Educating through the Five Cs:
Creativity, Compassion, Courage, Concept and Constraint

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The bridge between knowledge and wisdom is education.[1] The journey across that bridge forms either an educated person or simply a knowledgeable individual.[2] The difference between the two is significant for society and the world in that while the latter only knows the facts the former learns "how to make facts live."[3] An education that bridges knowledge with wisdom seeks to blend the scientist with the artist and the philosopher with the practitioner to create scholars that are engaged citizens. While many politicians and administrators are installing mechanized systems of education in our schools and universities based on standardized testing (i.e., simply knowing facts), there should be a revival for schools on all levels requiring critical thinking as well as oral communication and writing skills that educate for the purpose of fostering innovation. For the value of an education comes from being more than an experience that certifies its students, it comes more from providing a learning environment that fosters innovation and imagination in and outside the classroom. There are five main interconnected elements, similar to the Buddhist philosophy godai (see Figure 1), that create learning environments which nurture an educated person (the Five Cs): concept, creativity, compassion, courage, constraint (see Figure 2). Educating through the Five Cs teaches students "how to make facts live."

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[1] Knowledge, according to *Webster's New Universal Unabridged Dictionary*, is "acquaintance or familiarity (with a fact, place, etc.)…information; the body of facts accumulated by mankind." *Webster's* defines wisdom as "the faculty of making the best use of knowledge, experience, understanding, etc.; good judgment; sagacity." *Webster's New Universal Unabridged Dictionary*, Deluxe 2nd ed.

[2] The idea of the sentence was inspired by Richard L. Derr, "Education versus Developing Educated Persons," *Curriculum Inquiry* 14, no. 3 (Autumn 1984): 301-309.

[3] The idea was derived from Oliver Wendell Holmes who said, "The main part of intellectual education is not the acquisition of facts but learning how to make facts live."

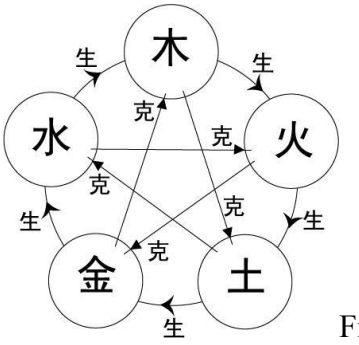

Figure1

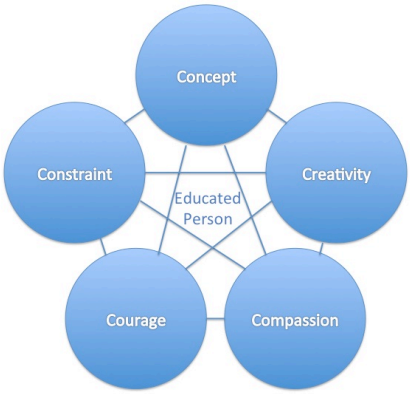

Figure 2

To Know. The first element of the Five Cs, concept, is centered upon building a student's knowledge base. Educating in this first element is about constructing a foundation for learning by teaching a holistic understanding of basic concepts and ideas. It is, however, not just about learning facts. To have holistic understanding is to know concepts by examining and studying them from as many angles, disciplines, processes and perspectives as possible. When it comes to understanding human-induced climate change, for instance, it is important to know the different temperature datasets that each side uses in the debate. It is important because one side uses ground and satellite temperature data whereas the other uses only, in general, one piece of satellite records. More specifically, while the climate change doubters use satellite data demonstrating a cooling of the stratosphere, the believers include both atmospheric (the troposphere is warming) and ground temperature datasets to construct their 'warming' arguments. To know how temperature is defined in a debate about climate change matters for a holistic understanding.

Similarly, the concept of time is key to understanding climate change and the debate. The doubters are correct when they state that natural climate change similar in magnitude to today's world happened in the past. However, the believers are also correct when they argue that our current change in climate is happening much faster than at in any time in Earth's history. In

other words, while the opponents of the theory of human-induced climate change are using time in mainly a historical sense, the proponents define time in a temporal fashion (i.e., historical and durational). Knowing, in this case, how the temperature datasets and time are defined provides a clearer understanding of what informs the different perspectives on climate change as compared to simply being acquainted with the ideas or sides of the debate. It is the difference between being acquainted with an idea and knowing it. In addition, interdisciplinary learning about concepts is necessary. For example, in relation to climate change, wouldn't it be beneficial to both society and Earth if policymakers actually knew the science behind the policies they were devising and voting on?

To Make. The second element, creativity, is focused upon cultivating a creative environment by fostering innovative ways of using concepts and ideas. Students, throughout their education, should be viewed as creators as well consumers of knowledge. Educating has become too much of a passive experience for students where their main activity is taking standardized tests. Students should be allowed and taught to interactively explore and combine concepts and ideas in innovative ways. Innovation is currency in a highly globalized and interdependent world; those who can innovate will elevate their socio-economic standing in the world. Our school environments should be places where time for creative insight (i.e., exploration) is allowed and where creative work (i.e., critical thinking) is instituted.[4] This is exactly what the highest standardized test scorers in the world, the Finns, do. As a recent analysis of Finland's education system concluded, "In contrast [to the United States and the United Kingdom], the central aim of Finnish education is the development of each child as a thinking, active, creative person, not the attainment of higher test scores."[5] It is ironic that the

[4] Stephen Cave, "Waiting for the Muse," review of *Imagine: How Creativity Works*, by Jonah Lehrer, *Financial Times*, 14 April 2012.
[5] Diane Ravitch, "Schools We Can Envy," review of *Finnish Lessons: What Can the World Learn from Educational Change in Finland*, by Pasi Sahlberg, *The New York Review*, 8 March 2012, 19-20.

world's leading country on knowing the facts does not have the focus of its education system on learning the facts; rather, it educates its students primarily about how to make the facts live. In other words, by learning how to make the facts live, one learns the facts better. It is similar to learning a language. A person learns a language better by having to actively live or use it in a foreign country as compared to passively learning it from a book. Overall, this element of the Five Cs is about making something new (i.e., a new solution to an old problem, a new way of understanding or even a new product) out of what we know from books and experiences.

To See. The third element, compassion, is concerned with being aware of how ideas, solutions and actions may affect others. In this element, educating is for alleviating the suffering of ignorance. For we all know the aphorism of where good intentions and ideas can lead without understanding or considering their effects. "The evil that is in the world," according to Albert Camus, "almost always comes of ignorance, and good intentions may do as much harm as malevolence if they lack understanding." A lack of understanding was the difference between China and Korea's recent approach to decreasing traffic accidents in their respective countries. Both countries decided to use countdown clocks at traffic lights in an effort to reduce the number of accidents. While Korea has experienced a dramatic decrease in traffic accidents, China has seen a significant increase. Why the difference? Korea installed countdown clocks during red lights while China placed them for green lights. Korea understood the difference of placing a countdown clock during a red as compared to a green light; while people are more patient waiting at a red light if they know its duration, people speed up to get through a green light if they know its time is about to end.[6] Understanding the context in which an idea is going to be used matters just as much as the idea itself. In this case, the context changed the meaning and understanding of a countdown clock.

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[6] Rory Sutherland, "Perspective is Everything," *TED Talks* (December 2011), available at http://www.ted.com/talks/lang/en/rory_sutherland_perspective_is_everything.html, last viewed on 6 June 2012.

If students have an understanding of the effects that their ideas, solutions and actions can possibly have in the world, they are likely to recognize the responsibilities that are attached with creating such ideas and, therefore, an education in general. Becoming aware of how ideas and solutions can affect people makes students aware of the responsibilities they have as an educated person. And acknowledging the responsibility for our own words, thoughts and actions is something that this world needs a little more of. His Holiness, the Dalai Lama, states it best: "In the present circumstances, no one can afford to assume that someone else will solve their problems. Every individual has a responsibility to help guide our global family in the right direction. Good wishes are not sufficient; we must become actively engaged."

To Act. Inspiring active engagement is the purpose of the fourth element, courage. Once a consensus is formed that an idea is generally heading "in the right direction," a school or university should encourage students and faculty to act on the conceptual innovation. An educated person does not simply sit on new knowledge, he or she does something with that new knowledge. Universities, especially, should incorporate learning-by-doing into the curriculum. Two universities in Pakistan, the National University of Science and Technology (NUST) and Aga Khan University, are learning-by-doing and doing good at the same time. Both universities have decided to incorporate practical training into traditional academic programs such as engineering and the sciences with a focus on disaster prevention and assistance. While NUST is formalizing its program with a plan to provide a master's degree in disaster management, Aga Khan simply requires 20% of a student's academic program to consist of community work. Such requirements make the students

> know what the world out there looks like. They have seen how great the need can be. When disaster strikes, they don't ask: What can we do? No, they ask: Where can we go? Exposure to extreme need breeds compassion…Pakistani practice shows that involvement in direct practical relief can be a great idea. It won't get the university on to the Shanghai or Times Higher rankings, but it actually saves

> people's lives and it solidly cements the university into its surrounding community.[7]

Education should not be a race for higher rankings but a journey into developing educated people. Too many schools in the West have entered the race for higher rankings and abandoned the journey that education ought to be. Such a race is without a destination and, like most races, it usually leads in one direction: a circle.

To Challenge. The fifth element, constraint, is about educators establishing rules and using limitations to foster an environment where students feel safe to learn holistically and think creatively. We traditionally consider aspects of this element as 'thinking outside the box.' In order to think outside the box, however, students need to have knowledge of the box; knowledge of its dimensional limitations. Artists and designers have called such limitations creative constraints. Poets use structure and forms such as in haikus and sonnets to generate new ways of using words while designers have produced everything from dresses to cars using the philosophy of "design through discipline."[8] A recent study from the University of Amsterdam found that "The frustrations of form come with a mental benefit—letting people think in a more holistic and creative fashion…It's not until we encounter an unexpected hindrance—a challenge we can't easily solve—that the chains of cognition are loosened, giving us newfound access to the weird connections simmering in the imagination."[9] Innovators discover ways of generating creativity out of form. Creative constraints provide students with opportunities to gain a deeper and broader understanding of reality. Einstein started within the box of Newtonian physics and then thought beyond that box in ways that changed our perception of reality. "Imagination," according to Albert Einstein, "is more important than knowledge. Knowledge is limited.

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[7] Ard Jongsma, "Pakistan: A Different Twist to Learning by Doing," *University World News Global Edition* (26 June 2011), available at http://www.universityworldnews.com/article.php?story=20110626092910408, last viewed on 6 June 2012.
[8] Jonah Lehrer, "Chains that Set us Free: From Haikus to Videogames, Obstacles Boost Performance," *Wall Street Journal* (26-27 November 2011): C12; John Reed, "Design through Discipline," *Financial Times* (25 May 2012): 10.
[9] Lehrer, C12.

Imagination encircles the world." He called all concepts "the free inventions of the human intellect." An education that uses the free inventions of the human intellect through creative constraints has the real chance of constructively changing how the world defines and learns basic concepts.

Educating through the Five Cs is needed because the current bridge of education is broken. The bridge is broken because it leads to something else other than an educated person. Our system is manufacturing students who know some facts but certainly do not know how the facts live in their everyday world. In educating, we've lost our way from the halls of Raphael's School of Athens and meandered onto the factory floors of mechanized education. Following the Five Cs will, I believe, guide us back to the School of Athens' halls of knowledge and wisdom.

Anyone can start anywhere on the 'education godai' or, in other words, with any of the Five Cs. The Five Cs support and fuel each other and an educator should try and connect each C in as many ways possible. The education godai, in essence, is a creative constraint in itself for educators. A high school in Hawaii, Kailua High School, decided to start with compassion in an effort to reduce violence and bullying. Kailua has woven the Dalai Lama's teachings into its school-wide curriculum since 2004 and has seen decreases in violence and bullying while experiencing increased levels of critical thinking and transfer students into the district.[10] Other ideas for entering the education godai include developing interdisciplinary majors (concept and creativity), incorporating service learning into the curriculum (courage and compassion), and requiring capstone projects that are framed by respected creative limitations (constraints). Furthermore, educators at every level should be required to demonstrate how they are fostering creativity and innovation within their classes as well as between their students and the

[10] "Dalai Lama Attends Spiritual Conference," *National Public Radio* (17 April 2012), available at http://kunc.org/post/dalia-lama-attends-spiritual-conference, last viewed on 6 June 2012.

community. The strength of an education is determined by how unified knowledge and wisdom become. The Five Cs lead to a convergence of the scientist with the artist and the philosopher with the practitioner to make an educated person.