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Jim Delisle's latest book should be used by teachers and parents to increase understanding of the history and design of gifted education programs. This concise, articulate and engaging work is entitled, *Dumbing Down America: The War on Our Nation's Brightest Young Minds (And What We Can Do to Fight Back)* – Prufrock Press, 2014. In eight chapters the author covers problems and issues related to the history of the field, identification, good and bad programs, and controversies. Here are some topics that I found of particular interest:

- Chapter 1: In the Beginning. The concept of giftedness goes back thousands of years, particularly during the high civilization of the ancient Greeks (500 BC - 323 BC). Plato wrote extensively (*The Republic*) about establishing a society based upon selecting the intellectually elite to be leaders and managers. I recommend that teachers look into who instigated the selection of highly gifted individuals. The ancient Greek, Roman and Renaissance periods could provide insights into educating today's gifted students.
- Chapter 2: The Upsides. Delisle indicates there is much room for optimism because of the work of foundations and research centers. For example, Jan and Bob Davidson founded the Davidson Institute for Talent Development in 1999 to provide information to educators across the nation about gifted programs and activities. Delisle also describes some effective programs in this chapter – Problem-Based Learning, STEM, Virtual Academies, Advanced Placement, and International Baccalaureate programs. I suggest that educators of the gifted expand program options by studying how students are educated in philosophy and the sciences. The Socratic Method has been successfully used in gifted programs, and E. O. Wilson's *Letters To A Young Scientist* (2013) can provide important information regarding gifted students who are interested in the sciences.
- Chapter 3: The Battle of Equity Over Excellence. Delisle discusses this issue in the contexts of tracking research, sociological agendas versus rigorous education, and the plethora of books emphasizing that anyone can be gifted. Malcolm Gladwell of *The New Yorker Magazine* has "led the charge" in arguing that almost anyone can become gifted in a particular skill by practicing for at least

10,000 hours. All of the ideas discussed in this chapter lead to a false dichotomy between equity and excellence, and a semantic quagmire originally addressed by one of our illustrious founding fathers, Thomas Jefferson.- Chapter 4: Is Giftedness Something You Do or Someone You Are? For many years Delisle has argued that giftedness is something you determine by using rigorous tests, teacher observations, parent interviews, and the assessment of students' social-emotional development. He is particularly critical of The Enrichment Triad Model and the Multiple Intelligences approach to identifying and teaching the gifted.
- Chapters 5 through 8 address many other critical issues and provide numerous suggestions for improving this field. Chapter 7 in particular contains an excellent discussion of rigorous identification procedures and instructional programs. Chapter 8 includes excellent recommendations that state, local and federal bureaucrats can use to improve the education of gifted students. By writing this book and being in the forefront of educating the gifted, James Delisle has clearly demonstrated he is the *Conscience of Gifted Education* in the United States.

The articles in this Issue are as follows:

Stephen Schroth discusses the use of arts and humanities lessons and programs in the Common Core curriculum.

Eugene and Diana Avergon address the role of choice in producing art, with particular emphasis on Picasso's *Guernica*.

Robert E. Myers presents some innovative ideas for testing gifted students. This essay is included in his latest book, **Giving a Lift to the Gifted: Ideas and Essays for Helping Teachers Inspire Higher Thinking in the Creative Classroom** (2014, GEP).

Harry Roman and Teachers of the Gifted at Thomas A. Edison Middle School in New Jersey demonstrate how gifted students can expand their creativity and team work by using basic materials to construct towers.

Michael Walters shows how Barbara Tuchman's books can be used to stimulate gifted students' interest in American and World history. **Maurice D. Fisher, Ph.D. Publisher**

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STEMming the Tide: Using the Common Core Standards to Enhance

Gifted Children's Exposure to and Education in the Arts

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Forty-five states and the District of Columbia have adopted the Common Core State Standards (Ravitch, 2011; 2013). This initiative has been hailed as raising the level of performance of all students and making the transitions of students who change schools easier and more predictable (Koretz, 2009; Ravitch, 2011). As the Common Core Standards movement coincided with a push for better performance in academic subjects encompassing or related to science, technology, engineering, and mathematics (STEM), many school leaders and policy makers have emphasized these areas over all others (Payne, 2008; Ravitch, 2011). This has led to the arts—creative writing, dance, music, theatre, and the visual arts—being ignored in all too many places, a problem that is especially acute for those who come from households less likely to be able to support such investigations without assistance from the school or those who can easily handle the additional challenge (Garrison, 2009; Schroth & Helfer, 2008).

The approach that ignores or eliminates the arts from the schools is misguided insofar that it ignores the value of critical thinking skills, the need for familiarity with the mainstays of our culture, and the realization that quantity does not always equal quality (Darling-Hammond, 2010; Kohn, 2000; Noguera, 2003). Happily, the Common Core Standards encourage and indeed support exposure to and study of the arts. Engagement with the arts develops the critical thinking, reading, writing, and speaking skills so valued by the Common Core Standards. Additionally, familiarity with the concepts and language of the arts permits students to make connections between disciplines that augments and assists creativity, comprehension, and critical analyses (Botstein, 1998; Greene, 2001; Payne, 2008). Administrators, parents, and teachers must ensure that gifted children are exposed to and conversant with the arts (Smutny & von Fremd, 2009; Schroth & Helfer, 2008a; 2013). Doing so will ensure that the cognitive and creative development of gifted children is assured.

First, this article will examine appropriate instructional strategies for gifted children, as an understanding of these is crucial to appreciating why gifted children require exposure to the arts. Next, the centrality of the arts to critical thinking skills and indeed intellectual discourse will be explored. Ways of using the arts to enhance gifted children's of the knowledge, understandings, and skills undergirding the Common Core Standards will be looked at, with hope that teachers will use and expand upon these. Finally, the article will conclude with an analysis of why the Common Core Standards have merit despite errors which may have occurred in their adaptation and implementation.

Appropriate Instructional Activities for Gifted Children

While certain disagreements exist amongst those who study the gifted, there is a great deal of consensus regarding the type of curriculum that best serves their needs (Clark, 2012; Colangelo, Assouline & Gross, 2004; Frasier & Passow, 1994; Schroth, Collins & Treffinger, 2011). Gifted children need constant exposure to new and challenging information, optimally at an individualized pace of learning (Betts, 2004; Callahan, 1982; Ford & Harris, 1999; Kaplan, 2005; Renzulli, 2003; Sternberg & Clinkenbeard, 1995; Tomlinson, 2003; Treffinger, Young, Nassab & Wittig, 2004). Access to both a challenging curriculum and peers who operate at the student's intellectual level are also necessary for gifted children, as is the opportunity to share ideas verbally and in some depth (Borland, 2003; Callahan, 1982; Gallagher, 2000; Kaplan, 2005; Renzulli & Reis, 2014; Schroth & Helfer, 2008b; Stanley, 1980; Tomlinson, 2003;

Treffinger et al., 2004). Gifted children also require a higher degree of challenge than do other students—this challenge must entail exposure to alternatives, abstractions, consequences of choices, and opportunities to draw and test generalities (Adler, 1984; Betts, 2004; Clark, 2012; Schroth & Helfer, 2008a; Sternberg & Clinkenbeard, 1995; Treffinger et al., 2004).

To accomplish these goals, gifted children require the chance to pursue inquiries beyond the allotted time spans common in schools (Betts, 2004; Callahan, 1982; Ford & Harris, 1999; Kaplan, 2005; Renzulli, 2003; Sternberg & Clinkenbeard, 1995; Tomlinson, 2003; Treffinger, Young, Nassab & Wittig, 2004). Crucial to the success of these inquiries is exposure to the ideas at an individual rate, where children are permitted to solve problems in diverse ways (Betts, 2004; Callahan, 1982; Ford & Harris, 1999; Kaplan, 2005; Renzulli, 2003; Sternberg & Clinkenbeard, 1995; Tomlinson, 2003; Treffinger et al., 2004). Although differentiation is beneficial to all children, the gifted benefit from being permitted to set and evaluate their own priorities, which often involve pursuing their inquiries beyond the allotted time spans (Borland, 2003; Callahan, 1982; Kaplan, 2005; Renzulli, 2003; Schroth & Helfer, 2009; Tomlinson, 2003). An understanding of the best ways to differentiate instruction, and to deliver specialized instructional sequences to children who need them, is of course a requirement of the schools (Renzulli & Reis, 1997; Tomlinson, 2003; Treffinger et al., 2004).

Centrality of the Arts

Gifted children’s development is greatly enhanced by participating in and exposure to the arts (Schroth & Helfer, 2013; Smutny & von Fremd, 2009; Treffinger, 1998). A bulwark of a democratic society, the arts serve as a means by which independent thinking and diverse perspectives are developed (Adler, 1984; Botstein, 1998; Greene, 2001). The arts do this in several ways. They expose children to the themes, issues, and conversations that have been deemed important by generations of our best thinkers (Adler, 1984; Greene, 2001; Schroth & Helfer, 2013). Familiarity with these themes, issues, and conversations enhances gifted children’s ability to grapple with these issues themselves, and demonstrates some of the best uses of expression, rhetoric, and composition from the past (Schroth & Helfer, 2013; Smutny & von Fremd, 2009).

The arts also provide gifted children with a multiplicity of ways to express their thoughts, insofar that they understand that a painting, a sonnet, an aria, or a dance can be just as, or even more, compelling, cogent, and coherent than a five paragraph essay (Greene, 2001; Smutny & von Fremd, 2009). The connections that permeate the arts—Tchaikovsky’s *Sleeping Beauty*, Shakespeare’s and Camuccini’s portrayals of *Julius Caesar*, Wagner’s *Ring Cycle*—demand that gifted children be familiar with the myths, stories, and legends upon which they are based (Adler, 1984; Botstein, 1998; Greene, 2001). The arts provide a rich and meaningful grounds for exploration and interpretation and can be used as a platform to build students’ knowledge, understandings, and skills (Schroth & Helfer, 2013). The Common Core Standards support critical thinking, and the arts can serve as a crucial part of this. Gifted children must be exposed to more than STEM instruction.

Using the Common Core Standards to Support the Arts

Pressure for students to perform well on standardized tests, and a lack of resources, have left many schools and classrooms focusing on little that is not tested. Some have suggested that the Common Core Standards are to blame for this obsession, although it seems as though such charges indict the implementation of the standards rather than the standards themselves (Ravitch, 2011; 2013). Looking at the English/language arts standards, for example, one notices that fifth grade students are to “[q]uote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text,” and “[c]ompare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact)” (Common Core State Standards Initiative, 2010, p. 12). Such demands are not, of course, limited to the fifth grade. Students in second grade are to “[r]ecount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral” (p. 11), while those in the ninth and tenth grades shall “[d]etermine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text” (p. 38).

To ensure gifted children’s exposure to the arts, their teachers and parents must incorporate creative writing, dance, music, theatre, and visual art into the school day at appropriate times. While many schools do not support separate instruction in these disciplines, by using the Common Core Standards, teachers and parents can assure that gifted children are exposed to exemplars to build critical reading, writing, speaking, and thinking skills (Schroth & Helfer, 2013; Smutny & von Fremd, 2009). For example, fifth grade students seeking to quote accurately from a text might use Gwendolyn Brooks’ *The Good Man* or Lewis Carroll’s *Alice’s Adventures in Wonderland* as the work they explore. Second graders charged with recounting a story might compare Jerry Pinkney’s *Noah’s Ark* with Jan Brughel the Elder’s *The Entry of the Animals into Noah’s Ark* and determine how well the painting relays the information contained in the text, also perhaps completing their own rendition of the central facets of the tale. Ninth and tenth graders determining the central idea or theme of a text might analyze the libretto of *The Barber of Seville*, also perhaps considering how Rossini uses music to convey these feelings.

Seamless integration of the arts into lessons that focus on the appropriate Common Core Standards will permit gifted children to develop familiarity with the arts while also satisfying administrative desires that concentrate upon the development of only certain skills. A variety of resources are available, either free or at a very low cost, which permit relatively easy integration of the arts into the day. A few of these are indicated in Table 1 in the hope they may provide a useful starting point for those interested in pursuing work with the arts.

Table 1: Online Resources for the Arts

Organization	Key Resources	Web Site
Joffrey Ballet	Residency programs; dance clubs; after-school programs; workshops	http://www.joffrey.org/
The Lyric Opera of Chicago	Curricular materials; program information for K-8 and high school	http://www.lyricopera.org/lyric-unlimited/index.aspx
Minneapolis Institute of the Arts & Walker Arts Center	Interactive site that permits students and teachers to access over 100,000 items, including works of art, audio, texts, video, and other tools	http://new.artsmia.org/ http://www.walkerart.org/
Guthrie Theater	One-act plays; play guides; video lessons	http://www.guthrietheater.org/
International Torrance Legacy Creativity Awards	No fee competitions in creative writing, visual arts, music competition, and inventions	http://www.centerforgifted.org/torranceAwards2014.pdf

Conclusion

Certainly critics of the implementation of the Common Core Standards have some valid problems with the process by which the standards were adopted and implemented. Change is a process that demands adherence to certain steps, and phases that will build consensus and make the desired changes more likely to be successful (Duke, 2003; Fullan, 2007). Leaders of change must include those involved in the change, anticipate that resistance will occur, recognize that resistance is a positive consequence, provide

resources and training to support that change, and understand that change is a lengthy and continuing journey (Duke, 2003; Fullan, 2007). Contrary to best practices, few teachers or education professors were included in the process by which the standards were devised (Fullan, 2007; Ravitch, 2013). The Common Core Standards were frequently promulgated by state agencies with no notice to school administrators, who in turn demanded that teachers instantly implement these in their classrooms (Duke, 2003; Ravitch, 2010). Few if any resources were provided, or even available, to implement the new standards (Ravitch, 2013). In many ways, the teachers and administrators charged with implementing the Common Core Standards have every right to be aggrieved, angry, and anxious about the process.

All this being said, the Common Core Standards themselves are rather eloquent, comprehensive, and flexible. The Common Core Standards provide a unified, consistent, and shared approach to what should be taught, one that was sorely lacking in many states. They also appear here to stay. Savvy teachers will use the Common Core Standards as a means of introducing the arts into their classrooms. Using exemplars from the arts for analysis—be they paintings, plays, poems, dances, operas, or the like—allows teachers both to honor the Common Core Standards and to ensure that gifted children are exposed to the arts. In doing so, teachers will also reclaim their position as the educational experts best suited to determine what their students need to reach their full potential.

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Biography

Stephen T. Schroth holds a PhD in Educational Psychology/Gifted Education from the University of Virginia, where he studied with Carolyn M. Callahan and Carol Ann Tomlinson. Past-Chair of the NAGC Arts Network, Dr. Schroth is an associate professor of Early Childhood Education at Towson University. The author of over 175 books, monographs, chapters, articles, and other publications, he served as a classroom teacher, gifted coordinator, and arts prototype school coordinator for a decade in the Los Angeles Unified School District. His research interests include the development of artistically talented students, differentiated instruction, effective instructional and leadership practices, and working with English language learners.

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The Role of Choice in Art Making and a Look at Picasso's *Guernica*

Eugene Avergon Diana Avergon
Art by Choice Publications

We make choices every day, sometimes every minute or every second. Decisions are often well thought out, other times preferences are not mentally conceived, but arise from emotion, reaction and spontaneity. All choices become manifestations of the choice maker. Gifted young artists *here* are encouraged to glimpse the results of their options made through their approaches to art. They can also begin to consider the decisions made by well-known artists in creating specific works. Looking at one's selections is a reflective process. Students can become more aware of this choice making dynamic by referencing their own art and thereby begin to develop recognition of themselves as artists.

What role does choice play in art making? What are we drawn to in the world of visual arts? Do we gravitate towards a particular artist or art movement? Are we aware of the choices that inspire our own works of art? What are its outcomes?

When an artist embarks on a painting, she may well have a goal or a clear idea of what she is choosing to accomplish (as did Picasso in his well-known work, *Guernica*) or she might be motivated from a more sentient source. She may be putting down paint on canvas from a feeling aspect, rather than from a rational frame of reference. Perhaps inner feelings lead the way while the logical mind sets about labeling and ordering. Might these occurrences be happening simultaneously?

Gifted education speaks to choice. Some of the characteristics that young gifted artists share are imagination, speed of getting ideas down and interest in specific media and themes, as well as knowing what they wish to create, and choosing how to work. All of these can drive enthusiasm to excel as well as commitment to complete a work of art or body of works. Renzulli comments on commitment. He calls it " ' ... the ability to involve oneself totally in a problem or area for an extended period of time' " (Hurwitz, 1983, p. 17).

Gifted students can learn from great artists with regard to goals and choice making. Goals can be intuitive as well as logical. Choices made germane to working within these goals can guide a student towards a better chance at a meaningful outcome.

Self-direction is the key to motivating gifted students towards an authentic experience. Rather than choosing a specific topic, an art teacher or mentor might introduce a discipline, one towards which he encourages his gifted students to aspire. Formative structure can be introduced. A student's drive to master a discipline might be made in drawing, or painting or another area of the visual arts. Within any domain lies a wealth of individual choices. Iyenger speaks to choice within a structure and she also comments on commitment.

"We've worked very hard for choice, and with good reason. But we've become so accustomed to producing it and demanding it and producing even more of it, that we sometimes forget to access when and why it is useful. Managing our expectations is perhaps the most difficult challenge of choice, but one way to do so is to look to those who have shown how constraints create their own beauty and freedom. Inventors and artists and musicians have long known the value of putting constraints on choice. They work within forms and strictures and rules, many of which they break only to establish new boundaries, sometimes even tighter ones.

"It is worth our while, I believe, to experiment with a structured approach to choosing, one that encourages us to pay close attention to the choosing process and to connect the power of choice not to what is but to how we practice it. If choice is indeed something we *make*, as we *make* art and *make* music, then surely we can look at those creative disciplines for guidance. The key, however, is to recognize--to return to the words of de Tocqueville--that in order to 'hold fast' to something, one must allow oneself to *be held* to something. That commitment may be one of the hardest things to practice in a world of so much choice" (Iyenger, 2010, pp. 213-14).

By becoming more aware of what influences one's choices and commitments in dealing with the visual arts, gifted students can get to know themselves better as artists. Some areas of awareness are:

From where is the inspiration coming?
Which artists and art movements am I drawn to?
Do I bring memories into my works?
Can I identify experiences showing up?
Are emotions evident?
How are my skills in handling this media?
What else is showing up?

Picasso came face to face with such choices in 1937 when he was commissioned to create a mural for the Spanish Pavilion at the World's Fair in Paris. This was to be a large public art piece, one that would require deliberation on a subject that would work well within this assignment. When newspaper stories began coming in covering the massacre of a small town called Guernica, in the north of Spain, copy was complemented with black and white photos of the event. Outraged at the killing carried out by the German bombers and Fascists acting on Franco's orders, Picasso *then* finalized his *choice--this* would be the theme for his commission. **Inspired** to take action with a visual statement, Picasso began sketching from the news photos. It also appears that Picasso drew **inspiration** from Goya's *The Third of May, 1808*, which depicted the brutality of war.

"Like no artist before him, Goya used his brush with ferocity and fervor to barrage a society filled with troubles. It is from this spirit of assault that Picasso drew in his creation of Guernica, over a hundred years after the passing of the old master Goya" ("Guernica 70th Anniversary," n. d.).

A master painter in many **art movements**, Picasso selected to draw on his affinity with Cubism, Surrealism and Symbolism to create Guernica. He chose to work up the sketches of his images in a post cubistic style with dislocated and fragmented bodies, set in a surrealistic landscape. Symbolism is evident in the Minotaur, part man and part bull. Also evident are the horse, the mother, the child, the warrior, the bird, the light bearer, the fugitive and the falling woman. The Minotaur was also an important character in Surrealistic paintings.

Picasso certainly had childhood **memories** of Spain, growing up and living in Malaga, La Coruna, Barcelona and Madrid. By 1904, he moved to France and spent most of the rest of his life as an expat. Dimensions of Spanish culture are poignantly visible in Guernica. Picasso chose to defend his country's homeland with an impassioned and daring visual declaration. "The commission given Picasso required him to convey in one image the sense of the drama of his fatherland ravished by the Fascists" (Arnheim, 1980, p. 18).

Experiences with Anti-Fascism showed up before Picasso's work on Guernica. Affiliations with the Republicans in Paris kept him in an informed and agitated state. In January, 1937, Picasso produced a series of Anti Franco etchings and aquatints entitled *Dream and*

Lie of Franco. Foreshadowing his commission, these prints were a bold Anti-Fascist statement. Emotions associated with the emergence of *Guernica* can be seen in Picasso's poem, written in 1937, in which he verbalized the tragedy:

" 'Cries of children cries of women cries of birds cries of flowers cries of wood and of stones cries of bricks cries of furniture of beds of chairs of curtains of casseroles of cats and paper cries of smells that claw themselves of smoke that gnaws the neck of cries that boil in cauldron and the rain of birds that floods the sea that eats into bone and breaks the teeth biting the cotton that the sun wipes on its plate that bourse and bank hide in the footprint left embedded in the rock' " ("A Journey Through the Exhibition *Guernica*," n. d.).

By 1937, Picasso had created thousands of paintings and works in other media, along with having originated and worked in many art styles. At 56 years of age, his skill level was extraordinary. He was well equipped to take on a mural of huge proportion. Making some five dozen sketches to prepare himself for *Guernica*, he chose a canvas that was eleven feet and six inches high and twenty-five feet and eight inches long. Picasso used a ladder to stand on and his brushes were strapped to sticks to reach the elevations. Completing the mural in 24 days, he relied on his abilities and mastery to construct one of the most acclaimed paintings of the 20th Century.

In conclusion, by reading the stories and biographies of widely recognized artists, gifted children might consider questions regarding their own art. What has influenced me? Is it emerging in my work? Are elements of imaginative thinking evident? Which artists am I drawn to? Becoming more aware of personal interests and choices can help gifted students find greater meaning and purpose in their works of art. Perhaps they can begin to see themselves more clearly as artists by intentionally viewing the manifestations of their choices.

Images of *Guernica* can be viewed at:

<http://en.wikipedia.org/wiki/Guernica> (painting)

<http://www.museoreinasofia.es/en/coleccioniartworkiguernica>

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**Another Way to Test Academically Talented Students:
The Examination as a Learning Experience**

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**From Giving a Lift to the Gifted: *Ideas and Essays for Helping Teachers Inspire
Higher Thinking in the Creative Classroom* (2014, GEP) by R. E. Myers**

Probably the most bedeviling problem for today's teachers in public elementary and secondary schools is that of imposed testing. Teachers of all levels are beset with demonstrating that their students have progressed educationally by administering to them standardized tests and having those test scores increase in desired increments. If I were still teaching a class of academically gifted students, I wouldn't be concerned about test scores, especially with regard to scores of reading and language. What the heck, those bright young people would have scored more than one grade level higher each year even if I had spent all of our time playing math games and developing athletic skills! They just naturally would grow intellectually as a result of their activities and interests.

Historically, parents and school officials were not obsessed with standardized testing scores and how their students compared with other students on those scores. Times have changed, and the focus is now on *proving* that teachers have inculcated knowledge and skills in their students.

Nevertheless, I suggest that we would be wise to take a hard look at the reasons we test—a look that has no considerations of determining the comparative worth of teachers, curricula, schools, school districts, or nations. Essentially, we test to determine two things, namely: (1) to find out if the student has acquired knowledge or skill; and (2) to get a notion of whether those classroom experiences that the student has been subjected to are effective.¹ There is, however, an unstated third objective of testing. It allows the student to gain increased understanding of the subject matter as a result of preparing for the test. The student can also gain insights when responding to the test items, principally to essay questions.

I have an idea for teachers and parents of advanced learners that makes testing a *learning* experience. It works like this: Have the students test themselves. Whatever the subject, they can demonstrate their knowledge and understanding of it by devising their own questions and problems. I have found that when students are asked to think of appropriate questions to be asked about a subject that they will compose intelligent, serviceable items.

This stratagem has worked well for me because I have realized that students always play a guessing game when anticipating a test. If they guess right and have grasped the material, they will respond successfully. Why not put this natural behavior to work? Have them ask pertinent essay questions and then answer them. This procedure will enable students to demonstrate that they are knowledgeable about the subject, and they won't have to be uptight about the questions the teacher would be asking on the test.

Now, you ask, when it comes to really advancing their learning, what is the virtue of letting students compose their own tests? If they just memorize the material from a text or other source and put a question mark at the ending of an essay question, it is probably of little value except in getting the students to read the material. However, when I have had my students writing their own tests, I have also taken the procedure one step farther—I've had them evaluate their own answers! I ask them to improve their

answers by taking their tests home and reviewing their answers and then to seek out other materials in order to see if they have responded satisfactorily. Then I grade them on their *revised* answers. If their answers were sufficient and accurate the first time in class, I ask them to explain *why* they didn't need improving.² If their revised answers show additional knowledge and insight, I give them credit.

If you decide to follow this procedure and try to make an examination an in-depth learning experience, you may prefer to use your own test items (to be responded to in class). In that case, you can be assured that the subject matter to be tackled by your students addresses the topics that you most want them to think about.

This technique is not foolproof, as you can see, because it allows the possibility of another person's assisting the student at home. Nonetheless, it has the advantage of forcing the student to examine and explore subject matter more deeply. It contrasts with the true-and-false and multiple choice exams that frustrate bright students who can see more than one way of looking at a test item. This way of testing challenges the academically gifted student as no other procedure can. Moreover, it allows enough time for the student to delve deeply into any subject.

¹ I taught a science unit once, and afterwards my students performed miserably on a test of that material. We went over the unit again. I tested them a second time, and they did just as poorly. What had I learned? My teaching was highly ineffective.

² N.B. If the students declare that an answer is correct and adequate, it is important that they tell why it needs no amending. And they should be specific.

Make the G&T Classroom Come Alive with Hands-on Building Activities

Harry T. Roman

STEM Educator, Teacher of Gifted Students, Engineer (Retired)

In the activity discussed below, any G&T classroom can come alive with energy and a spirit of competition among student teams. For the last four years I have worked with the teachers who co-authored this article, always including a hands-on building activity with simple elements like pipe cleaners, straws, and paper clips.

Something magical always happens when you give middle school students little structure and maximum freedom to build something simple like a three dimensional tower. Never have we been disappointed. We can squeeze all this fun into a 40 minute segment, preceded by me giving the students a little 20 minute pep talk about my life as an inventor and how easy it is to generate interesting ideas quite quickly.

The key is getting the students organized into teams, which the teachers do using a random generation program of the class names. Usually we have several science and special education classes all thrown together – and then we stand back and watch the energy of creation begin.

At the end, we give out some prizes like animal calendars or colored pens and everybody leaves smiling and wanting more. I am convinced...the real learning begins when you get the students out of their chairs! Read and enjoy.

Towers of Power!

Martha Van Loon

Science Teacher-Thomas A. Edison Middle School

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The Fun Stuff

Want to have some fun in the middle school classroom using an unstructured, team-based burst of creativity for your students? All you need are some pipe cleaners, plastic straws of different diameters and lengths, paper clips....and oh yes....a golf ball. What do you say? What a strange list of materials! Yes, it is a bit unusual, but we have been doing this kind of challenge for a few years now, and it can make for some very competitive activities between 3-4 person teams (all chosen at random). What makes this activity so very interesting is that it mixes high-performers, average students, and special education students together into a wonderful learning soup. We are convinced this mixture of students is both right and highly productive.

The nub of the activity is to have the students build the tallest towers they can in about an hour or so using the materials described. Their creations must support the golf ball (hanging within the upper half of the tower). In previous incarnations of this task, the class record was a tower about 62 cm in height. Just this past engagement in March 2014, one team topped out at 70 cm, and another at a whopping 100 cm, a full meter in height! Generally speaking, most teams can achieve 20-40 cm, so seeing the excitement of a 100 cm achievement rocked the schoolroom. This served to energize other teams to reach for the heights.

The Preparation

Prior to the activity, the students learn about famous and commonplace towers – spanning the gamut from the Eiffel Tower, the Seattle Space Needle, and artistic representations of modernistic tower-like structures to radio towers, wind turbine masts and the like. Students have a chance to discuss the geometry and structural components of the various towers – all in an attempt to get them to think about how they would build a tower of their own imagining. We discuss how buildings are built, some with foundations and some without. The students search for typical geometric shapes used or combined in tower construction, and speculate why.

Students, once separated into teams, must first develop an idea for their designed towers, drawing it on a sheet of paper and encouraged to stay true to that design. As they soon find out, they will be changing those designs as they go along in the activity-iterating to a final design, just like inventors do as they develop their ideas over time.

This school is a namesake school for the great inventor Thomas Edison, and preceding the design, students are taught about Edison's undaunted spirit to keep working despite setbacks and failures – to learn from each and every one, and to keep trying.

We like to impress the Edison spirit upon the teams with a saying often attributed to him.... "Fail your way to success." In fact, the legendary Thomas Edison National Historical Park is only about a mile down the road from the school and many of the students have been there on class trips or on family visits to the site. They know about Edison and his great achievements. All this serves to get them pumped about the activity, a chance to solve a problem like the great inventor would.

This tower building exercise follows the usual classroom design challenge life cycle – some early false starts, and then the solutions start spilling out in rapid succession. The toughest parts of this activity for the teams seem to center around two aspects:

How to Construct a Strong Foundation for the Tower

Most teams tend to choose a rectangle, or square, and then make a cube or pyramid structure to show they can support a golf ball. Recently during this round of 2014 activities, we noticed the emergence of polygons for bases. In previous years it was triangles being used for bases. The actual base is not important, only that it be well-constructed and able to support weight.

Connecting the Corners of the Base

Here is where many teams fail, not knowing how to connect the corners of the structure. Most teams run pipe cleaners through the straws and then use them to interconnect other structural components – like combining I-beams in steel structures. Students almost universally are initially reticent to “manipulate” the paper clips (open them up) and insert them between the straw/pipe cleaner reinforced building blocks. Students tend to miss the point unless brought to their attention..... that the metal paper clips are the strongest element in their project materials, and perhaps should be given special consideration.

Some students try and employ the paper clip in its usual role and simply clip structural components together as though they were pieces of paper – indicating they have a problem understanding or appreciating what “manipulation” means. Or they do not feel empowered to change or re-shape the materials given them. This is something that may come about because of the typically over-defined classroom. Students need to be empowered to change their perspectives and be as creative as possible when undertaking design challenges. Watch out for this, not only in this challenge, and other ones you try in your classroom

As teams complete a simple single story structure, they are now faced with building higher. If the structure is a simple square, they must elevate it with a new bottom story, or simply continue to build atop the existing section. If they have constructed a pyramidal shaped section initially, they must elevate this with a new bottom section. Both of these scenarios tend to cause some initial confusion as students seem to struggle with how to do this-almost as though they have some spatial visualization problems with seeing a new multiple story structure in their minds. Some students even build different layers with different geometric shapes and try to simply balance one atop the other without a firm structural attachment.

The school’s principal and vice principal always provide great support for this activity, often stopping by to see the excitement of the tower building process. Each team has their photo taken next to their tower, along with a meter stick next to their structure, showing the height achieved. All designs are displayed in the classroom.

Narrow Four-Sided Base Design



Eiffel Tower with Extensive Cross-Bracing



Barbara Tuchman (1912-89): Centenary of World War I and Gifted Students

Michael E. Walters

Center for the Study of the Humanities in the Schools

“What is it about this book – essentially a military history of the first month of the First World War – which gives it its stamp and has created its enormous reputation? Four qualities stand out: a wealth of vivid detail which keeps the reader immersed in events, almost as an eyewitness; a prose style which is transparently clear, intelligent, controlled and witty; a cool detachment of moral judgment – Mrs. Tuchman is never preachy or reproachful; she draws on skepticism, not cynicism, leaving the reader not so much outraged by human villainy as amused and saddened by human folly. These first three qualities are present in all of Barbara Tuchman's work, but in *The Guns of August* there is a fourth which makes the book, once taken up, almost impossible to set aside. Remarkably, she persuades the reader to suspend any foreknowledge of what is about to happen. . . .” Robert K. Massie, Foreword (p. X) to *The Guns of August* (1962) by Barbara Tuchman.

Europe has never recovered from the catastrophe of World War I. Total military and civilian casualties were over 37 million (Estimated by PBS, n.d.). Both Hitler and Stalin were products of the psychological and intellectual ruin that resulted from this conflict. In addition, many of our current problems in the Middle East and Ukraine were aftershocks from this military and political disaster. Barbara Tuchman wrote two outstanding books describing the events that preceded and occurred during World War I.

The Proud Tower: A Portrait of the World before the War, 1890-1914 was published in 1966, and emphasized social details and the battle of ideas during this period. Despite the sophistication in economics, philosophy and artistic achievements, there were many destructive elements. These included nationalism, conflicts between workers and industrial powers, religious hatreds, and monarchical rulers who used theories of elitism and indifference to human suffering to maintain their power. Tuchman describes the impact of this split personality of Western civilization upon the background conditions underlying this war. Examples of topics covered in this book are: Influence of the aristocracy upon politics and military operations in Great Britain; revolutionary occurrences in Europe as instigated by anarchists and bomb throwers; the United States as an emerging world political and military power; France and the Dreyfus Affair; Disarmament and peace conferences originated by the Russian Czar; Richard Wagner's and Richard Strauss's music in Germany, Nietzsche's philosophy, and Kaiser Wilhelm's politics and militarism; transfer of political power from British aristocracy to Liberal democrats; and the development of socialism in Europe and the United States before World War I.

The second book, *The Guns of August: The Outbreak of World War I* (1962), discusses how the interaction between rationality and insanity caused this war. Tuchman describes how the war departments of France, Russia, England and Germany unleashed a devastation of humanity never seen before. Military strategies and beliefs were built upon rational thinking although they were basically irrational. She covers three areas: **Plans** – Military preparations in Germany, France, Great Britain, and Russia; **Outbreak** – Political and military actions leading up to World War I; and **Battle** – History of major battles in France and Belgium during the early days of World War I.

The lamps of reason went out in Europe – it was Humpty Dumpty's fall. “All the king's horses and all the king's men/ Couldn't put Humpty together again.”

Tuchman was attracted to the study of history beginning at six years. She attended the Walden School in Manhattan and graduated from Radcliffe College in 1933. She became a journalist and worked in New York, Tokyo and Spain. Later in her career, she lectured at Harvard University, the University of California, and the Naval War College. In 1963 she won a Pulitzer Prize for *The Guns of August*, and received a second Pulitzer Prize in 1972 for *Stilwell and the American Experience in China, 1911-45*.

There are several parallels between the current international politics of the 21st century and the years of 1890-1914. Among these are: • Complicated foreign alliances seem to be a major theme of the current War on Terror, but as shown by the history of World War I, such alliances and coalitions eventually lead to failure. • The anarchist movement of the late 1800s produced tactics that resulted in terrorism against innocent people, similar to current groups such as Al Qaeda and the Islamic State in Iraq and Syria (ISIS). • Both the media of the late 1800s through newspapers and pamphlets, and current media via the Internet, are similar in their ability to agitate and recruit radical followers. • Class conflicts due to economic disparities and uncertainties are characteristic of both eras. All of these parallels clearly demonstrate that the study of history includes recurring struggles and disguises that can help enlightened citizens to respond more intelligently to current events. Tuchman's books will help readers to achieve this goal.

Many core curricula have a high school course called "global history" which should include her books. Her writing and analysis of major historical events will help gifted students to connect diverse information about World War I. The contradictions between the achievements of Gustav Mahler and Igor Stravinsky in music and Albert Einstein in physics during this era are in sharp contrast to the destructive forces unleashed by the Czar and the Kaiser. Studying these contrasts would be an important task for gifted students.

Tuchman's style and research methodology are also important for gifted students. They are intertwined and go beyond mere facts. These students need to be exposed to expressing historical research as a literary narrative. Tuchman's books are an important example of how a historian can make world events relevant to our current time and place by using a superb writing style. History does matter, especially when it is well-written and well-thought-out.

Quotes by Barbara Tuchman

"Books are the carriers of civilization. Without books, history is silent, literature dumb, science crippled, thought and speculation at a standstill. Without books, the development of civilization would have been impossible. They are engines of change (as the poet said), windows on the world and lighthouses erected in the sea of time. They are companions, teachers, magicians, bankers of the treasures of the mind. Books are humanity in print." [Bulletin of the American Academy of Arts and Sciences, Vol. 34, No. 2 (Nov. 1980), pp. 16-32]

"To a historian libraries are food, shelter, and even muse."

Resources

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Biographical information for Barbara Tuchman:

http://en.wikipedia.org/wiki/Barbara_W._Tuchman

Estimated casualties (PBS) in World War I:

http://www.pbs.org/greatwar/resources/casdeath_pop.html

Books from Gifted Education Press (Order PDF Copies via PayPal – <http://bit.ly/bwObhi>)

Just Published – *Giving a Lift to the Gifted: Ideas and Essays for Helping Teachers Inspire Higher Thinking in the Creative Classroom* by R.E. Myers (2014). Please see the link at Amazon.com and a picture of the inspiring cover designed for gifted students and their teachers: <http://amzn.to/1lwkfhn>.

Invention and Innovation for Gifted Students –

Brand New – Excellent endorsements for this book by teachers, technology specialists, inventors, STEM experts, and professors: www.GiftedEdPress.com.

Invention, Innovation and Creative Thinking in the Gifted Classroom (2014) by Harry T. Roman

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Creative Problem Solving –

Energizing Your Gifted Students' Creative Thinking & Imagination: Using Design Principles, Team Activities, and Invention Strategies - A Complete Lesson Guide for Upper Elementary and Middle School Levels by Harry T. Roman

<http://www.giftedpress.com/HARRYTROMANCREATIVITY.htm>

SNIBBLES³: *Serving Up a Steaming Hot Cup of Creative Problem Solving Challenges* by Judy Micheletti (BRAND NEW – JUST PUBLISHED!) <http://www.giftedpress.com/THIRDSNIBBLESBOOK.htm>

SNIBBLES: REALLY Creative Problem Solving Lessons and Mind-Stimulating Exercises for Gifted Students and Their Teachers, Ages 5 through Really Old! by Judy Micheletti <http://bit.ly/9mCe3C>

MORE SNIBBLES: Serendipitous Seasons by Judy Micheletti <http://www.giftedpress.com/SNIBBLES2.htm>

STEM/STEAM Education Books –

STEM Robotics in the Gifted Classroom: Meet ROBO-MAN! Upper Elementary through Secondary Levels by Harry T. Roman <http://bit.ly/GSwhit>

STEM-Science, Technology, Engineering and Mathematics Education for Gifted Students: Designing a Powerful Approach to Real-World Problem Solving for Gifted Students in Middle and High School Grades by Harry T. Roman

<http://bit.ly/hQIqaO>

STEAM Education for Gifted Students! Upper Elementary Through Secondary Levels: Combining Communication and Language Arts with Science, Technology, Engineering and Mathematics by Harry T. Roman

<http://amzn.to/UJ20Kb>

STEM to STEAM Education for Gifted Students: Using Specific Communication Arts Lessons with Nanotechnology, Solar, Biomass, Robotics, & Other STEM Topics by Harry T. Roman & Robert E. Myers

<http://bit.ly/143Cm7i>

Please see our STEM Matrix of FIFTEEN Books for the Gifted from Gifted Education Press! [CLICK HERE](#). I would appreciate your sharing this link with colleagues in the Gifted, STEM, Technology, Science, Math, Career Education, and Language Arts/English areas. Thank you, M. D. Fisher Publisher

Language Arts, Homeschooling –

Golden Quills: Creative Thinking and Writing Lessons for Middle-School Gifted Students by Robert E. Myers

<http://www.giftedpress.com/REMYERS.htm>

HOMESCHOOLING GIFTED STUDENTS: Stimulating High Levels of Creative Thinking and Problem Solving in the Home: Upper Elementary through Middle School by Robert E. Myers

<http://www.giftedpress.com/MYERSHOMESCHOOLING.pdf>