

The Importance of Creativity on Our Global Society and in Today's Educational System

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“Much of our educational system is geared toward teaching people to find “the right answer.” By the time the average person finishes college, he or she will have taken over 2,600 tests, quizzes, and exams. The “right answer” approach becomes deeply ingrained in our thinking. This may be fine for some mathematical problems where there is in fact one right answer. The difficulty is that most of life isn’t that way. Life is ambiguous; there are many right answers—all depending on what you are looking for. But if you think there is only one right answer, then you’ll stop looking as soon as you find one.”¹

Historical and Contemporary Views of Creativity

Creativity can be traced back to the Renaissance time period when Michelangelo, painter of the ceiling of the Sistine Chapel, was viewed as divine. That is, some critics saw Michelangelo’s work as the prototype of a human being who was able to create something that could previously only thought to be completed by supernatural beings, such as God. During the Renaissance period, the concept of creativity started to be applied to humans in the Romantic movement of the late 18th and early 19th century. The poets and artists of this time period were

¹ Roger von Oech, “A Whack on the Side of the Head: How You Can Be More Creative,” (New York: Warner Books, 1983).

considered individuals who could provide new symbolic expressions or could think differently from others. In other words, these individuals were considered creative.²

During the past fifty years, some scholars have engaged in a rigorous study on the concept of creativity, beginning in the area of psychology with Freud, and later extending to the areas of sociology and economics.³ J. P. Guilford catalyzed the study of creativity during his presidential address to the American Psychological Association in 1950 when he challenged his colleagues to study this important but neglected field. By Guilford's count, only 2 percent of the entries from the Psychological Abstracts focused on creativity.⁴ In addition to Guilford⁵, several additional individuals emerged as leaders in the study of creativity, including Barron⁶ and Torrance⁷.

Guilford and Torrance, both psychometricians, believed divergent thinking was the basis for creativity⁸ and that creativity could be measured⁹. Consequently, Guilford and Torrance focused on creating tests identifying the personality traits of an individual that would enhance creativity. They also developed tests that would measure creativity in the same way that intelligence was being measured, through IQ tests,¹⁰ and tests that assessed divergent thinking.¹¹

² Mihaly Csikszentmihaly, "Flow and Creativity", *The NAMTA Journal* 22, no. 2 (Spring 1997): 60-97.

³ Tori Haring-Smith, "Creativity Research Review: Some Lessons for Higher Education," *Peer Review* 8, no. 2 (Spring 2006): 23-27.

⁴ *Ibid.*, 23.

⁵ *Ibid.*, 24.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ D. Beattie, Creativity in Art: The feasibility of assessing current conceptions in the school context. *Assessment in Education: Principles, Policy & Practice* 7, no. 2 (2000): 175-192.

⁹ Robert Donnelly, "Fostering Creativity within an Imaginative Curriculum in Higher Education," *Curriculum Journal* 15, no. 2 (2004): 155-166.

¹⁰ Haring-Smith, "Creativity Research Review: Some Lessons for Higher Education," 24.

¹¹ Robert Sternberg, "The Nature of Creativity," *Creativity Research Journal* 18, no. 1 (2006): 87-98.

Even today, the Torrance Test of Creative Thinking remains the most widely used assessment of creative talent.¹²

Creativity remained a topic of relatively low interest in both educational and psychological research until the later part of the twentieth century, when researchers began studying how to stimulate creative individuals and how their environment impacted their creativity.¹³

Extensive work has been done by Amabile on the importance of giving students and faculty as much creative leeway as possible. Her research, and the research of others, has found when individuals are personally committed and intrinsically motivated, these individuals produce better work.¹⁴ For example, in 1990, Csikszentmihalyi found creative individuals who are intrinsically motivated choose to pursue more difficult and challenging tasks. Researchers have increasingly focused on the social and environmental factors which promote or limit an individual's creative activity.¹⁵

Defining Creativity

The definition of creativity varies between researchers; however, one fact is agreed upon, creativity is difficult to define. J. P. Guilford, a psychologist in the 1950's, as well as other psychologists during this time period, tended to see "creativity exclusively as a mental process."¹⁶ Sternberg¹⁷ contended creativity overlaps with intelligence, cognitive style, and

¹² Ibid., 88.

¹³ Haring-Smith, "Creativity Research Review: Some Lessons for Higher Education," 23-27.

¹⁴ C. Backes, "Motivating Students," *The Technology Teacher* 54, (1994): 9-12.

¹⁵ Mihaly Csikszentmihalyi, "Implications of a Systems Perspective for the Study of Creativity," In *Handbook of Creativity*, ed. R. J. Sternberg (Cambridge: Cambridge University Press, 1999), 313-335.

¹⁶ Ibid., 313.

personality / motivation. The intellectual dimension of creativity deals with problem finding, and problem definition. Boden¹⁸ defined creativity as producing something that is novel or different. He also said in order for this new idea to be interesting, it needs to be intelligible. Court¹⁹ offered another definition stating that the ability of human intelligence helps individuals to use their imagination and produce original ideas and solutions.

This author favors the viewpoint of the well-known and well-written philosopher, Csikszentmihalyi. Writing such books as *Flow* and *Creativity*, he did not believe people thought in a vacuum, but were influenced by a triadic relationship between their society (field) and the environmental factors he identified as culture (domain), and the individual's personal background and experiences.²⁰ In other words, a triadic relationship of the individual, the interaction of a stable cultural domain ensures the perpetuation of the idea, and the field comprised of gatekeepers, collectively create an embedded social system.

By this way of thinking, attributions of what is creative are relative and are grounded in social agreement. This relationship, while seemingly somewhat complex, is governed by the belief that creativity is the result of a change in the rules honored by the culture. These rules are important because without rules there cannot be exceptions, and without the exceptions there cannot be novelty, and novelty is what society and the culture seek and what is used to document creativity. (See Figure 1).

¹⁷ Robert Sternberg, "What Is the Common Thread of Creativity?" *American Psychologist* 56, no. 4 (April 2001): 360-362.

¹⁸ M. A. Boden, "Agents and Creativity," *Communications of the ACM* 37, no. 7 (1994): 117-121.

¹⁹ A. Court, "Improving Creativity in Engineering Design Education." *European Journal of Engineering Education* 23, no. 2 (1998): 141-150.

²⁰ Mihaly Csikszentmihalyi, "Implications of a Systems Perspective for the Study of Creativity," In *Handbook of Creativity*, ed. R. J. Sternberg (Cambridge: Cambridge University Press, 1999), 313-335.

The triadic relationship begins with the individual identifying a pattern that can be broken, a new way to use an already existing concept or product or by taking the influence from society and tweaking it so it has a fresh new look. It is important that the change be strong enough that society (the field) will see a significant difference and the field of gatekeepers will accept this new version. However, if the difference is so obscure, then the new idea or the novelty presentation will be rejected and will be sent back to the individual for reconsideration and revamping.

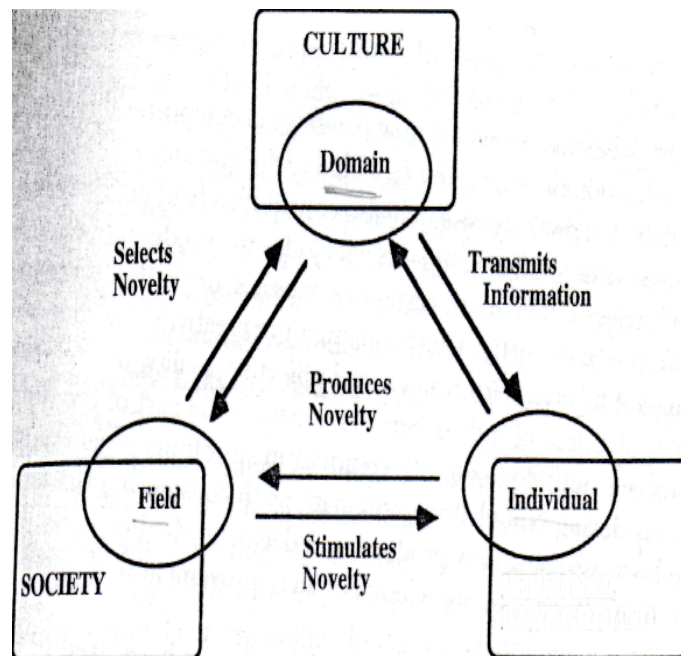


Figure 1---Csikszentmihalyi's Triadic Relationship²¹

²¹ Mihaly Csikszentmihalyi, "Implications of a Systems Perspective for the Study of Creativity," 315.

However, if the difference is so obscure, then the new idea or the novelty presentation will be rejected and will be sent back to the individual for reconsideration and revamping. The triadic relation continues once society has accepted this new idea and it is offered to the culture or the domain. It is not always immediately obvious if the culture will accept the new idea, but the one constant Csikszentmihalyi identified, was that creativity occurs when a person makes a change in the domain, and that change is transmitted through time.

Creativity, Society and Education—The Direction Now and In the Future

The Phases of the Creative Process.

The creative process, according to Csikszentmihalyi,²² has four distinct phases. The first phase is the preparation phase. It is in this phase, the process of thinking about the problem begins. Though the problem may be very vague in this phase, the individual that is working on the problem recognizes something is wrong or it just does not fit.

The next phase is the process of incubation. During this phase, the individual has moved beyond the thinking process to the level where the sub-conscious has started to make connections and the degree of awareness increases. Once one of these sub-conscious connections is strong enough, it moves back into the consciousness and the individual knows what can be done about the problem. At this point an eureka moment or the insight phase has occurred. In other words, the picture of what is possible starts to come together.

The final phase is the elaboration phase. During this phase, the insight that has come to light is formulated in such a way that it can be shared and understood by other people. It is important the individual recognizes the process of going from preparation, to incubation, to

²² Mihaly Csikszentmihaly, "Flow and Creativity", *The NAMTA Journal* 22, no. 2 (Spring 1997): 60-97.

insight, to elaboration is not a linear process but a cyclical one that may repeat itself several times over before the final product is produced.

The Problem-Solving Process

This cyclical or problem-solving process allows students to demonstrate their mastery of the techniques they have learned. However, many college graduates state while they can do the assigned tasks, they are unable to solve a problem where new paths are combined.²³ The process of problem-solving has seven inter-connective processes. While each of these processes does not operate sequentially in the solution phase, they do work collaboratively to help lead to a new representation of the problem. (See Figure 2).

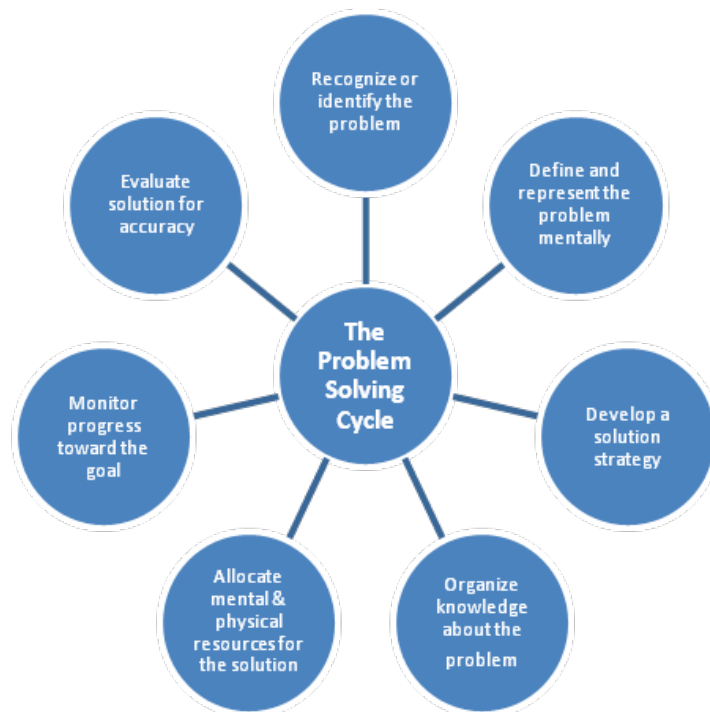


Figure 2---The Problem Solving Cycle

²³ J. P. Guilford, "Creativity", *The American Psychologist* 5, no. 9 (September, 1950): 444-454.

There are two classes of problem solving, well-defined problems and ill-defined problems.²⁴ The first category consists of well-defined problems where the goals, the path to the solution, and obstacles to solutions are clear based on the information given. These problems are easy to recognize, define, and represent. Research has focused on this type of problem.

The second class of problem-solving is the ill-defined problem. This type of problem lacks a clear path to the solution and the solution must be determined by the problem solver. This type of problem cannot be easily defined and needs to be broken down into a set of smaller components. The following sections will look at the balance the educational system has between the well-defined and the ill-defined problem, the value today's educational system places on creativity and how the educational system that is currently in place impacts the learning and future opportunities of today's students.

The Benefits of Balancing Standards and Creativity

According to Daniel Pink,²⁵ in the past the future belonged to the person who had the ability to function in the well-defined problem-solving world. In other words, a person with an analytical mind that could crunch numbers or the individual who had a propensity to craft a contract because he had great skills in English would succeed. When that individual received a degree in accounting, law, or became an engineer, it gave him a solid foothold in the middle class system. These are the abilities that businesses wanted.

²⁴Janet E. Davidson and Robert J. Sternberg, eds. *The Psychology of Problem Solving* (New York: Cambridge University Press, 2003): 3.

²⁵ Daniel Pink, *A Whole New Mind: Why Right-Brainers Will Rule the Future* (New York: Penquin Group, 2005).

Today, the logical, linear, analytical, sequential, and spreadsheet abilities are still necessary, but now they are not enough. That is, as Mr. Pink suggests, they still matter today, but they matter less. Today's society has gone beyond being able to do just the well-defined problem and has moved into the world of the ill-defined problem. The future now belongs to creators, pattern recognizers, artistic, empathic reasoning, and big picture thinkers.

Mr. Pink elaborates on the amount of ubiquitous facts students have obtained from our school systems. However, the students need to move beyond being a store-house of facts and be able to put concepts together in a creative way. In other words, to survive in the fast paced global world, a world that is moving faster with each passing day, they need to see the bigger picture. To paraphrase Sid Caesar,²⁶ the man who invented the wheel was an idiot. The man who invented the other three was a genius.

Sir Ken Robinson²⁷ continues the discussion about the value of adding creativity into the traditional school system by stressing the need to educate more than just the left side of a person's brain. As discussed by Sir Robinson, originally the educational system was created to meet the growing needs of the industrial economy.

Consequently, a hierarchy of the subjects offered in the school system was established. Subjects that were considered the most important, such as language, mathematics, and sciences were placed at the top of the hierarchical pyramid. These subjects were then followed by the humanities and finally the arts (which included, in order, music then dance).

This hierarchy was established with the mentality that for a student to have real knowledge the individual needed to be able to perform rational, logical thinking processes. To

²⁶ Isaac Sidney "Sid" Caesar (born September 8, 1922) is an Emmy Award-winning American comic actor and writer known as the leading man in several 1950s television series.

²⁷ Sir Ken Robinson, teachers.tv.; <http://www.teachers.tv/video/5084> (1998).

perform these thinking processes, society believed science and math were the core subjects and were needed the most. Since the arts were considered valuable only for leisure and to help people be cultivated, they were put at the bottom of the hierarchy and while valuable, they should not compete with the logical subjects offered in the school systems.

As Mr. Pink has said and Sir Robinson agrees, in the 1950's individuals believed if they worked hard and went to college they would be able to get a job. It worked. Today, because of the fast-paced technological movement, Asia (it costs less to do off-shoring than it does to have the same thing done in the U.S.), the abundance of material goods in our society, and automation (outsourcing everything that is routine), our society must rethink the current educational structure. That is, the traditional hierarchy of the academic subjects at the top and creative subjects at the bottom needs to be re-evaluated.²⁸ Sir Robinson makes three recommendations:

1. Make education personal. Focus on each individual child and find out what their contribution is and help them believe in themselves and know they have a contribution to make to our society.
2. Build a culture of mutual understanding and tolerance. Our society is no longer limited to just the neighbor next door or even within our state or national boundaries. Our society is the entire world and our educational system needs to help students understand the world that they have been born into and other cultures and their values. We have become a global society. It is imperative that the school curriculum that is offered creates a partnership between our global society and our school systems by preparing students with a creative and cultural educational experience.

²⁸ Daniel Pink, "*A Whole New Mind: Why Right-Brainers Will Rule the Future*," 28-47.

3. Look at our economic system. The educational system needs to contribute to the economic growth and development of our country and the students need to be educated so they can be a positive contributor to this goal. To help our students and our country stay competitive in the international marketplace, more creative individuals must be produced.²⁹ Goree continues by saying that society is looking for employees who have effective communication, interpersonal relations, and creative problem solving skills. Our educational system need to be re-structured so these requests can be fulfilled.

At this point the technicians³⁰ who look at training the students for economic efficiency must be at the end of their economic tightrope as they ask themselves, how can creativity and a standards based curriculum co-exist? In today's society, the success of a school system is defined by how well the students, teachers and the school perform in the world of high-stakes testing.³¹ Unfortunately, it is the view of many educators that subjects which have creativity associated with them are disorganized and are impulsive. Adams further contends that society will benefit from individuals being creative in the areas of science and technology as it leads to an interactive world, a key point addressed by Sir Robinson.

Instructional Styles

In the traditional classroom the majority of the time is spent on developing verbal skills or how to use words to express oneself. There are few times when imagistic thinking (or the

²⁹ Krystal Goree, "Creativity in the Classroom....Do We Really Want It?" *Gifted Child Today* 19 (July/August 1996): 36-38.

³⁰ J. Wesley Null, "Curriculum for Teachers: Four Traditions within Pedagogical Philosophy," *Educational Studies* 42, no. 1 (August 2007): 43-63.

³¹ Angela Burke-Adams, "The Benefits of Equalizing Standards and Creativity" *Gifted Child Today* 30 no. 1 (Winter 2007): 58-63.

visual manipulation of images in the mind) is used or encouraged.³² In the traditional classroom, standards emphasize sequential learning which produce linear thinkers. This type of individual prefers structure and feels safe within the parameters of the classroom lesson. Creative individuals tend to have more of an imaginative intelligence and explore the potential of spatial thinking.

In spatial thinking, students are more apt to venture outside of the sequential learning process.³³ That is, the students discover relationships between concepts thus building their ability to develop their problem-solving techniques. Standardized exams focus on obtaining the correct answer instead of building the student's ability to conceptualize and understand a topic. As Mann stated, "Unfortunately, spatial strengths are rarely demonstrated on achievement tests which also fail to include nonverbal components."³⁴ Mann goes on to say that the students who do not think in a linear fashion are at risk for both underachievement and underemployment.

Solutions for Achieving a Balance

If schools are to acknowledge businesses and societal needs, and the future success of today's students is dependent upon an equitable balance between the traditional standards and developing the individual's creative components, the question begs to be asked, how can this balance be achieved? Several researchers, including Sir Robinson,³⁵ Jackson and Sinclair,³⁶

³² R. L. Mann, "Gifted Students with Spatial Strengths and Sequential Weaknesses: An Overlooked and Under-identified population." *Roper Review*, 27, (2005): 91-96.

³³ Angela Burke-Adams, "The Benefits of Equalizing Standards and Creativity" *Gifted Child Today*, 59.

³⁴ R. L. Mann, "Gifted Students with Spatial Strengths and Sequential Weaknesses: An Overlooked and Under-identified population." 92.

³⁵ Sir Ken Robinson, 1998.

³⁶ Norman Jackson & Christine Sinclair, "Developing Students' Creativity: Searching for an Appropriate Pedagogy, In *Developing Creativity in Higher Education: An Imaginative*

Craft,³⁷ Wiske,³⁸ and Ballie³⁹ have made several concrete suggestions for the success and integration of this process.

The first of these suggestions, made by Craft,⁴⁰ includes a learner-centered environment. This type of environment, first promoted by John Dewey, helps the students build their creativity and develop their own definition of creativity by intertwining this definition into their personal projects. A significant way to help the students create or develop their individual/personal definition is by giving them down time, white space, or as Wiske⁴¹ calls it, messing around time. This process allows the students to practice their own creativity without fear of failing. According to Norman Jackson, students should learn from their failures rather than view failing as a problem.⁴² However, with the quantitative mentality that schools, including the post-secondary schools, generally have today, very little time is allowed for the students to explore and experiment.

Curriculum, eds. Norman Jackson, Martin Oliver, Malcolm Shaw, J. James Wisdom (New York: Routledge, 2006), 118-141.

³⁷ Anna Craft, “*Creativity Across the Primary Curriculum: Framing and Developing Practice.*” (London: Routledge, 2000).

³⁸ Martha Stone Wiske, ed., “*Teaching for Understanding: Linking Research with Practice.*” (San Francisco: Jossey-Bass, 1998).

³⁹ Ballie, “The Traveling Case: Creativity in Art, Science, and Engineering.” In *How to Foster Creative Thinking in Higher Education*, from UK Centre for Materials Education.” Ed. C. Ballie, <http://www.heacademy.ac.uk/3271.htm> (2003).

⁴⁰ Anna Craft, “*Creativity Across the Primary Curriculum: Framing and Developing Practice.*” (London: Routledge, 2000).

⁴¹ Martha Stone Wiske, ed., “*Teaching for Understanding: Linking Research with Practice,*” 74.

⁴² Norman Jackson, Martin Oliver, Malcolm Shaw, and James Wisdom, eds., *Developing Creativity in Higher Education: An Imaginative Curriculum* (New York: Routledge, 2006).

Jackson and Sinclair⁴³ discuss a strategy for developing the student's creativity and designed a teaching and learning system to help student's develop their creative potential. This system includes teachers developing their own understandings about what it means in terms of the context of their teaching, and teachers revealing their own creativity. (In other words, teachers lead by example and are a role model).

Next, encourage students to articulate and construct their own meaning of creativity in the context of what they are studying and learning. In addition, teachers can show the students they value their understandings and help them widen their range of perceptions. Fourth, students should be given an opportunity to experience and practice their creativity by creating the curriculum spaces, conditions, and experiences that are stimulating, relevant, and authentic to their field of study.

Fifth, give the students challenging problems that allow the students to practice being creative and by asking what if and how questions, so students can become critical evaluators of their own creativity. Finally, evaluate students against their own potential, using portfolios and their own self-evaluation. In other words, the assessment should be criterion and not norm-referenced.

The researcher, Ballie⁴⁴ suggests using the creative problem-solving (CPS) technique that helps to teach creativity by making lateral connections or interesting association in their thoughts, so people are able to think outside of the box. When the CPS system was used in the classroom, the quality of ideas and thinking being developed in teachers and students improved.

⁴³ Norman Jackson & Christine Sinclair, "Developing Students' Creativity: Searching for an Appropriate Pedagogy, In *Developing Creativity in Higher Education: An Imaginative Curriculum*, eds. Norman Jackson, Martin Oliver, Malcolm Shaw, J. James Wisdom, 118.

⁴⁴Ballie, "The Traveling Case: Creativity in Art, Science, and Engineering." In *How to Foster Creative Thinking in Higher Education*, from UK Centre for Materials Education." Ed. C. Ballie, <http://www.heacademy.ac.uk/3271.htm> (2003).

To help the students with the CPS system, the teacher needs to be able to help the students make the connections between the fuzzy ideas and the problem. (Using the lateral thinking method will often assist with this process). Next, provide a room or an area which inspires the individual by giving them enough space to maximize their senses. Third, keep the problem-solving process democratic and keep the student's energy level high by keeping them engaged and alert by watching the size of the group. (It was learned that it is better to have a group size that does not exceed three people). Fourth, have students solve problems that mean something to them. Above all, encourage the student's to be a risk taker.

Sir Robinson⁴⁵ encourages society to meet the needs of our educational system head on. That is, the need for a curriculum looking at the rebalancing of the hierarchy of education has a very high importance in our society. There is strong value in giving students exposure to all subjects in the curriculum, and not just the ones from the top tier. This is to say, if we want students to be better mathematicians we should give them an engaging math course⁴⁶ but the curriculum should not stop there.

Engage both sides of the students' brain, their left analytical, logical side and the creative, out-of-the-box right thinking side. Build a curriculum that helps students build on the concepts they already know and to conceptualize new ones. Help them develop their megacognition skills so they recognize there is no limit to what can be thought of or achieved.

Concluding Thoughts

There is value in using creativity and developing creativity in the classroom. As educators, working to prepare the students of today and tomorrow for the future, we need to

⁴⁵ Sir Ken Robinson, 1998.

⁴⁶ Daniel Pink, "*A Whole New Mind: Why Right-Brainers Will Rule the Future*," 28-47.

collectively work together to develop their critical thinking skills and their right brain functions. However, there is a culture lag between what is needed today and what the schools are offering. Csikszentmihalyi (1977) said it is important schools teach students how to question, not just how to answer. He believes we can no longer teach in isolated disciplines, but we need to use the past as a guide to the present and to be better prepared for the future.

When *A Nation at Risk* was published by the National Commission on Excellence in Education in 1983, a resounding alarm was issued by the National Commission on Excellence in Education calling for the higher education community to look seriously at the lack of achievement of the American students. This report went on to say colleges and universities need to take a stronger look at the pedagogical or educational positioning they are currently taking and work to strengthen the student's abilities in communications and problem solving and to make their curriculum more rigorous and measurable.

Creativity is the backbone of our economy. Using technology, individuals can be more engaged in the global communication and teachers can develop a teaching format that focuses on a learner-centered environment, stimulates the child's creativity, and helps them go beyond their immediate experiences and observations. Schools need to develop the connectivity students have between instructors and other learners. This inner connectivity, or creative partnership, builds the individual's creativity, enabling them to better identify the appropriate problems, and to how to solve them. Furthermore, creativity identifies possibilities and opportunities that may not have been noticed by others, reinforcing creativity is the backbone of the economy.

The college graduates of today enter into a world constantly presenting them with problems that do not have simple or unique solutions. Students must be able to work independently and with other people to survive. Individual thinking is a vital part of all creative

problem-solving processes and is necessary when solving the complex issues of today. The process of requiring students to engage in creative problem solving, either individually or in groups, can be frustrating as students are not schooled to think innovatively. When students are assigned open-ended problems (problems with more than one solution) requiring creative thinking, they often become frustrated and struggle because they have not had formal training. Yet, creativity is widely used and expected in professional settings.

Using the constructivist theory, making safe places in a crowded curriculum, developing knowledgeable, skilled, and confident facilitators who work with administrators to support the development rather than inhibiting student's creativity, will help us take a step forward in building creativity in our schools.

However, in order for the above concepts to happen, the mentality of the educational system needs to be re-evaluated. Too often, the powers-to-be want the results to be reflected in a quantitative methodology and not in a qualitative format. This is unfortunate and very limiting. Creativity is a necessary and an extremely vital part of our culture. The school system needs to provide students the time to analyze and critique their personal ideas so the problems can be identified and redefined.

The vital and most necessary courses at the top of the pyramid are still vital. However, by adding creativity to the mix of what is taught, a broader view of our educational system that uses innovative paths to reach our destination can be achieved.⁴⁷ Robert Sternberg said that, "Wise individuals balance the need for change (creativity) with the need for stability and

⁴⁷ Angela Burke-Adams, "The Benefits of Equalizing Standards and Creativity" *Gifted Child Today* 30 no. 1 (Winter 2007): 60.

continuity (intelligence) in human affairs.”⁴⁸ As society looks to the future, the creative person will be the individual in demand, making it urgent for educators to be a role model and a guide that will lead today’s students into the future.⁴⁹ As educators, we must remember to teach for our student’s future and not our past.

⁴⁸ Robert Sternberg, “What is the Common Thread of Creativity? Its Dialectical Relation to Intelligence and Wisdom,” *The American Psychologist* 56 no. 4 (April 2001): 362.

⁴⁹ Harriet Marriner, “Creativity and Education for the Future,” *Heldref Publications* 52 no. 8 (April 1979): 217.