

Creativity and the Transformation of Higher Education: The need for a Black Mountain College Approach

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Abstract

The need for increased creativity in education is currently being proposed in much innovative thinking on higher education as universities are forced to recreate themselves. There are four conditions facing higher education worldwide: alignment, motivation, connection, and direction. Higher education is characterized by a hierarchy of subjects and curricula that are fragmented and lacking connection. Grades and other extrinsic motivators typically used in school tend to dull thinking and block creativity. Today's students are the most technologically connected in history, yet conversation is being sacrificed for connection, compromising self-reflection. We are now moving to a right brain directed Conceptual Age which calls for the ability to make connections that have value.

The need for an education through the arts has never been greater. The teaching example of the experimental Black Mountain College (BMC) of North Carolina from the 1930s to the 1950s is once again relevant with its dedication to educational and artistic experimentation, including cross-disciplinary collaboration and the fostering of individuality. A liberal arts education is again the example for the future as a directive to action, the development of character, and an education for life as an active citizen.

There are specific and concrete things that can be done to emulate the Black Mountain approach individually, institutionally, and inter/nationally to transform curriculum, pedagogy, and assessment. The central position of the visual arts in a liberal arts education cannot be forgotten. Our emphasis must be on creative and active learning in the development of character.

Introduction

There are two ways to assess the formal, institutional process of higher education: it is fine as it is and it needs to be left alone, or it needs to be changed in some way, hopefully for the better. Rather than a problem-solution approach, this paper presents observations of signs and conditions and then offers a forecast. Meteorologists know that gathering clouds, shifts in wind direction and other conditions may signal an approaching new system. Their forecast is intended to provide salient information in advance so that people can be proactive, prepared and protected; so they can not only survive, but thrive.

There are four major conditions facing higher education worldwide: alignment, motivation, connection, and direction. What these conditions are and what they portend is offered. The Black Mountain College approach to education (Summerhill School is a parallel example in England) is discussed and some appropriate actions are suggested.

A distinction is made here between vocational education and higher education. Many technical schools and businesses provide vocational training. This is both helpful and necessary, but it is not the kind of education that is the focus of this paper.

Conditions facing higher education

Alignment

Much like a car with a misaligned tire, higher education pulls to one side - to the sciences. Further, the system is characterized by a hierarchy of subjects and curricula that are fragmented and lacking connection. Sir Ken Robinson (2006) claims that schools kill creativity (his TED.com talk has nearly 15 million views as of February 2013). He states that our current hierarchical educational system is outdated, that it was designed for an industrial and post-industrial culture which is now displaced with a digital information society. That system emphasizes the sciences over the arts, and that even within the arts there is a pecking order with dance being at or near the bottom of every educational system world-wide. Robinson claims that the “winners” in that system are college professors who have mastered their discipline and have been so well educated that their body has become little more than transport for their brain!

The typical brain has ten billion cells with one quadrillion connections (that’s 15 zeros!). These connections are the natural activity and function of the brain. New connections are the tell-tale sign of learning; fragmentation and isolation are its antithesis. Just as scientists have gained insights from mapping the mind, researchers are also beginning to identify and analyze patterns of connection in millions of journal citations. What it reveals is the topography of knowledge. These connections expose emerging areas of study and they reveal common questions being explored by different disciplines and perspectives. This is testimony to the interconnection of knowledge and the need for higher education to abandon a compartmentalized hierarchy of subjects in favor of an integrated approach.

The hierarchy in higher education does not reflect society’s recognition of the arts. Over the past four decades, the US has 30% more writers and 50% more composers and performers (Hawkins, 2001; Postrel, 2003). More Americans today work in arts, entertainment, and design than work as lawyers, accountants, and auditors (*National Cross-Industry Estimates*, 2002). The London Business School and the Yorkshire Water Company have artist-in-residence programs. Unilever UK employs painters, poets, and comic book creators to inspire the rest of its staff. Every subject is important. Every connection is significant. Higher education is strengthened and students are better served when the role of every subject is recognized and celebrated. Higher education cannot afford to continue to be a house divided. The challenge is to find new connections and partnerships between historically distanced disciplines.

In a 2009 TED talk, Liz Coleman, President of Bennington College, explained her concerns about a fragmented, hierarchical approach to higher education:

We have professionalized the liberal arts to the point where they no longer provide the breadth of application and the enhanced capacity for civic engagement that is their signature. Over the past century, the expert has

dethroned the educated generalist to become the sole model of intellectual accomplishment.

This brew—oversimplification of civic engagement, idealization of the expert, fragmentation of knowledge, emphasis on technical mastery, neutrality as a condition of academic integrity—is toxic when it comes to pursuing the vital connections between education and the public good, between intellectual integrity and human freedom.

Coleman calls for a broad-based approach to education which emphasizes problem-solving and creativity. President Lincoln's 1862 letter to Congress aptly expressed a timeless truth that is remarkably applicable today:

The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise—with the occasion. As our case is new, so we must think anew, and act anew. We must disenthrall ourselves, and then we shall save our country.

Lincoln was giving testimony to the adage that continuing to do the same thing over and over again yet expecting a different result is the height of insanity. There seems to be a growing call for transformation of the entire educational process to recognize, encourage, and properly value creativity and to strike a more balanced and integrated approach. The RAND report, "*Gifts of the muse: Reframing the debate about the benefits of the arts*," provides a strong rationale and justification for this kind of arts infused, creativity-rich transformation (McCarthy et al., 2004). "Our nerve ends have been cauterized by schooling. These nerves must be re-sensitized" (Adamic, 1935, in *BMC-Sprouted Seeds*, p.58).

Motivation

Extrinsic motivators are like water in the gas tank. They leave most college students inadequately energized to think and create. Many problems today are complex, shrouded in uncertain rules, and have surprising solutions—if solutions exist at all. This requires right brain, conceptual problem solving abilities. Daniel Pink (2009) examined what motivates this kind of problem solving. He found that traditional business incentives like bonuses and commissions, or their academic equivalent, grades, which are designed to sharpen thinking and accelerate creativity, in fact do just the opposite. Citing research by MIT, Carnegie Mellon, the University of Chicago, and the London School of Economics, Pink states that these traditional incentive structures dull thinking and block creativity. He asserts that these structures are based on assumptions that are outdated, unexamined, and rooted more in folklore than in science.

What is needed, Pink argues, is an incentive structure built more around intrinsic motivation found in autonomy, mastery, and purpose. Autonomy is the urge to direct our own lives. Mastery is the desire to get better at something that matters. Purpose is the passion to do what we do in the service of something larger than ourselves. An example that illustrates the

difference is the traditional extrinsically motivated approach taken to create Microsoft Encarta versus the intrinsically motivated approach that continues to create Wikipedia.

Creativity is problem solving, finding previously unrecognized connections. This process is best fueled by intrinsic motivators that are personally and deeply meaningful. Tapping into these motivators and creating connections takes on new dimensions in today's techno-rich culture.

Connection

Today's students are the most technologically connected in history. Technology is shaping modern relationships: with others, with ourselves, with it. However, conversation is being sacrificed for connection, compromising the capacity for self-reflection. Students are increasingly connected to the world, but alarmingly disconnected from themselves. The Pew Research Center's *Internet and American Life Project* recently reported that "the average size of Americans' core discussion networks has declined... by about one-third" and that "the diversity of core discussion networks has markedly declined" ("Social Isolation", 2009, p.1). Psychologist Sherry Turkle states that "technology helps us feel connected in ways we can control; it provides the illusion of companionship without the demands of friendship" ("Connected but alone?", TED Talk, February 2012). People are increasingly connected, yet increasingly lonely. In her book, *Alone Together*, Turkle (2011) claims that technology promises to let us do anything from anywhere with anyone. But it also drains us as we try to do everything everywhere. We turn to new technology to fill the void. But as technology ramps up, our emotional lives ramp down. As we distribute ourselves, we may abandon ourselves. We shape our buildings, Winston Churchill once said, then they shape us. The same is true of our digital technologies. Technology has become the architect of our intimacies.

Turkle (2011) contends that digital devices offer three gratifying fantasies: we can put our attention wherever we want it to be, we will always be heard, and we will never have to be alone. There is an aggressive, almost fearful, avoidance of the capacity for solitude, and technology is a willing accomplice. It is almost as if we are driving at break-neck speed, connected to the world via GPS technology, but disconnected from our own sense of direction. We talk, Twitter and text to avoid the quiet confrontation with our own unexplored thoughts. The antidote is to build greater self-awareness with technology, with others, and with ourselves (see Case, 2011). An education must be "training in assuming responsibility....The first step in the process is to make the student aware of himself and his capacities; to know himself" (Adamic, 1935, in *BMC-Sprouted Seeds*, pp.58-59).

Socrates, in Plato's *Apology*, said, "The unexamined life is not worth living." We are unable to grow toward greater understanding of our true nature unless we take the time to examine and reflect upon our life. This is the idea behind cultural rituals like the Aboriginal Walkabout and the Native American Vision Quest. Examining our life reveals patterns of behavior. Deeper contemplation yields understanding of the subconscious programming, the powerful mental software that runs our life. Unless we become aware of these patterns, much of

our life is unconscious repetition. For real change to happen, we need to experience a discomfort that awakens us to an “oh, this is me and I never saw or felt that part of my self before” type of experience, an ‘a-ha’ moment, a moment of self-discovery. It’s about finding meaning in the midst of vast amounts of information. It’s about finding the connections that transform information into useful and valuable knowledge (see, for example, Topol, 2012).

The very nature of this digital age is ones and zeros, off or on, yes or no. The digital architecture is the antithesis of middle ground, shades of gray, nuance, discovery and ambiguity. Technology is a tool that can be used for good or ill. It can insulate and isolate, or it can provide access to and connect us with people, places, and ideas in ways that would not otherwise be possible. The choice is ours.

A few examples of the kinds of access technology affords include the World Wide Web, TED.com, Duolingo, Google Earth, Google Art Project, Google “fill-in-the-blank”, and digitized books. Some examples of its power to connect include: Facebook, Twitter, LinkedIn, Pinterest, Ancestry.com, Virtual Choir and the list goes on. People expect to be able to work, learn, and study whenever and wherever they want. Technology is a key connecting tool in the ongoing self-education process of life-long learning. The challenge is to find, understand, and effectively use the connections that build greater awareness of self and others.

Direction

Our society has evolved from an Agricultural Age to an Industrial Age to the Information Age. It is akin to our evolving modes of transportation from walking, to horse and buggy, to the automobile. But now we are moving into another Age, a Conceptual Age. Like fantasies of jetpacks and flying cars, the sky is the limit. We used to look at outdated maps that roll down in front of a black board. Now, we explore the world through Google Earth.

The educational environment used to be desks, papers, pencils and chalk dust, now it is Facebook, YouTube, iPhone, share, like, and connect. It isn’t just the tools, but the way they are used that is important. Students are not only reading textbooks, they are creating them. If higher education is resistant to rather than leading this evolutionary transition, it will be misdirected, traveling down an outdated dead-end street.

Daniel Pink, author of *A Whole New Mind*, promotes the notion that we are now moving from an Information Age of left brain directed knowledge workers to a new right brain directed Conceptual Age. If a picture is worth a thousand words, the right brain is the picture; the left brain is the words. Knowledge workers in the Information Age are people who get paid for putting to work what one learns in school rather than for their physical strength or manual skill (Drucker, 1957). Conceptual Age workers will be right brain directed, more holistic in their approach, seeing all the elements of a situation and understanding what they mean (Carlson, 2012). (See, for example, the Candle Problem at <http://www.futilitycloset.com/2012/04/19/the-candle-problem/>). Some key catalysts and indicators of this approaching Conceptual Age are: abundance, Asia, and automation.

Today more people are liberated by prosperity, but they are not fulfilled by it. *Abundance* is forcing businesses to differentiate their products and services by making them physically beautiful and emotionally compelling. Conceptual Age software will focus on novelty and nuance to remain competitive and appealing.

Asia represents outsourcing. Developing nations are producing millions of extremely capable knowledge workers who can and will work for a fraction of the pay US and UK workers earn. For example, 25% of US jobs in computer, software, and IT have moved overseas. The UK has lost 25,000 IT jobs and 30,000 finance positions to India and other developing nations in the last decade (Monbiot, 2003.) It is no longer enough to make a useful, quality, affordable widget. To capture the market today, the widget must also be aesthetically pleasing and even emotionally compelling.

Automation is another dimension of outsourcing and displacement. New technology is beginning to replace some left brain directed work (Grobart, 2012). As management expert Tom Peters put it, “software is the forklift for the mind.” For example, humans can write about 400 lines of computer code per day, but Appligenics software can do it in less than a second (“Software that write software”, 2003). TurboTax is helping millions avoid accountants and the IRS. WebMD is one of more than 23,000 medical Web sites providing decision trees for simple self-diagnosis. Other Web sites offer customizable, downloadable legal forms at a fraction of the cost of attorney fees. And the list is growing rapidly. If we are not outsourcing to Asia, we are outsourcing to automation which gives rise to even more abundance.

The lines are blurring between living and learning. Technology is enabling us to bring the resource that is the world into the classroom, and the classroom into the world. Nearly every system of public education on earth is in the process of being reformed because of economics and culture. Nations are trying to educate people to find work and create wealth while taking advantage of globalization without losing their own identity (Robinson, 2009). The mark of an educated person in a Conceptual Age is their ability to make connections that have value. They look at problems in many different ways, make their thought visible, produce many ideas, make novel combinations, and think metaphorically (Michalko, 1998).

What does this portend?

The process of higher education today is generally misaligned, mismotivated, misconnected, and misdirected. High-concept abilities are being called on to supplant high-tech abilities. Or rather, our high-tech abilities have matured sufficiently that our attention can now turn to other things. We are transitioning to a Conceptual Age (See Mark Treadwell, *The Future of Education*). We can now afford to look at the proverbial forest rather than the trees. We can now begin to develop our high-concept skills: to create artistic and emotional beauty, to detect patterns and opportunities, to craft a satisfying narrative, and to learn to combine seemingly unrelated ideas into a novel invention. In short, we can develop our abilities to design, the hallmark of the Conceptual Age.

Manifestations and the significance of design are taking hold, sometimes on the edge of our awareness. We are at a point where we know what Times New Roman is and how it differs from Arial Narrow and Courier New. And we may even secretly or boldly have our own favorite fonts. In fact, the US State Department made a change in their default font from 12-point Courier New to 14-point Times New Roman (Vanderbilt, 2004). Their rationale was that the new font takes up almost exactly the same space on the page and it offers a crisper, cleaner, more readable and modern look.

Design has direct and important impacts. Improving the design (the aesthetic) of medical settings helps patients get better faster. An aesthetically pleasing environment improves test scores and it helps us feel better about ourselves and our work. Simply appreciating design also has important benefits. The Yale School of Medicine found that by studying paintings their students sharpen their ability to notice subtle details about a patient's condition. Betty Edwards, author of *Drawing on the Right Side of the Brain* (2012), said drawing is not really difficult; seeing is the problem.

Christina Alvarez is the principal of a Charter High School for Architecture and Design (CHAD) in Philadelphia, Pennsylvania. Founded in 1999, it is the first tuition-free public school using design to teach core academic subjects. It is one of many CHAD schools springing up across the US. Alvarez described design as "a modern version of a liberal arts education..." (in *A Whole New Mind*, p. 74). Paola Antonelli, curator of architecture and design at the Museum of Modern Art stated, "Good design is a renaissance attitude that combines technology, cognitive science, human need, and beauty to produce something that the world didn't know it was missing" (in *A Whole New Mind*, p. 72). Consumers now spend nearly as much money on decorative faceplates and ring tones for their cell phones as they do on the phones themselves. The business of design is giving the world something it didn't know it was missing.

Design is an expression of creativity. Ken Robinson defines creativity as "the process of having original ideas that have value" (2009, p.67). One example of this is Farlow's Scientific Glassblowing in California. They make copies of human organs out of glass that are then used by doctors and medical-device manufacturers. Wade Martindale, the company's production manager states, "It's art, it's handcrafted and it's used for something that could potentially save someone's life" (Bradley, 2013). The 'a-ha' moment came when he discovered he could make a metal medical part out of glass and that he could do so at a fraction of the cost.

Design involves making original and meaningful connections. It involves pattern recognition, analogous thinking, access to ideas and information, and a willingness to fail. It often involves expressing those connections in unusual and unique ways. To do otherwise is to perpetuate misconnection at best or disconnection at worst. Educators have a responsibility to heed the call for transformation and to do their part to promote creativity.

There are three major processes in education: curriculum, pedagogy, and assessment. Most reform movements focus on the curriculum and assessment. In his book, *The Element: How finding your passion changes everything*, Robinson (2009) claims that the most powerful method of improving education is to invest in the improvement of teaching and the status of

great teachers. The key to transforming education, he states, is not to standardize education but to “personalize it such that each child can naturally discover their true passions” (p. 238). Connection, creativity, design, personalization, passion -- these are the essential ingredients of a transformed and transformative education. If we are looking for a transformative educational process that recognizes, encourages, and properly values creativity, we may find clues in places that achieved those goals. One such place is Black Mountain College (BMC).

The Black Mountain College Approach

Founded in 1933 in North Carolina, BMC created an unconventional and uninhibited approach in which the study of art was considered central to a liberal arts education. The purpose of the college was to educate the whole person with an emphasis on the role of the arts and creative thinking. The college struggled financially as much as it excelled creatively. Its interdisciplinary approach attracted a faculty that included many of America's leading visual artists, composers, poets, and designers. Eventually, the student enrollment and available funds dwindled until the college was forced to close in 1956. In its short life, BMC produced some of the most innovative thinking in America.

BMC student Manvel Schaffler (1946) testified: “The way the school was run was a fascinating model and one that more schools today should adopt” (*BMC-Sprouted Seeds*, p.220). Other students claimed that “it was the most amazing year of my life” (James Hall, 1940, in *BMC-Sprouted Seeds*, p.82), “it was a total experience” (I. S. Nakata, 1940, in *BMC-Sprouted Seeds*, p.89), “it was the most intense several months of my life, and the happiest...It was an amazing time” (Robert Oppenheimer, 1942, in *BMC-Sprouted Seeds*, p.106), “I know that every moment there seemed alive in a way that few have since” (A.G.,1943, in *BMC-Sprouted Seeds*, p.126). But what happened there? How did BMC address the conditions of alignment, motivation, connection, and direction? Short of giving a recipe, what are some of the ingredients of the BMC experience?

Alignment

Based on *Black Mountain College-Sprouted Seeds*, and the film “Fully Awake: Black Mountain College” (starring John Cage and Buckminster Fuller; directed by Cathryn Davis Zommer and Neeley House, 2008), BMC emphasized art, design, discovery, and creativity, along with math and science. It was a liberal arts school with the visual arts at its core. When he arrived in 1933, the drawing and painting teacher at BMC, Josef Albers, emphasized that, “A general education...makes you really learn to observe visually” (Josef Albers, 1933, in *BMC-Sprouted Seeds*, pp.34-37). Students spoke of how Albers,”Asked us to look...It was exciting. He asked us to figure out what made each idea work...to trust our own perceptions (teacher Mary Gregory, 1941, in *BMC-Sprouted Seeds*, p.99). Nothing escaped the scope of art, not even when grading a dirt road: “There is nothing that is not commented on, questioned. The angle the rake is held, the mixture of stone and dirt, the slope towards the embankment. Had I ever seen a dirt road before? When we finished, the piece of road is ours” (student A.G., 1943, in *BMC-Sprouted Seeds*,

p.123-124). Josef and his wife, Anni Albers, did not teach art, they taught life and art was their means. John Ruskin, a leading English art critic of the Victorian era, wrote: “The greatest thing a human soul ever does in this world is to see something, and tell what it saw in a plain way....To see clearly is poetry, prophecy and religion, all in one” (1872, p.268). BMC was not about isolated examples or instances of art within the confines of a classroom, but seeing all life as art. The 1933 *Black Mountain College Catalogue* described how the individual was fostered:

Dramatics, Music, and the Fine Arts, which often exist precariously on the fringes of the curriculum, are regarded as an integral part of the life of the College...through some kind of art-experience... the student can come to the realization of order in the world; and, by being sensitized to movement, form, sound, and the other media of the arts, gets a firmer control of himself and his environment than is possible through purely intellectual effort.

What distinguished BMC was the level to which the arts were elevated and the idea of using creative experiences to enhance any area of professional or academic interest. Every student experienced the arts, whether they were an aspiring artist or biologist. The practice of art was the best way to internalize the importance of method and process over substance and results. At BMC, education was a preparation for life - to learn to make intelligent, discriminating decisions and develop a capacity for initiative and independence. John Andrew Rice, one of the founders of BMC, upheld art as a means of achieving this, as artists sought to expand understanding with creativity and experience. Education was an active process, not the passive absorption of information. As Rice stated: “Nearly every man is a bit of an artist, at least potentially a person of imagination, which can be developed... There is but one way to develop... to teach method, not content; to emphasize process, not results” (Adamic, 1936, p.518).

Art is a discipline that helps one to see, to learn, to listen, and to make choices. M.C. Richards, a teacher at BMC, claimed that: “Wherever a few individuals are gathered together in courageous creativity...integrating art with thinking and community work, there may be another epiphany of whatever was shone in the face of BMC” (M.C. Richards, *BMC-Sprouted Seeds*, p.145). Thus, one of the oldest approaches to learning, the Socratic Method, fostered a progressive education movement at BMC that led to art that was considered both rebellious and brilliant in the 20th century.

Motivation

Students at BMC were self-motivated and responsible for their own education. They could choose to attend class sessions or not. They could opt to take study breaks or not, and to test or not, “Students were responsible for planning their own study programs” (student Evelyn Swann, 1946, in *BMC-Sprouted Seeds*, p.198). Students decided how to spend their leisure time. These choices and their ramifications were all under the watchful eye of the faculty. But this encouraged a curiosity for learning for its own sake. A student claimed that: “Everyone was

willing to learn. Most of us were learning things we would not have learned otherwise” (student Alan Sly, 1936, in *BMC-Sprouted Seeds*, p.66). Kenneth Noland asserted that, “There was an unspoken and unacknowledged attitude of always being...alert to anything that happened around you” (student Kenneth Noland, 1946, in *BMC-Sprouted Seeds*, p.214). Faculty and students alike shared responsibility for the governance of the college: “Students were included on the governing board. It was asked from the start that everyone who joined the community be a contributor (teacher Mary Gregory, 1941, in *BMC-Sprouted Seeds*, p.99). For you were: “Part of the community in every way. It was up to you how much or how little you wished to participate” (student Hannelore Hahn, 1945, in *BMC-Sprouted Seeds*, p.169).

Connection

Learning, coaching, and mentoring took place as much or more outside the classroom as it did during in-class sessions for, “Boredom did not exist at BMC. School was never out (student Hannelore Hahn, 1945, in *BMC-Sprouted Seeds*, p.170). Everyone was geared to teaching and learning all the time, not as some formalized activity occurring only in class for a specified time. Evening and weekend dances and sing-alongs were an integral part of the educational experience. A BMC teacher stated that: “One teacher to every three students...[provided] intimacy between student and teacher...[with a lot of] lively interchange (teacher Eric Bentley, 1942, in *BMC-Sprouted Seeds*, p.112).

Everyone at BMC participated in a program of manual labor, whether tending the farm, or constructing a building: “The BMC way of life is a way of endless activity.... Instead of sports there is farm work, maintenance work, building, typing, entertaining...a steady stream of lectures, concerts, and meetings (teacher Eric Bentley, 1942, in *BMC-Sprouted Seeds*, p.112). Students and faculty washed dishes together. They shoveled coal together. They got their hands dirty together. They sweated together. They faced and solved problems together. Faculty members were constantly challenging students to look at things in ways they had never imagined: “BMC was all about self-discovery, working at your own pace, and taking responsibility for the person you were and would become. People went to BMC and left with a new understanding of life and what their place in life was” (“Black Mountain College” blog, 2011). Students were asked to divorce old assumptions and to question everything. They were invited to risk failing, because to fail means that an untried attempt must be ventured. And that, too, was an integral part of the educational experience at BMC. As teacher, Anni Albers stated: “Most important to one’s own growth is to see oneself leave the safe ground of accepted conventions and to find oneself alone and self-dependent. It is an adventure which can permeate one’s whole being (Anni Albers, 1938, in *BMC Bulletin* 5). This was reiterated in the BMC Catalogue:

A student usually begins his studies by exploring in the various areas of learning and at the same time he begins to discover his own inclinations, abilities and weaknesses... After this period of general orientation and self-discovery, usually

two years, the student limits himself to a field for concentration (*BMC Catalogue 1943-44*, pp.5-6).

Consistent throughout the BMC experience was an emphasis on process over the final result. The primary focus of the process was self-discovery.

Direction

Black Mountain embodied a way of thinking and doing that was holistic and conceptual. The result was self-discovery: “the combination of intimacy, spontaneity, avant-garde, and seriousness, high standards, and commitment. We were making something new together” (teacher M. C. Richards, 1945, in *BMC-Sprouted Seeds*, p.171).

Suggested Actions

In this climate of educational, intellectual, and professional change, a liberal arts education is essential and a BMC approach is again innovative. Business schools are turning to the arts for creative thinking, even setting up art studios to encourage creativity in students. Medical schools are turning to drawing and poetry to encourage greater empathy and creative thinking in the medical field. The arts and creative expression have far-reaching benefits individually and collectively (McCarthy et al., 2004). Pink (2005) indicates how important it is that our schools help reverse the decline in creativity, but that not enough teachers are able to pose problems to their students that require reflective solutions and are not asking enough questions in school that prompt creative endeavor.

Going forward, what can be done to effect the transformation Sir Ken Robinson and so many others are calling for? How can we begin to insert a little (or a lot) of the BMC experience into higher education? There are specific and concrete things that can be done individually, institutionally, and inter/nationally to transform curriculum, pedagogy, and assessment. The few suggestions offered here are just a part of the process by which we can, and must, disenthral ourselves and begin to rise with the occasion, to transform higher education to prepare ourselves and our students for the Conceptual Age.

Curriculum

Individually. We can more fully embrace teaching strategies and assignments that tap into the intrinsic motivators of autonomy, mastery and purpose. We need to challenge students to use technology to connect with others, to make unique connections, but also to engage in reflection, introspection and self-discovery.

Our emphasis should be on design and process, on conceptualizing and making new connections. We need to give students ample practice looking at problems in many different ways. They must learn how to make thought visible (see the *ASIDE blog: Innovation Design in Education* at <http://theasideblog.blogspot.com/>), to produce many ideas, make novel combinations, and think metaphorically.

Institutionally. Institutions can break down disciplinary barriers and abandon turf wars. Instead, institutions can encourage cross-disciplinary and inter-disciplinary team teaching. Curriculum can be restructured as problem-centered and specific to the local community and more directly responsive to the public good. Design can be incorporated throughout the curriculum and CHAD schools can serve as a model. Creative thinking must be as valued as facts. Classes focusing on the creative process must be reinforced.

Inter/nationally. Research grants and similar funding can be made available for collaborative efforts between the Arts (National Endowment for the Arts) and Humanities (National Endowment for the Humanities) and the Sciences (National Science Foundation). One example of this is the Artist and Writers Program in the Office of Polar Programs and the National Science Foundation. Accreditation agencies can promote cross-disciplinary curricula and problem-based teaching and learning. Comparable cross-disciplinary collaborations of international funding agencies are also called for.

Pedagogy

Individually. We can ask students to examine themselves and their roles and responsibilities in relationship to the content we teach. We can call on them to construct their own narrative to describe the same. We can seek new ways to tap the intrinsic motivators of autonomy, mastery, and purpose. Some simple assignments might include personal collages in which students express their view of these relationships, writing assignments using only primary sources, Sketchbooks and the like. Any approach that encourages critical and creative thinking is appropriate. Some examples include the ‘Six Hats’ method of lateral thinking, the Syntectics method which promotes the use of metaphor and analogy, accelerated learning using visualization to improve memory and to make creative connections, and Mind Mapping (Buzan, 2011) which aids in seeing patterns in ideas. Another simple approach is to use a labyrinth walk as a reflective tool and to assist innovative thinking (Eich, 2008).

Institutionally. At an institutional level, there are many ways to provide students with a BMC experience. Several institutions could form a coalition that supports a shared BMC. Students at participating institutions could complete an optional or required practicum at the consortium BMC for a term or a year. Faculty at participating institutions could submit an application to teach there in a competitive vetting process. Alternatively, institutions could create their own Black Mountain-type college at their university. Some examples of this can be found in University Without Walls at the University of Massachusetts Amherst (<http://www.umass.edu/uww>) and New York University’s Gallatin School of Individualized Study (<http://gallatin.nyu.edu>).

Faculty development needs to train and re-train teachers in methods for personalizing the educational experience. Faculty must learn how to effectively harness technology to accomplish that end.

Inter/nationally. Non-traditional and supplemental institutes for creativity, discovery, and invention should be supported. One example is (www.techshop.ws). There are currently

seven TechShops in five US states with three more in the planning stage. These centers marry problem-solving, creativity and design and they are a mecca for self-motivated people. Another example is the Creativity Workshop (<http://www.creativityworkshop.com/>). Established in 1993, the organization is dedicated to teaching individuals and groups about their own creative processes. They use a progression of exercises and techniques that explore sense perceptions, free-form writing and drawing, associative thinking, mapmaking, constructive daydreaming, memory, collage, and photography. Based in New York City, there are 11 workshops scheduled for 2013, seven of which are at international locations in Europe and the Middle East. One more example is The Rural Studio. This undergraduate project at Auburn University in Alabama utilizes found materials to build homes and community structures designed to improve the living conditions in rural Alabama, while imparting practical experience to architecture students. Similar programs can be found at Wood Studio in Finland and Die Baupiloten in Germany.

Assessment

Individually. The process should be evaluated with as much weight as the end product. Amabile's Consensual Assessment Technique, or CAT, (1982, 1996) should be used to assess creativity in its cultural context.

Institutionally. Learning assessments have changed very little from assigning grades in subject areas like reading, writing and arithmetic to literacy measures of reading, writing, and quantitative literacy. Institutional Quality Enhancement Plans and other assessment strategies need to emphasize conceptual competencies including students' ability to realize, relate, and create connections that have value.

Inter/nationally. In the US, the Department of Education should initiate and support the formation of a National Advisory Committee on Creative and Cultural Education. That is exactly what the UK did in 1999. Their resulting report, also known as the Sir Ken Robinson Report, sought to “make recommendations on the creative and cultural development of young people through formal and informal education: to take stock of current provision and to make proposals for principles, policies and practice” (NAAACE report, 1999, p.2). Such an effort would be an intentional step in the journey to reaffirm the importance of creativity and ways to promote its growth.

The Organization for Economic Cooperation and Development (OECD) administers the Programme for International Student Assessment (PISA) to evaluate education systems worldwide every three years by assessing 15-year-olds' competencies in the key subjects: reading, mathematics and science. To date, more than 70 countries and economies have participated in PISA (see <http://www.oecd.org/pisa/>). Worldwide, a PISA-like assessment could be used to track student proficiency with Conceptual Age skills.

Conclusion

A BMC approach to education is needed because we are whole beings – mind, body, and soul. We move, jump, see, taste, and wonder. Our lives are not compartmentalized into a portion of

botany, a portion of history, and a portion of art. And to offer one portion detached from the others removes important context and diminishes meaning. What is called for is a holistic approach. A BMC education is also needed because our true motivation comes from within. Intrinsic motivators positively correlate with creativity. With today's overreliance, even in Liberal Arts Colleges, on course texts, memorization, credits, attendance, grades, course outlines and general "spoon feeding", the infusion of a BMC approach seems critical. As we assess our teaching and student learning, our emphasis must be on the experience, not just on the result. The central position of the visual arts in a liberal arts education cannot be forgotten. Our emphasis must be on creative and active learning in the development of character. Students must be allowed to take risks, make mistakes, fail, create, and design, to realize their full potential. Creative thinking must be as valued as facts. Classes focusing on the creative process must be reinforced to foster independence and creativity. We must return responsibility to students for their own education. Education is a means and the end is the individual.

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