It is documented that playing music changes the brain's hippocampus, which is responsible for spatial reasoning. This could have been only a great benefit to the many spatial problems to be solved in his theories. With Einstein, the music helped to structure his thought process for his logical-mathematical science/physics domain.

Beethoven, on the other hand, operated within the musical domain. In service to his musical intelligence, he combined other domains outside of music, such as poetry, religion, philosophy, nature, mythology and history. So what is meant by Nietzsche's statement of ability to learn is that an individual is unable to attain a high level of thinking and achievement outside of their intelligence. The Idea of domain operating system can be found in Gardner's book *5 Minds for the Future*. A list and description of Gardner's multiple intelligences can be found in his book [Multiple Intelligences](http://skyview.vansd.org/lshmidt/Projects/The%20Nine%20Types%20of%20Intelligence.htm), or at this web site. <http://skyview.vansd.org/lshmidt/Projects/The%20Nine%20Types%20of%20Intelligence.htm>



Nietzsche's quote identifies the formal and experiential forms of learning. Humans have been termed born learners, and they begin learning almost immediately from birth. Without formal instruction, humans learn from complex sensory input that helps activate an operating system, which they use to communicate and navigate their world. Living becomes the instructional experience; it inspires the mind, which itself becomes eager to learn more. Vision is probably the most important sensory input in this early

learning experience, but with children, all sensory organs get involved in the learning process. Even in the early stages of their lives, vision is highly developed in terms of shape recognition and the ability to read the subtleties of human expressions. Their minds know no boundaries and their imagination has free range over play and problem solving.

Above is a drawing of a cow by 5 year old Asher Girard. I have been collaborating with Asher and his two-year-old brother Jasper in production of my own work with the subject of being, time, and perception. They have always been able to provide multiple drawings to each request subject. At the age of five, most children are artistically fearless and have the confidence to render their perceptions into visual format. The visual ideas of a child are beyond the imagination of most adults. They possess what adults have forgotten and will eventually forget themselves as the experience of time and education changes their perceptions.

Enter the Dragon

Most all children enter into formal education eager to learn and perfectly able to express themselves visually. A subject of constant debate is how and why most individuals lose their eagerness and natural instincts for learning, along with the complete loss of visual expression. The answer falls between the great divide of collective and individual needs.

The philosophers Ayn Rand and Frederic Nietzsche both state that equality does not exist and therefore collectivism cannot exist either. The collective is made of individuals not possessing the same skill set or mental capabilities, meaning standards are set too low for some individuals and too high for others. The system of the collective is the compromise that mediates between the differences to create a uniform standard in an enforced system that too often fetters the imagination of the autonomous individual that historically is responsible for change for both the individual and the collective.

According to Rand, what is really needed is not a system but individual freedom to explore within the capacity and capabilities of individual achievement and in the most appropriate methods to achieve the individual's potential. She expresses her philosophical ideas through her book and film *Fountain Head*. The protagonist, an architect, believes in unrepentant idealism and self-growth for the benefit of all humanity that extends beyond national and cultural barriers.

Nietzsche, on the other hand, believes that the collective should be the supporting foundation for the individuals of ability to attain their greatest potential to elevate and change society and culture. Both Rand and Nietzsche had a genius that was not harvestable for national interests, and which found individualism threatening to its existence.

Both, to their own satisfaction, were independent thinkers and outsiders to the collective systems. It is interesting to note that Rand spent her days in school writing novels rather than participating in class lessons. Nietzsche was nearly expelled for failing math, a subject he had no interest in. His writing and thinking skills made him "too gifted" a student to be dismissed.

Stanley Kubrick had no interest in school-work and copied his friend's homework. Einstein was more interested in his own questions than those of his university professors and could not get a single letter of recommendation from them. These are just a few examples of gifted individuals that didn't fit into a system of standards that undervalued their skills and could not meet their needs for intellectual and artistic growth. They are also serving as examples of those who succeed in spite of the system.

Ayn Rand's individualist perspective suggested the world's leaders ran the world and its institutions as if it was a machine and that individuals had to serve the needs of the machine rather than their own individual needs. The instinctual self-interest based learning that existed prior to school entry was replaced by a mechanized and standardized system of learning to create uniformity and standardization necessary to exist in the industrial world of the 19th and 20th century. Schools became production assembly lines and rigid educational caste systems were created to separate those who would be

educated for leadership and academia from those who would be subjugated as less educated laborers to meet the service needs of an industrialized world.

Author Ken Robinson, in his book *Finding Your Element*, relates his experience of being elevated from a working class to an academic school in the UK school system. The premise of his book is that individual needs, especially those of artists, are overlooked and undervalued in our standardized, mechanized school system. He refers to the current system of education as strip-mining. The educational system tears through the student landscape of learning potential, taking its prized mathematical and science students and leaving all other learning disciplines as unwanted, wasted learning material. Robinson's book is a feel good search for your element, a simpler version of Gardner's *5 Minds for the Future*.

Robinson's element is interchangeable with Gardner's discipline domain and both can be termed a cognitive profile. The individual's cognitive profile is the operating system that efficiently processes all learning material. A world-class billiards player using his or her playing skills to learn and understand geometry is an example that Robinson provides. Similarly, but more indirect: jazz musician Keith Jarrett places a greater importance on literature, science, philosophy and art as being far more important than music because they become the resources that inform his musical thinking. All learning is processed in the context of musical production and a greater understanding of these non-musical resources are achieved through his musical processing method.

Gardner points out that individual intelligence is being overlooked, while Robinson suggests that artistic expression and learning are undervalued in our current educational system. Changes to the educational system have occurred over time, but still schools can be hostile learning environments for minority intelligences, as well as for arts education. Robinson, in his circle of acquaintances, foresees education moving to a more independent open system with individual learning occurring at home via computer and brick and mortar educational buildings existing only as testing facilities. Robinson is predicting educational systems that favors the individual needs over mass standardization.

The Socratic belief in personal integrity being dependent on one's duty to self and not to any other authorities is the central conflict in the separation of the experiential self-interest of learning and the systematic authoritarian needs of social and cultural institutions. The understanding of institutional purpose helps to guide individual choice, which is needed to navigate the education operating system. Institutional understanding becomes the basis for the methods and language necessary to communicate within a closed hierarchal system.

Some of the following views by philosophers, educational theorists and cognitive scientists are unflinchingly negative and the words "educational institutions" could be replaced easily with the Hopi Indian word Powaaqatsi, meaning an entity that consumes the life force of other beings in order to further its own life. One of the most enjoyable aspects of reading Nietzsche is stumbling into his many interesting and sometime obtuse quotes: "The modern Man carries inside him an enormous heap of indigestible knowledge-stones," and "knowledge, taken in excess without hunger, even contrary to desire, has no more the effect of transforming the external life," are examples of his view that education must be specific and relevant to individual needs and must extend through the full course of a lifetime.

Parallel to Nietzsche's colorful 19th century assertion, Gardner cites research that indicates that students exposed to certain core ideas and knowledge could recall what they had learned on a standardized test as long as the question was presented the same way. However, when given a question with the same content or concepts asked differently, students could not see the connection between the two; neither could they apply or synthesize the knowledge. They performed exactly or worse than the student who responded to the question without any prior study or content knowledge necessary for solving the problem.

Here Gardner makes the point that, despite the considerable content knowledge we acquire, our inability to use and synthesize this information leaves us little better off than our ancestors, the cavemen. Gardner acknowledges the need for content learning but also stresses that content knowledge alone doesn't make an educated individual. What is required is the capability to utilize content knowledge to construct the framework for productive thinking. The advantage of self-interest learning is the greater accessibility of content knowledge for synthesizing into that which is useful based on the needs of the individual.

Continuing with Nietzsche: His criticisms of the industrial-aged, state-sponsored, educational systems are interesting but quite harsh, so I will summarize his views with a few quotes for seasoning. First and foremost, the educational system is a state-controlled institution designed to serve the needs of the state. Among the state's needs is a vast population to submit to a small authority group, to organize large numbers of individuals to function as a productive collective, to learn what is essential to be of service to keep the state competitive with other states, and to have a predetermined end of education so individuals can be productive contributors to society and state.

Nietzsche refers to education as one's currency, directly relating to one's economic worth, with the pursuit of money projected as the pursuit of happiness. His perception is that the only interest the state can have in the educational systems is in training obedient and useful citizens; citizens will worship the state before truth, and education will become more about passing examinations than learning or thinking. It is not difficult to see the merits of his position when schools begin the day with the Pledge of Allegiance, have practice courses and shadow curricula designed to pass SAT tests, and model low-income school breakfast programs to compete with the 1960's Black Panther's child recruiting and indoctrination programs of providing free breakfasts for inner city African American children.

Robinson adds to Nietzsche's perception by pointing out that the standardized test industry is a multibillion dollar business that has a vested interest in standardized tests' ability to identify and quantify intelligence. He also indicates that these multibillion-dollar enterprises are fully invested in local, state, and federal governments that regulate educational systems and stress their need to be viewed as the educational assessment experts. Nietzsche's portrait of the industrial-aged educational system is echoed in Robinson's book *Finding Your Element*. Robinson states that the industrial revolution has ended, but the schools and the way of thinking and training produced by that period has not. The needs of the industrial cultures have changed and the assembly line production of education no longer serves the needs of the present or the future.

Robinson is very informative as to the origins and social and political aims of the IQ, SAT and ACT tests. Alfred Binet, one of the founders of the IQ test, created the test to identify students with special needs to develop appropriate methods to assist in their education. The IQ test, in some of its forms of development, became divisive, stereotypical, labeling, and racist. The SAT and ACT are also forms of intelligence testing. John Katzman of the Princeton Review offers the following critique of the testing programs: "What makes the SAT bad is that it has nothing to do with what kids learn in high school. As a result, it creates a sort of shadow curriculum that furthers the goals of neither educators nor students.... The SAT has been sold as a snake oil; it measured intelligence, verified high school GPA, and predicted college grades. In fact, it's never done the first two at all, nor a particularly good job at the third."

Somewhere in all the resource material I have been consuming over the years, I remember the statistic that stated that no one with an extremely high IQ, or what was determined a genius IQ, has ever created or made significant contribution of relevance in any field of study. This echoes Nietzsche's idea that enormous heaps of indigestible knowledge-stones have no effect of transforming the external life. The lack of creative productivity among high IQ individuals indicates that creativity is different from learned knowledge. What is essential, and possibly the genius of creativity, is not the amount of knowledge one obtains, but one's ability to synthesize knowledge. It is Robinson's position that all learning disciplines must be accepted and valued equally, and especially valued the same way math and science is valued in today's schools. In summary, he states, "The emphasis must be placed on creativity, creative thinking and individual thinking. There must also be a connection of education to the world by becoming more experiential, interconnection and show relevance to the learner's lives, expectations and aspirations."

The school system is still an instrument of subjugation that sorts and divides who will go where and who, in the institution's eyes, will succeed according to its prescribed needs, while casting the rest down to servitude. Robinson's book is a refreshing indicator and reminder that schools aren't always successful in their mold casting and many individuals, especially in the arts, succeed despite the educational system. Robinson reassures that "Many who do poorly in school become successful, productive, and creative individuals whose intelligence could not be imagined let alone be measured by the narrowness of our educational system." Robinson makes you aware that it is wrong to presume that the failing student is less intelligent than the passing student. For me his most salient quote is "The question is not how intelligent are you but how are you intelligent." He points out that we as teachers are perfectly capable of failing our students' needs and that their needs are more important than the needs of the state that governs the institution.

Howard Gardner, in his book *5 Minds for the Future*, makes the exact same points. Below is a copy of the 5 points he elaborates in his book.

- In the future, individuals who wish to thrive will need to be experts in at least one area-they will need a discipline.

- As synthesizers, they will need to be able to gather information from disparate sources and put it together in ways that work for themselves and can be communicated to other persons.
- Because almost anything that can be formulated as rules will be done well by computers, rewards will go to creators-those who have constructed a box but can think outside it.
- The world of today and tomorrow is becoming increasingly diverse, and there is no way to cordon oneself off from this diversity. Accordingly, we must respect those who differ from us as well as those with whom we have similarities.
- Finally, as workers and as citizens, we need to be dominant intelligence in a particular discipline able to act ethically - to think beyond our own self-interest and to do what is right under the circumstance.

Gardner feels the points above are critical concerns that must be realized for the education of individuals to evolve and have the capability to maintain pace with the rapidly changing socio-economic demands of the future. What Gardner refers to as discipline Robinson refers to as “finding your element.” My understanding is that each individual has a that acts as an individual’s operating system or processor, much the same as we think of an operating system for a computer, such as Mac or Windows. They are both different operating programs that process information (software) differently. The domain operating systems align with the categories of Gardner’s multiple intelligences.

For example, as an artist, my domain discipline is **visual art**. My operating system/processor is spatial/visual intelligence, which gives me a heightened ability to think in three dimensions, create mental imagery, reason spatially, manipulate images, utilize graphic and artistic skills, and actively imagine. The way the spatial intelligence operating system/processor works is by processing and translating what I read, hear, and experience into visual information or mental imagery, which is further processed and projected into visible content imagery in my artistic work. Words and ideas are associated with images, and it is impossible to think and comprehend without images. I draw information from many source disciplines outside of visual art, but process them in a manner that creates a new and more informed understanding of my own discipline domain.

The act of processing information from one domain for the use in another is what Gardner refers to as synthesizing. The cross-processing of information between domains is the essential catalyst of creativity. Gardner defines creating as an act or product that changes the way others think or act. For example, historians credit Giotto’s modest innovations in perspective and modeling of subjects for having changed the way painters thought and produced visual images on paintings. In later chapters, I will more clearly demonstrate cross-discipline synthesis into a domain discipline and production.

As an example of a visual learner needing a visual mental image for thinking or understanding ideas expressed in words, I will use one of my misconceptions from my youth caused by a word without an attachable image. The word is *granted*, as it is spoken in the phrase “taken for granted”. Since the word granted was spoken and I had never seen it written, I had no visual image to process that word. But I

did have an image to process the word as *granite*, as in "taken for granite". The mistake is a funny interpretation and it did seem like a strange saying at the time, and when I repeated the phrase to others. Because of the similarities in sound, people never caught the change of granite for granted. However, the word granite can make sense if you think of it as solid, immovable, and unchanging, and in that context it is similar to the idea of the phrase of "taken for granted". This is one example of a visual learner's need for image for the understanding of ideas. What can't be seen in the mind can't be understood by the visual learner who by definition learns and processes information through visual information.

Today I refuse to take this misconception for granted as an act of ignorance, but rather as proof of the truthfulness and wisdom of the words of philosopher Aristotle: "The soul never thinks without an image." And this is the beauty of the self-interest education that can refute systemized standards that measure intelligence with a small scale of self-interest needs. We all have had large bites of indigestible knowledge shoveled on our plates for our own good, and we have been told we could not go out to play until we cleaned off our plates, which takes about 12 to 20 years, and many will still have the problem-solving capabilities of a caveman and will soon forget most, if not all, of the forced content learning that had nothing to do with the self interest of the individual.

Summary of the Ideologue

I, like most individuals, entered the educational system with great anticipation and interest in learning. It didn't take long to become lost in the processing system, and education became a desperate search for the light at the end of the tunnel. By contrast, it took a very long time to discover that the educational system was really never looking for me. They were looking for an Einstein replacement model, or some other logical/mathematical discipline-domain model necessary to maintain state supremacy in a competitive world.

In this mass assembly system, many individuals become expendable - collateral damage in the reckless strip-mining search for the cognitive profiles that are most valued and of use to the system. Another view is provided by Davis Guggenheim in his documentary *Waiting for Superman*, with primary speaker Geoffrey Canada of The Harlem Children Zone. Together they question the intended goals of the inner-city educational systems. Their principal question is whether the communities create the failing schools or the failing schools create the repressed community, which in reality is a population containment action rather than the act of education.

They are raising the questions of educational equality as well as looking at elements of the educational system that are failing both communities and individuals. In the 21st century, it is hard to escape the fact that our intelligence and education are certified by educational institutions that are, in turn, accountable to the state. The value labeling of the certified education we receive plays a large role in the destiny of our lives, and yet we enter into and accept the educational system with little thought as to the nature and purpose of the institution we are entering. We enter with a promise of a benevolent government to educate all individuals equally for their good and prosperity and, as Nietzsche would say, for the pursuit of their (economic) happiness.

We enter the system blindly as if we are on a scary carnival ride and we can close our eyes until the ride is over. We continue through the years not seeing, looking, or questioning the process that is put upon us on our behalf. Film-maker and documentarian Leo Hurwitz noted and stated that the middle class is trained to be blind to social injustice. As an eye-opener for social and racial blindness, Hurwitz and Strand created the film *Native Land*. The value of their work is in their perception of reality. Their insight is that you have to work with reality as it is and that it can't be changed. However, you can change how that reality is seen.

The application of this concept to education begins with examining the purposes of the educational system and looking beyond what is taught in our schools and universities that are fully invested in a state-run system. You cannot change the reality of the needs of the state and institutions, you can only see and understand the reality of how they must function in the present moment. Understanding the circumstances and realities of the present moment becomes the guide for how you must operate within the system, either as a student or as a teacher. Institutions will always project how they want to be seen, and not their true nature or reality. It is always up to the individual to reject blind acceptance and open their questioning eyes to assess their individual needs in relation to the expectations placed upon them by institutions.

Life began as self-interest learning to assimilate into the surrounding environment. The institution promoted a forced assembly environment that put individuals in contact with other individuals and situations they would wisely on their own avoid to protect themselves mentally and physically in their own self-interest. It is not the institution that teaches, it is individuals that learn and learn in their own self-interest. I maintain that individuals are responsible for their own education and should not expect any other individual or institution to provide them with the essential knowledge necessary to fulfill their individual needs for their specific intelligence and discipline domain. Each individual has an intelligence and so it is not up to a teacher to teach but to a learner to learn, which requires disciplined, active learning. The more disciplined, specific to interest, and active the learning process is, the more intelligent the individual will be within his/her specific discipline domain. Learning is the sole responsibility of the learner and it is not a task that has a set start and end time. It is a lifelong process that does not have a clear and perceptible path.

“There is in the world one road whereon none may go, except thou: ask not whither it lead, but go forward. Who was it that spake that true word-‘A man has never risen higher than when he knoweth not whither his road may yet lead him?’” Nietzsche.

With Nietzsche in mind, the best advice I can give students seeking guidance is simply “Get Lost”. Einstein is a little more poetic in expressing getting lost in the unknown by stating “the most beautiful experience we can have is the mysterious. It is the fundamental emotion which stands at the cradle of true art and true science.”

