

Creative Process Assessment as a Means to Creative Productivity: How to Help Students Make the Most of their Capabilities

By Elizabeth C. Fairweather
University of Georgia

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There is little that is more frustrating for a teacher than watching a student with creative potential fail to produce. This article offers suggestions and guidance to teachers seeking to maximize their students' creative output. Applying the following ideas about the creative process opens up a whole new path to facilitating students' creativity.

THE CREATIVE PROCESS

Knowledge and understanding of the creative process is the first step in facilitating creativity among students. Creativity is usually defined as that which is novel and appropriate (Sternberg & Lubart, 1999). In the classroom, this definition translates into products that are unusual or uncommon among children and serve their intended purpose. The creative process is the experience of creating such a product. There are many models of the creative process, but most of them contain the components described below in one form or another (Lubart, 2000-2001). Although presented sequentially here, the process does not necessarily move in a particular order, and it can start just about anywhere.

CREATIVE PROCESS COMPONENTS

The first component of the creative process is usually

preparation, the stage at which information for the creative activity is gathered. This happens in two ways. First, is the effortful gathering of specific information related to a creative task (Amabile, 1983; Wallas, 1926). Preparation for creating a website might involve researching the how-to's of website development, examining sample websites, and collecting graphics, text, and other materials intended for the site. A secondary aspect of preparation is the conscious and unconscious gathering of information from the senses, which occurs during a typical day-to-day interaction with the environment and takes place constantly, whether or not a specific creative task is being considered (Taylor, 1959).

Problem development is a second component of the creative process (Treffinger, 1995). This is the point at which individuals look for problems in a given situation and use specifically related information to define and structure the problem so that it can be solved. Here, the website designer identifies the parameters placed on his/her project and defines a structure into which ideas must fit. Generating ideas to solve those problems and realize products is the next step. For the website designer, this means coming up with possible ways to arrange and link text and graphics to fit the

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Facilitating the creative process through ongoing assessments can make the difference.



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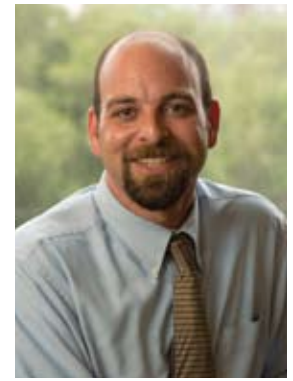
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Embracing the Future

I'm hopeful for the field of gifted and talented! I really am. Despite the grunts and groans in reaction to an education system that seems to dismiss what our field stands for, I am hopeful for the future—for new opportunities to learn from experts in gifted education and to share what I've learned with interested colleagues. I have to be. We have to be. Our students are depending on us.

For many in gifted education, the journey to expert teaching begins with NAGC. For more than six years, *Teaching for High Potential* has provided a diverse collection of feature articles, columns, and cartoons, providing NAGC members and those with whom they share THP, with an efficient means of connecting classroom practice and theory with practical tools, strategies, and ideals intended for immediate use, dissemination, and discussion.

In this issue's articles alone, you will read about fostering and facilitating the creative process through assessment, selecting online curricula for students, and gain insight into the minds of gifted male adolescents. THP's columnists offer readers a chance to learn about "flipping" a classroom, infusing affective interventions into the curriculum, and how to effectively "teach great minds." In a debut column, *The Primary Place*, written by Kimberly Chandler and Barbara Dullaghan, readers will discover ways to increase early childhood vocabulary. THP welcomes the return of the column *Bridging the Divide*, which connects research found in the pages of NAGC's research journal, *Gifted Child Quarterly*. This installment features Paula Olszewski-Kubilius, Rena F. Subotnik, and Frank C. Worrell's discussion about how a focus on talent development may increase the chances of producing more creative contributors to society. They offer 10 outstanding suggestions for reshaping the educational climate. Nancy Green, NAGC's executive director, offers her insight on the recent National Research Summit on Low-Income, High-Ability Learners.

In embracing the future, THP has undergone a substantial makeover, both in print and online. I hope that you enjoy the new layout and design, which offers content in a rich and inviting way, and that you will check out the newly remodeled THP webpage, now offering the complete backlog of issues, special features, and connections to NAGC materials.

As we begin a new school year, I invite you to join me in embracing the future. As always, I welcome your comments, suggestions, opinions, and ideas. **THP**

Write for THP

Do you have practical classroom applications of current research, theory, and best practices in the field of gifted education? Are you proud of the innovative way you address the needs of gifted students in your school or classroom? Have you created a successful lesson or unit plan that aligns with the revised NAGC Pre-K-Grade 12 Gifted Programming Standards? If so, we want to hear from you! Send manuscripts to: Jeff S. Danielian, Editor, THP at jdanielian@nagc.org.



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Reaching the Summit

Providing services for gifted and talented students in large school districts can be a challenge, but leaders at Jefferson County (Jeffco) Public Schools have developed a solid program for identified gifted (GT) students, and matching services that meet their needs. Jeffco Public Schools has 85,000 students in 150 schools. Approximately 10.5% of the students are identified for the GT program. Each October about 6,000 students participate in a universal screening for the GT program using the CogAT test. Testing usually begins during the second grade year. Non-English speaking children use the NNAT as a screening instrument. If students score 95% or higher showing strength areas in Verbal Reasoning, Quantitative, or Non-Verbal Reasoning, the teacher and parents complete an online GT Perception Form to contribute to a body of evidence used for placement. With this information, an Advanced Learning Plan (ALP) is generated. According to Dr. Blanche Kapushion, director of GT services at Jeffco, areas of strength or passions can be added as children progress and grow throughout their educational experiences. The classroom teacher, who shares the information with parents twice each year at conferences, updates the ALP for each identified student.

According to Kapushion, “because gifted students are not identical in their strengths, interests, or needs, there is no single right answer as to where a student should attend school, rather the best “fit” is to be sought.” If a student qualifies for an ALP with one area of strength, then goals and programming will occur at the neighborhood school through carefully coordinated instruction in the regular classrooms or through special instruction and opportunities. These schools have GT Resource Teachers that support regular education classroom teachers as needed to assist with best practices, differentiation, passion projects, independent study opportunities and parent meetings. Lindsey Brown, a GT Center classroom teacher feels that in the GT classroom teachers are able to create a curriculum that supports the GT student with higher-level questions and engaging activities. Even the content benchmarks and standards are accelerated a minimum of one year. Curriculum compacting, pre- and post- testing, and off-level testing are used to determine instructional levels. This frees up time for students to engage in passion projects and in-depth or independent study projects. If a student qualifies for an ALP with two or more areas of strength, then the student may apply for placement at a GT Center school. Students who apply for placement at a GT Center school have a desire for a gifted program setting and have the ability or need to ben-

efit from a peer group, accelerated instruction, enrichment, and attention to affective needs. The GT Center classroom placement is an intensive intervention opportunity for gifted learners, says Kapushion. For students who need a non-traditional setting, Jeffco’s 21st Century Virtual Academy is available to identified gifted learners. Higher-level enrichment courses and extensions are offered through a virtual setting beginning at the 7th grade level. As students progress through the curriculum, it is sometimes necessary to seek options at community colleges or universities through concurrent enrollment options.

Jefferson County (Jeffco) Public Schools Golden, Colorado

www.jeffcopublicschools.org/programs/gifted_talented/index.html

Gifted Education Director: Dr. Blanche Kapushion

Mission Statement: To transform the potential of gifted students through challenging and meaningful learning experiences so that the students may become creative producers and responsible problem solvers in a multicultural world.

Not only is it imperative that students find the right classroom fit for their learning needs, but the teachers working with identified GT students at Jeffco must have credentials in gifted education. Jeffco GT Center teachers are required to have a minimum of a GT Endorsement through the Colorado Department of Education. Additionally, GT Center teachers participate in professional development 4-6 times throughout the school year and in order to nurture the home and school partnership, Jeffco GT conducts monthly Parent Seminars led by GT Resource Teachers or national speakers.

Jeffco Public Schools is a superb example of how a large school district can meet the needs of GT students through thoughtful identification that matches programming. Options of classroom settings and opportunities through a continuum of services help GT students find the right fit for their unique educational needs. **THP**

Editor’s Note: One of Jefferson County’s schools is host to an Action Lab during the NAGC Convention in Denver. For more information on this and other Action Labs, please visit: www.nagc.org/2012actionlabs.aspx

Social and Emotional Needs: Is There a Curriculum Connection?

Recently I met with colleagues to discuss integrating strategies and techniques that address both our students' social and emotional and their academic needs. Story after story shared in our small group revealed that whether we planned for it or not, our students had a need to discuss issues and concerns in our classrooms. Through our discussions, we began to talk about where this would fit into our perfectly planned lessons and activities. Was there a curriculum connection?

In a recent article in the *New York Times*, high school students discussed the pressure they feel over grades and competition for college admissions and testing, leading some to abuse prescription stimulants in order to give them focus during tests and study sessions (Schwarz, 2012). This stress and pressure is not isolated. Students in our classrooms today are under stress from testing, parents, their peers, and themselves. Jean Peterson (2009) noted that although research does not establish that gifted individuals are more or less likely to have mental health concerns, there is quite a bit of evidence to suggest that those "gifts" can impact students in both positive and negative ways. How then, do we help our students with pressures and stress while at the same time attending to curricular standards in the classroom?

CREATING A SPACE FOR LEARNING

A great place to start is by creating a classroom community in which students feel welcome and ready to learn. In order for students to feel like they can share their worries and struggles in the classroom, a teacher must create that environment for learning. Teachers can do this by giving students an opportunity to have a voice in the classroom, by giving students choice in assignments as well as opportunities for feedback throughout the assignment. In classrooms where students feel like they have to know the answers to look good in the eyes of their peers, some students may not feel comfortable raising their hands or telling you how they feel. Placing a "Question Box" in a discreet area of the classroom allows students to pose questions anonymously or in private and get their questions and concerns addressed. For more information on learning environments, please access Standard 4 of the NAGC Pre-K-12 gifted programming standards. <http://nagc.org/GiftedEducationStandards.aspx>

USING YOUR RESOURCES

Teachers often feel that when they are presented with an issue in the classroom, it is their job to conquer it alone, but this need not be the case. When faced with

students experiencing stress in testing situations as well as in peer groups, I reached out to my school counselor. I was fortunate to have a school counselor who could point me to some great resources as well as teach with me as we addressed stress management. One book that was incredibly helpful was *Fighting Invisible Tigers* by Earl Hipp, which helped me weave strategies for dealing with stress into my classroom. One great strategy that I use in my own life is "Front Burner, Back Burner." I gave students paper that looked like the top of a four-burner stove. We talked about how there are some things that are "front burner issues" and others that don't demand our immediate attention that we can leave for the "back burner." Students wrote their issues on their burners and we discussed issues that we really don't have any control over, which we can take off the stove completely. As students faced stresses throughout the year, I knew they continued to use this strategy because I often heard them say, "I don't think this is a front burner issue!"

Whether teachers have access to a school counselor, fellow teacher, an article or book, or even a Pinterest page (yes, there are pages devoted to social and emotional needs! See: <http://pinterest.com/kimberlielewis/aig/>) there are resources out there that can help us integrate affective education into the classroom.

MAKING THE CONNECTION

Teachers are not counselors, but they do have a responsibility to get to know their students. Not only does this make sense for meeting academic needs, but affective needs as well. Until a child feels that the classroom is a safe environment in which to explore new concepts and new ideas, real learning cannot take place. When it comes to addressing the social and emotional needs of learners, there truly is a curriculum connection. **THP**

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Teaching Gifted Males: Lessons Learned in my University Classroom

By Thomas P. Hébert
University of South Carolina

Thomas P. Hébert, Ph.D., is Professor of Gifted and Talented Education in the College of Education at the University of South Carolina. His research interests include social and emotional development of gifted students, culturally diverse gifted students, underachievement, and problems faced by gifted young men. He is the author of Understanding the Social and Emotional Lives of Gifted Students.

One spring, my university announced that it would institute a First-Year Odyssey Seminar (FYOS) program in which all freshmen would be required to enroll in a one-credit course from a lengthy menu of seminars designed by professors. In advertising my seminar, I submitted the following course description:

Athlete, Artist, or Academic? Exploring Male Talent Development.

How does a young man in college determine his strengths and talents in planning for a successful future? What are the factors that influence talent development and achievement? How does the development of his talents influence how a young man forms his identity, and what role do mentors play in the process? Through interactive discussions, case studies, activities, and media, students will gain a better understanding of their talents and strengths and learn ways to apply them in their first year at the university.

My experience with this class of college freshmen has lessons for K-12 educators working with gifted males.

As I entered the university classroom on an early afternoon in August, I wondered if my anxiety was apparent to the group of students seated there in silence. Having been a graduate faculty member for 15 years, I had not been connected to the world of 18-year-olds for quite a while. Although

my career in public schools had included years of teaching teenagers, I recognized that freshman university students had changed drastically since then, and I wondered whether I'd be able to connect with the 15 young men enrolled in my seminar. As I powered up the technology for teaching my first session, I scanned the group and assumed that the silence in the room was attributed to their own nervousness about being first-year students at a large university.

GETTING TO KNOW THE STUDENTS

Of the 15 students in the seminar, 10 were Caucasian and five were African American. They came to the university from urban, suburban, and rural communities and diverse socioeconomic backgrounds. During the first week of class, I disseminated an interest

inventory electronically to the young men and explained that I wanted to become familiar with their high school experiences and learn more about their interests. The inventory included questions such as, "If you could have dinner with any 3 real or fictitious people from history, whom would you invite to dinner? Explain your choices and describe the menu—what would you eat?" and "Describe your ideal day from the time you wake up until the time you fall asleep, in as much detail as possible."

Through the inventory I gained much helpful information. I discovered that all 15 had earned college credit from Advanced Placement courses and most had been involved in gifted education programs. I discovered some who saw themselves as musicians and a number who were concerned about maintaining their religious faith



while in college. Several were Greek fraternity pledges who were worried about juggling classes and surviving their pledging responsibilities. My most important discovery was that these young men had all been scholar-athletes in high school and were proud of having been accepted to the state's highly competitive flagship university. What concerned them most was whether they would be able to manage their academic responsibilities in their new setting as well as find a group of new friends.

THE 10-WEEK CURRICULUM

Since the university wanted students exposed to the research conducted by the faculty, I used published refereed journal articles on my research on gifted males as the readings for the class. Each week in class I dedicated some time to discussing the studies I had conducted and the relevance of their findings to the lives of my 15 students. The students were required to respond to the readings in a reflective paper prior to coming to class each week.

We began the semester exploring my study of a successful swim team coach in an urban high school and the mentoring role he played in the lives of his athletes. We then studied the adolescent experience of a variety of prominent professional athletes through an examination of biographical materials. I shared a study of a group of high achieving university males involved in a Greek fraternity. We then delved into research studies on gifted male identity development, mentoring relationships for talent development, paternal influence on gifted males, and underachievement and selective achievement in males. In exploring various approaches to achievement, I shared a movie entitled *Gross Anatomy*, starring Matthew Bodine as Joe Slovak, a brilliant first-year medical school student whose casual, nonconforming approach to life is tested by a challenging anatomy course. Spirited discussions about Joe Slovak's approach to education followed the viewing of the film.

I scheduled a guest speaker from the university's student activities

program to discuss the importance of getting involved in extracurricular activities on campus in order to enjoy and benefit from life beyond the classroom. I also arranged to have the class participate in a student activities fair that provided information about the multitude of student organizations on campus that might serve as outlets for their talents and resources for making new friendships.

ENGAGING THE 15 MEN

The silence I encountered on the first day of class as I entered the room initially puzzled me. I struggled to un-

derstand why the students were not engaged in conversations with each other. I observed that cell phone conversations, texting friends, and Facebook before class seemed to replace social interaction among the group, and I struggled to appreciate this generational phenomenon.

I discovered that I needed to be in the classroom before they arrived so that I could begin conversations with them about the events of the day on campus such as that weekend's football game or the quality of the cafeteria's food. These casual conversations appeared to put them at ease and encouraged them to talk later in class discussions. Noting this effect, I made a point of dividing the class into groups of two or three for small-group dialogue before the entire class engaged in discussions, and found that this strategy also increased students' comfort level and participation.

I surveyed the group about their preferred method of submitting their weekly reflective essays. They all preferred to submit their work electronically. My e-mail correspondence with them regarding their reflections not only allowed me to provide important private feedback, but also enabled them to confide in me about the many personal connections they

were making with the findings of the studies. For example, I learned of important coaches who had served as mentors and about the quality of their relationships with their fathers. That private email communication apparently provided a psychologically safe space for them to share their lives with me, and I was impressed by how honest they were in writing about themselves.

I was delighted to discover that my 15 students all made strong personal connections with the content of the course. Because the seminar had attracted so many scholar-athletes, my

“It is critical for teachers to ask young men what is happening in their daily lives.”

decision to examine issues related to athleticism through biographies and autobiographies proved to be a huge success. I also incorporated video clips from the Internet that presented interviews with prominent athletes reinforcing many of the key points highlighted in the biographies and providing for even richer discussion.

The seminar ended with the young men presenting individual projects to the group. In these final projects they were asked to reflect on their understanding of the course content and on the personal implications of the issues highlighted throughout the seminar. They were also asked to present their personal interpretation of their experiences with developing their talents as athletes, artists, or academics. Their presentations were to include photography and current technologies. I was very proud of the high quality of their work and impressed with their thoughtful reflection. We celebrated their accomplishments with a pizza luncheon. I had specifically ordered a pepperoni pizza in response to an interest inventory question which asked to specify the menu for a dinner with a significant individual. One student had responded something with “Meat! Because that's what

men eat.” The class laughed upon realizing the connection.

As they left class the final day, they shared their appreciation awkwardly, letting me know that they had enjoyed the course. Many expressed how significant the small class size had been, especially compared to the size of their other courses. They also thanked me for being passionate about teaching. I received an e-mail message from a young man nicknamed “L.J.” several days after the seminar ended. Although I initially found the quiet, muscular athlete with tattoos somewhat intimidating, I was struck by his kind words:

Going in to the freshman seminar class, I did not know what to expect. I feel lucky to have selected this particular class. I appreciate the way that you approached and taught this class. It really encouraged me to reflect on my athletic and academic careers. You also really made everyone feel

comfortable. Thanks for these past few months. —L.J.

IMPLICATIONS FOR TEACHERS OF HIGH ACHIEVING MALES

My story speaks to the importance of striving to understand the masculine culture in which boys are living. It is critical for teachers to ask young men what is happening in their daily lives. Teachers may want to consider private electronic interaction with gifted males as a means of better understanding their lived experience.

My story also illuminates the value of designing a curriculum that appeals to and engages high achieving adolescent males and the power of biography and media in delivering such a curriculum. Gifted education teachers in high schools may want to consider facilitating a similar seminar for the young men in their settings. To support their efforts, the articles I incorporated into my 10-week course are listed at the end of this article.

The increasing influence of technology on the development of social skills in gifted students may require the development of strategies for delivering social skills training in students who are “wired” to technology. Engaging in small-group discussions before large group sharing was valuable in developing comfort with face-to-face communication.

Educators may want to consider the importance of providing guidance to help gifted young men reflect on their own process of identity development. Gifted education curriculum can readily address this important topic. I learned from my 15 students how much they appreciated the opportunity to examine themselves as multitalented males.

Though I was anxious going into this seminar, I quickly was excited to share this learning experience with my students and recommend a similar experience to other educators. **THP**

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SMART cookies

Idea: Bess Wilson
Artist: Jim Wilson



When Ms. Taylor said to be creative in the final paper, she hadn't considered the use of glitter...

We Teach Great Minds

Recently I was part of a group of volunteers that was invited to tour a new health care facility for low-income citizens in the city where I live. I was very impressed with the artwork on the walls of this facility and in addition to wonderful paintings, the designer used quotations from famous people. One of these quotations was the Eleanor Roosevelt quotation included here. I found myself borrowing a piece of paper so that I could copy some of the quotations to use later—and this is the later!

It occurred to me that we teach students who are capable of all three types of discussions that Eleanor Roosevelt includes in her quotation. The power of a strong classroom for gifted students is certainly one that focuses on ideas. We are reminded of the importance of ideas in the work of many of the great scholars in our field. Feldhusen, Kaplan, VanTassel-Baska, Renzulli, and Gallagher all speak of the power of great ideas as organizers of lessons appropriate for gifted students. My own work has focused on how secondary gifted students need to work with ideas, debating the issues surrounding them, and synthesizing the thoughts that they suggest into new guiding principles. Indeed, part of the unique experience of working with great minds is that they are capable of creating new understandings.

We may not be aware of how important discussions are for these great minds, but our students can tell us of their importance, and they can remember the exact situation that prompted them in class—or out of class in those impromptu discussions that characterize our work with them. A “remembrance of times past” (to cite Proust) happened for me this past month. I attended a reception for a former student who has written the screenplay for a film, which has been doing well at regional and national film festivals. She reminded me that I had advocated for her in her quest to take a senior English class instead of the required freshman one and that it had worked very well for her. But it was not really her comments about my class or the residential school, but rather the interactions she described with her fellow classmates out of class that especially snagged my attention. She described several life changes she made as a result of the deep discussions she had with her classmates. Further, she retained these

friendships, and their encouragement and critical help convinced her to move her novel to a screenplay. She described the 27 drafts it took to complete the task and the invaluable help from a classmate who currently works with independent films in Los Angeles. Their friendship was formed in the discussions they shared over issues, and the ideas derived from these interactions were instrumental in forming the great minds they have today.

This student and her classmates did not center their discussions on events or on people. What characterized their friendships were the

**“Great minds discuss ideas;
average minds discuss events;
small minds discuss people.”**

—Eleanor Roosevelt

ideas that frequently came from meaningful time spent together and their ability to be creative. The second quotation that I copied from the walls on that tour focused on creativity and read as follows:

Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn't really do it, they just saw something. It seemed obvious to them after a while. That's because they were able to connect experiences they've had and synthesize new things.
—Steve Jobs

Reading his thoughts reminds us of Jobs' great mind. They also remind us that forging connections is relatively easy and “normal” for creative people. Additionally, it reminds us that occurrences in class in which students are asked to “connect experiences” are worthwhile in many ways. They allow the chance to synthesize information and experiences, providing the elements that lead to their creation of “new” ideas. It seems to me that these are productive expenditures of class time.

Indeed, as Jobs reminds us, gifted and talented students “connect things” because they see things differently from the norm and are able to synthesize these new perceptions with their existing experiences. I agree with both Eleanor Roosevelt and Steve Jobs. If teaching centers on events and people, it sells students short with average to small possibilities to use their knowledge. It is through the sharing of individual ideas through discussion that new ideas emerge from these great minds. **THP**

Clearing a Path to Achievement for Low-Income, High-Ability Learners

NAGC's big picture conversations and strategic goals have always included a focus on low-income, high-potential learners. How best to develop the talents of this population is a multifaceted and knotty problem. Certainly pockets of success exist across the educational landscape, largely dependent on out-of-the box funding and inspired leadership. Across the field and within NAGC forums, the question of how we clear a path to achievement for low-income talented learners is never far from our focus.

So when a door opened that would allow a variety of experts to consider a research agenda for the field focused on the needs of promising learners from poverty, NAGC president Paula Olszewski-Kubilius stepped through it. That door was opened by the Jack Kent Cooke Foundation with funding to support a National Research Summit on Low-Income, High-Ability Learners, held in Washington, DC, on May 30-31.

Participants—about 60 educators and researchers—met to explore this complex topic from a variety of vantage points. Part of the conversation was also devoted to discussing what has changed since the last research summit NAGC and then-president Joyce VanTassel-Baska hosted on this topic in 2006, called “Overlooked Gems.” As an attendee at the May Summit, I was struck

about complexity and depth:

SAMPLE RESEARCH QUESTIONS

- To what extent is the label of “gifted” a barrier to high achievement for low-income, promising learners?
- What professional development models work best in preparing classroom teachers to identify and work effectively with low-income, high-ability learners?
- What is most important to impact, teacher attitudes or aspects of instructional practice?
- To what extent is specific pedagogy a barrier to the talent development of low-income children?
- Can psychosocial characteristics and skills critical to the development of talent among low-income, gifted learners be systematically developed and taught?

To see the rest of the research questions as well as the other resources developed and collected on this topic, (including an updated and comprehensive bibliography) visit the Summit Agenda page at <http://www.nagc.org/nationalsummitagenda.aspx>. You also will be able to access one-page descriptions of the featured in-school and supplemental programs, which adds a practical dimension to the conversation.

One especially relevant outcome of the Summit was the



by the sheer breadth and depth of the conversation—overwhelming at times—along with a sense of urgency for finding ways to truly support the needs of underrepresented learners. As the next step, several recorders and key participants were charged with identifying the research questions related to the themes presented by Summit experts. I've included a cross-section of these questions below, and I think you'll see what I mean

commitment to build bridges to the classroom teacher and educator most likely to have a direct impact on children. NAGC members will benefit from the best thinking of the assembled experts and participants when they receive a white paper available in time for the NAGC convention in November. The report will summarize the state of knowl-

continued on page 13

Flipping the Classroom: A Revolution in Learning

Certainly, gifted education is no stranger to the mantra, “Be the guide on the side and not the sage on the stage.” Since the dawn of public education in America, teachers have taught through lecture and the occasional activity when a class of students was assembled before them. Students were then dismissed at the end of the day to go home and practice what, hopefully, had been learned. Much to the dismay of generations of parents, homework became burden-filled evenings of deciphering the meaning of a project or assignment, causing a rift between parent and child. Rather than spending valuable class time lecturing, imagine what could happen if students received the information and content at home and applied their newly acquired knowledge while in class. This rather ingenious switch is the central idea behind the current “flipping the classroom” trend.

Most agree that the idea was first presented by J. Wesley Baker in 2000 at the 11th International Conference on College Teaching and Learning in his paper, “The Classroom Flip: Using Web Course Management Tools To Become the Guide by the Side.” Thanks to readily available technology tools and resources, the power to create a learning revolution is accessible to anyone.

Perhaps the earliest adopted and most widely used online resource for flipping is the Khan Academy (<http://khanacademy.org>). Begun by a single individual, Salman Kahn, the more than 3,200 online videos provide free tutorials covering a wide range of topics related to math, science, economics, and the humanities. Each video provides a basic overview or review of topic or skill in five to ten minutes. Students are able to view the videos multiple times or even refer back to the lesson for review if necessary. Additionally, Khan Academy features hundreds of online assignments that correspond to the video lessons. However, Khan Academy represents only a first step into the world of the flipped classroom.

In my opinion, one of the most underutilized online resources is iTunes U (<http://www.apple.com/education/itunes-u/>). This collection of free instructional materials, lectures, and videos primarily features content from actual courses at colleges and universities, but it also hosts a veritable treasure trove of high level, quality educational content. An app for the iPad, iPhone, and iPod Touch is now available to allow for

better management of content and the learning experience.

If considering flipping a lesson for your students, the one resource that I would most recommend is TED (<http://www.ted.com>). To quote TED’s motto, this is a collection of talks that contain “ideas worth spreading.” Assembling some of the greatest minds of our time and allowing them only 18 minutes to speak is the central premise of the annual TED Conference. The beauty of TED is that they freely share these talks with the world in hopes of sparking curiosity and imagination. What better way to expose gifted students to world-renowned experts? Rather than devoting valuable class time to showing a video, why not assign the video for homework instead? Then when you are with your students, you can spend time extending the discussion and guiding students in further investigation of the content.



The latest endeavor from TED is TED ED (<http://ed.ted.com/>), a collection of lessons and resources designed for teachers and students. The site has an open invitation to teachers to submit their best lesson ideas, and if selected, the teacher will be partnered with an animator to have a video lesson created for them and posted to the site. This collection of videos is the 2012 equivalent of ABC’s Schoolhouse Rock animated shorts from the 1970s. To better support the idea of a flipped lesson, TED ED has created lessons for each of their

posted videos. After watching the video, a QUICK QUIZ of five multiple-choice questions is given to confirm the basic comprehension of the content. Next, students are asked to THINK. This section contains short-answer questions designed to measure understanding. Finally, there is a DIG DEEPER section, where students are given additional resources to explore or an activity to investigate. Sound familiar?

While TED ED has developed a series of lessons to support their videos, they have also opened the platform to allow teachers to customize any lesson. Teachers are able to add their own questions and resources. By customizing a lesson, a unique web address is created for you to share with your students. In this way, you can view who has completed the flipped lesson.

Thanks to the many new resources available to teachers, they now have the power to create a personalized learning experience for students. Let the learning revolution begin! **THP**

general structure proposed earlier.

Implementation, the last component, occurs when ideas are tested or exhibited. When the website designer has an idea he thinks will work, he puts it into practice to get feedback on its effectiveness. At points along the way, some evaluation of the ideas should be made, but it should not be so overwhelming that the individual does not make progress on the product (Torrance, 1979). The website designer might use multiple evaluations and feedback to determine the quality of her ideas during idea generation and to make adjustments to the product based.

ASSESSMENT

One way to gain this understanding of each student's facility with the creative process is to observe students as they engage in a creative activity. The observing teacher might make a chart tabulating all of the creative process components so that thoughts and comments can be recorded while a student is being observed. Some examples of observations that may be recorded include:

Preparation

- Selected several books as sources for the project
- Read extensively on the topic before beginning
- Visited an art museum before beginning to draft artwork

Problem Development

- Experimented with chosen media to select the best set up for a piece of art
- Asked questions to clarify the parameters of the activity
- Made an extensive outline for the paper

Idea Generation

- Had multiple solutions for a problem
- Came up with numerous possible plots for the short story
- Made several sketches before starting the drawing

Implementation/Verification

- Proceeded steadily through the final piece of art
- Final product was fluently written with minimal editing (erasures, changes.)

- Established personal criteria for self-evaluating product
- Sought out constructive criticism on work from peers, teachers, parents.

In lieu of observations, or to help raise personal awareness, teachers might create a short paper-and-pencil questionnaire (see figure 1 for examples of questions) for students to gather information on their own creative process. The questionnaire can be completed

activities in which they can be most successful. Students might be matched to activities suited to their strengths. For example, a student who demonstrates strength in the area of idea generation might be a good candidate for Odyssey of the Mind (www.odysseyofthemind.com). Given that the brainstorming portion of this competition is all about numbers of ideas, these students are likely to perform well and continue to develop these skills further. Or, a student who shows relative strengths in

Figure 1. Potential questions for a creative process assessment

PREPARATION

- ⇒ How much time do you spend gathering information about a topic before starting a creative project related to it?
- ⇒ When you are assigned a project at school, what kinds of information gathering do you do?

PROBLEM DEVELOPMENT

- ⇒ When and where do you see problems?
- ⇒ Do you tend to be critical of the world around you? Explain.

IDEA GENERATION

- ⇒ How easy is it for you to come up with ideas?
- ⇒ How likely are you to add details to the things you make, write, draw, etc.?

IMPLEMENTATION/VERIFICATION

- ⇒ How often do you share your ideas with others?
- ⇒ How much time do you spend trying out your ideas to see if they work?

individually by the student or used to prompt discussion while conferring with the student.

For more ideas for survey questions, see a survey posted at <http://www.surveymonkey.com/s/ZMQBMLW>. The items from the survey can be modified to suit a particular need. Alternatively, simply studying the survey may result in better observations when watching students engaged in creative activities.

USING CREATIVE PROCESS ASSESSMENTS

The assessment information, which will tell you about students' strengths and weaknesses in the various components of the creative process, can be used to steer students to creative ac-

problem development might want to participate in the Future Problem Solving Program International (www.fpspi.org), which not only asks participants to find problems, but also teaches them how to define problem situations.

Creative process assessments may be useful in directing students towards suitable activities in settings of a more typical nature as well. Students who are strong in preparation might like complex projects that require a great deal of research. This might include making a documentary or writing a research paper. Alternately, students who are weak in preparation but love evaluation might be better suited for writing a film or book review. Finally, students who are strong in problem development might



Insight into a student's creative process can yield even further benefits. For instance, it can be used as a structure for grouping students. For example, it is often difficult for groups comprised solely of idea generators to implement ideas. Therefore, groups should be composed of students with strengths in different components of the creative process.

find success in developing and outlining a new genre of film or writing.

Effective diagnosis of creative process component strengths and weaknesses may be helpful in directing students to focus on the appropriate type of research project. Research can be divided into two main types, observational and experimental. Jane Goodall is an observational scientist. The bulk of her work is making observations (preparation), which are later analyzed for the formulation of hypotheses that she confirms with her original observations or further observations. Louis Pasteur, on the other hand, made observations and studied theory, but spent the bulk of his research time on experimenting to test his hypothesis. Students who demonstrate strengths in preparation may be more inclined toward observational research whereas a student high in implementation might be more inclined to experimental research.

This helps move the process along more smoothly from preparation to implementation with each child feeling good about contributing from an area of strength.

In order for students to be more aware of their own experiences and draw conclusions about their own personal creativity, it might be helpful to directly teach them about the creative process. Students can begin to match themselves to the right projects, domains, and partners based on what they have learned about their own strengths and weaknesses, increasing their self-efficacy and productivity. Furthermore, it will be useful for advanced students to learn to use the information to become more aware of how to adjust their cognitive resources in order to meet the needs of different creative projects. They can learn when to apply strategies for idea generation when a project calls for better ideas or to extend their information gathering when heavier prepara-

tion is what is needed.

The examples given here do rely on generalizations, and each child is different. But, focusing on students' creative process strengths may improve productivity by matching the student and the task. This different approach aids students in facilitating their creative process and making the most of their creative potential. **THP**

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view from the NATIONAL OFFICE

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edge and understanding about the characteristics and development of high ability, low-income learners. It will explore barriers to these students' educational achievement and identify effective practices and programs that develop their talents. In addition, it will include a set of "recommended best practices" and outline directions for future research. NAGC also plans to use this work to inform the national research and policy agenda as it relates to building the case for academic success with low-income, high-ability learners.

A rewarding aspect of my role here at NAGC is to see, first-hand, the productive results that emerge from the collective thinking of experts both inside and outside

the field. Momentum around these initiatives continues to build with the steady leadership and commitment that Paula Olszewski-Kubilius brings to her two-year term as president.

As we work collectively to identify gifted children and develop their talents, a focus on students who are typically under-identified and under-represented in gifted programs is important to our field, to society at large, but most especially to the students themselves along with their families.

Note: If you don't plan to attend the NAGC convention this year in Denver, you will be able to access the white paper on NAGC's website by mid-November. **THP**

Vocabulary Instruction in the Common Core State Standards Era

Students who are verbally gifted enjoy vocabulary instruction. Word play, vocabulary games, and learning Greek and Latin stems are all activities that can be engaging to even the youngest students. Beyond this, however, it is important to understand how crucial it is that vocabulary instruction is intentional and robust, especially for students from low socioeconomic (SES) backgrounds and/or who are learning English as a second language. It is estimated that first graders from low-SES settings come to school knowing about half as many words as more advantaged children (Beck, McKeown, & Kucan, 2008). In our efforts to spot and develop potential in underserved populations, it is crucial that we use deliberate strategies to promote vocabulary growth.

As school districts transition to using the Common Core State Standards (CCSS) as the basis for planning curriculum and instruction, it is incumbent on teachers to understand the importance of direct vocabulary instruction in social studies and science. The CCSS have a strong emphasis on informational text in the primary grades (K-3). Although vocabulary is explicitly listed only in the craft and structure strand, it is inherently part of the other reading and all writing strands as well.

Beck et al. (2008) provided a useful framework for vocabulary instruction that includes three tiers of words vital to comprehension and vocabulary development. The framework is based on research that indicates that while most vocabulary is learned indirectly, some must be taught directly (Partnership for Reading, 2002). The tiers, which are not hierarchical, are:

Tier 1 words commonly appear in spoken language and everyday speech. Because they are heard frequently in numerous contexts, Tier 1 words rarely require explicit in-

struction. Examples are *kitchen, boy, sad, and run*.

Tier 2 words are general academic words used across several content areas. Because of their lack of use in oral language, Tier 2 words present challenges to students who

“To spot and develop potential in underserved populations, it is crucial that we use deliberate strategies to promote vocabulary growth.”

primarily meet them in print. Examples of Tier 2 words are *evident, complex, determine, and validate*. They often represent subtle or precise words to express ideas (*saunter* instead of *walk*).

Tier 3 words are not frequently used except in specific content areas or domains. Tier 3 words are central to building knowledge and conceptual understanding within the various academic domains. Science, legal, medical, and mathematics terms, such as *octahedron* and *crustacean*, are examples of these words.

According to Beck et al. (2008), teachers should concentrate on Tier 2 words because most students already know Tier 1 words; Tier 3 words should be taught at point of contact as they occur in reading. Because Tier 2 words appear often in student texts, these are the ones that are most important for vocabulary development. The concept of “robust” vocabulary instruction is focused on Tier 2 words. The key features of Tier 2 instruction and how those might be incorporated in a classroom for the highly able and “at-

Word	Definition	Context	Prompt
Hypothesis	An educated guess about why something happens	The scientist made a <i>hypothesis</i> about why the storms were occurring.	What is your <i>hypothesis</i> about the reason for the change in the temperature of our classroom?

potential” (Coleman & Gallagher, 1995) students are:

Introduction of a set of five to seven Tier 2 words each week with student-friendly definitions:

- Explain the meaning of the word in everyday life.
- Focus on the meaning used in the context being addressed.

Daily analytic activities to engage students in using the word in a variety of formats and contexts:

- Analyze the word structure (prefix-root-suffix)
- Teach students Greek and Latin stems for understanding meaningful units of the word.

End-of-week assessment:

- Assess using a variety of methods, including word play.

Maintenance activities:

- Provide a context for the word and have students use it frequently.
- Help the students find a prompt that will connect to a personal context for the word.

A chart such as the one found on the previous page could be used to help students to record their Tier 2 words:

Our next installment will focus more in-depth on Tier 2 words and strategies for teaching them that will engage your primary learners. While we agree with suggestions from the researchers that Tier 2 words are crucial to vocabulary development, we contend that for primary gifted learners, teachers should also introduce the Tier 3 words. We all know how these students love words such as Tyrannosaurus and polyhedron! **THP**

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Coming This Fall!

A New and Improved *Teaching for High Potential* webpage and exclusive members’ only access to the entire issue backlog.

Teaching for High Potential has undergone a makeover and in conjunction with the debut of the new design, members of NAGC will be able to access every issue of *THP* ever published. Additional supporting resources found on the NAGC website will also be linked from these pages. Keep an eye out for the new *Teaching For High Potential* webpage this Fall!



By Jill M. Olthouse, Ph.D.
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Selecting Online Curricula for Gifted Learners

Jill M. Olthouse, Ph.D., is an assistant professor in the Department of Special Education at West Virginia University. She teaches courses in the Online Gifted Education Masters and Certification Programs, advising gifted education majors and organizing the Summer Gifted Workshops at WVU.

In the past, textbooks were a staple of many classrooms; they presented a year's subject matter curriculum in an organized, prescriptive fashion. However, textbooks do not adapt to a learner's interests and ability level, and for this reason grade-level textbooks are often not appropriate for gifted learners. Gifted education teachers often have some autonomy when it comes to choosing their students' curricular materials. Online curricula may have advantages over traditional curricula when it comes to meeting the needs of gifted students and making life more manageable for their teachers. Online curricula are increasingly becoming an alternative to textbooks because they offer audio-visual interactivity, diagnostic-prescriptive assessments, web links, and streamlined management capabilities. As a teacher in a school for the gifted, I used five different online curricula providers and perused many more. I have come to see the potential and pitfalls inherent in using online curricula with gifted learners.

ONLINE CURRICULA AND GIFTED LEARNERS

Gifted learners in both rural and urban areas face similar challenges when it comes to accessing the full range of AP and foreign language courses; online courses can help meet those needs. Though online courses are most frequently used in distance-learning situations, they also can be used for students who want to complete a course



at an accelerated pace, to provide enrichment activities for students in the general education classroom, or to replace the core curriculum textbooks.

There were an estimated 1.8 million enrollments in distance-education courses in K-12 school districts in 2009–2010, almost all of which were online courses. 74% of these enrollments were in high schools (Queen & Lewis, 2011), which means that savvy teachers have more choices than ever. In fact, I once counted approximately 50 major companies that offer online curricula. In examining the choices available, however, it is important to apply a set of criteria by which curricula can be judged. I recommend five criteria that can be used to determine whether online curricular offerings are a good fit for use with gifted students.

FIVE CRITERIA FOR SELECTING ONLINE CURRICULA

1 Does the online curricula offer diagnostic-prescriptive assessment?

Pre-assessment, curriculum compacting, and acceleration are staples of gifted education curricula. Quality online curricula should easily adjust to gifted learners' ability levels. Diagnostic-prescriptive assessment occurs when a computer assessment determines the student's performance level, and then prescribes only lessons that align with his or her individual ability. Thus, gifted students can easily skip content they have already mastered, but they can also revisit content that they have trouble with. Ideally, students should complete a diagnostic prescriptive assessment at least once

a month, or at the beginning of each curriculum unit. Many activities within the curriculum also should be programmed with a diagnostic-prescriptive function. A simple example of diagnostic-prescriptive assessment is at work in the online vocabulary flashcards at Free Rice (freerice.com) that span multiple difficulty levels.

2 Does the online curricula provide integrated management capabilities?

Integrated management systems integrate assessments, communications, and reporting into one computerized system. Consider the process of grading a multiple-choice test. In the past, teachers hand-graded all the tests, wrote the scores in a paper grade book, typed the scores in a computer grade book, filled out a separate form for report card reporting, and mailed that form to the parents. Optimally, all of these functions could be streamlined if the computer graded the tests and automatically transferred them to the grade book, which is then automatically transferred to the report card. Parents could log in and track their child's grades online. This would free up precious time for teachers to engage in more meaningful work, such as responding to student writing or keeping tabs on students' diverse assignments and levels.

3 Does the online curricula provider have a stated gifted education philosophy?

Does the online curriculum provider define the learning characteristics and needs of gifted students? Do they align lessons and units with NAGC standards, or at least allow students to enroll in units with out-of-grade level standards? What percentages of the assessment questions are geared towards memorization, application, analysis, synthesis, and evaluation? Obviously, curricula that rely primarily on multiple-choice assessments may be more limited in meeting the needs of gifted learners than curricula that rely on authentic assessments and teachers' judgments.

4 Does the online curricula provide original, interactive audiovisual content?

Some online curricula providers

primarily organize pre-existing content on the Internet. For example, a lesson might include visiting a museum's website and then answering questions or writing a short response based on the website visit. While this service may be helpful for teachers, paying for information that is essentially free may not be ideal. Other curriculum providers provide original content, but it does not amount to much more than adapting textbook pages to webpages. The writing can be cumbersome and dry. While it is appropriate for students to be reading text as part of their studies, appropriate texts for gifted students include primary source documents, classic texts like those available on Project Gutenberg and Bibliomania and supplemental high quality mass-market novels or ebooks. Online curricula providers that add real value do so by leveraging current technologies to support learning. This might include creating original, interactive games, models, simulations, and video tutorials such as developed by Gizmos (explorelearning.com) and Brainpop (brainpop.com).

5 Does the online curricula honor the role of teachers?

Some online curricula providers, in an effort to cut costs, implicitly promote the "computer as substitute teacher" philosophy. In exchange for providing technological resources, they load their instructors with hundreds of students, or hire under-qualified teachers. Some online curricula providers do not provide instructional support, yet they still manage to "dishonor" the role of the teacher by "teacher-proofing" the curricula so that it cannot be adapted by the teachers using it. When I taught using online curricula, I wanted the ability to customize everything. If I felt the questions on a quiz were too easy or that they addressed topics that we had not covered in class, I wanted the ability to delete those questions from the quiz and substitute my own. I wanted to be able to modify the grading scale add web links and activities; I wanted to be provided with much more content than I needed for the year, so that I could pick and

choose the units that fit my students and my context.

BEGIN YOUR SEARCH TODAY

Schools have many choices in selecting curricula. Selecting online curricula with criteria to evaluate its usefulness combined with the possibility of multiple online curricula providers may be the best way to meet the needs of your gifted students. Below is a list of online curricula that I have used and that are geared towards gifted students. A quick exploration of each of their homepages will allow you to match your needs with their offerings. **THP**

Resources

Apex Learning

www.apexlearning.com

Original online curricula for a variety of Advanced Placement courses (\$)

BrainPop

www.brainpop.com

Online portal to a variety of resources for educators (free)

Compass Learning Odyssey

<http://compasslearning.com>

Audiovisual-interactivity and game-style learning especially appropriate for younger learners (\$)

Education Program for Gifted Youth

<http://epgy.stanford.edu>

Online K-12 courses designed specifically for gifted learners; their teachers have experience meeting the needs of gifted students (\$)

Gizmos – Explore Learning

www.explorelearning.com

Interactive online math and science simulations for grades 3-12 (\$)

Free Rice

www.freerice.com

Flashcards covering content from the humanities, sciences, foreign languages, math, and English (free)

Renzulli Learning

www.renzullilearning.com

Detailed diagnostic assessment that identifies student interests and strengths and matches them with appropriate online enrichment activities (\$)

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Building on the Best of Gifted Education with Programming for Talent Development

In our monograph, *Rethinking Giftedness and Gifted Education: A Proposed Direction Forward Based on Psychological Science* (2011), which was the basis for our fall 2012 article in *Gifted Child Quarterly*, we argue for a framework for gifted education that emphasizes several critical components. The identification of exceptional ability in children, especially domain-specific abilities, is important and should be early and continuous. Different talent areas (e.g.; music, mathematics) have unique developmental trajectories including different starting points, peaks, and end points and that because of these trajectories, different kinds of opportunities should be provided at every stage of development, specifically, ones that match the domain and students' level of developed talent within the domain. Gifted students must take advantage of opportunities and demonstrate commitment through sustained effort at some point along these developmental trajectories. Psycho-social skills, such as mindsets and persistence, are vitally important and should be systematically developed in talented students and not left to chance. Finally, the outcome of gifted education should be to help more gifted individuals find meaningful ways to contribute creatively to society.

What are the implications for K-12 education?

Identification procedures should assess exceptional ability in domains of talent.

This is especially needed in the upper grades, in addition to identifying high general ability.

Teachers should use advanced curriculum with children who already manifest giftedness.

In order to spot burgeoning creative writers, budding scientists, and nascent mathematicians, advanced curriculum can be used to bring out talent, especially in children who have had fewer early opportunities to learn.

Provide opportunities for growth to children at different levels of developed talent.

For example, begin to offer enrichment opportunities in

mathematics for children with developing interests (e.g., after-school clubs or within-class enrichment) and emerging talents as well as opportunities for acceleration and very advanced work for children who are making rapid

“There is great diversity among gifted students in terms of their talent areas, their levels of achievement, and their psychological and social characteristics.”

growth through the content area. (See Treffinger's work on levels of service, www.creativelearning.com).

Assess for talent early but provide opportunities to capture late bloomers.

Keep the doors to opportunities open to students who may not demonstrate interest or ability or commitment to achievement until they are older.

Specify and implement an articulated series of talent development opportunities within each core subject area.

Work continuously with students to increase a higher levels of competence which incorporates “critical” experiences specific to each domain (e.g., research experience in science, opportunities for critique of work by professionals in performance domains).

Remove any barriers that hold students and their individual pacing back.

These include obstacles to dual enrollment or credit for outside of school coursework; policies against any form of acceleration or policies linking credit solely to seat time)

Place more emphasis on the development of psycho-social skills supportive of giftedness and high achievement.

Attempt to integrate these into programming and day-to-day classroom activities. Skills include intellectual risk-taking, coping, and resiliency needed to deal with choosing a less traveled path and being different, appropriate attitudes towards effort and study, and mindsets supportive of doing advanced and challenging work.

Be clear about expectations for demonstrated achievement.

Clearly specify the indicators that a student is making sufficient progress to be able to continue onto more challenging learning activities within a particular domain.

Make sure that programs and services acknowledge and support a variety of gifted learners.

These include under-represented students, under-achieving students, twice-exceptional students, and highly gifted students.

Make sure that all teachers are trained to be “talent spotters.”

Recognizing the signs of giftedness and talent within students from diverse socio-economic, geographical, cultural and linguistic backgrounds and within various domains of talent is a key element of identification.

Make sure that all teachers are trained in and use gifted education best practices in their classrooms.

Acceleration, ability cluster grouping, problem-based learning, inquiry-based learning, curriculum compacting, and differentiation are just a few of the many strategies available.

There is great diversity among gifted students in terms of their talent areas, their levels of achievement, and their psychological and social characteristics. Our goal with the ideas we presented in Subotnik, et al. (2011) is to generate discussion and thinking in the field about additional ways to envision programs and services that will provide opportunities and contexts to enable all gifted students, those with demonstrated ability and those with potential, to find meaningful outlets for their talents and abilities, gain competencies in their talent areas, and acquire the psychological and social skills and receive the social and emotional support needed to become creative contributors to our society. **THP**

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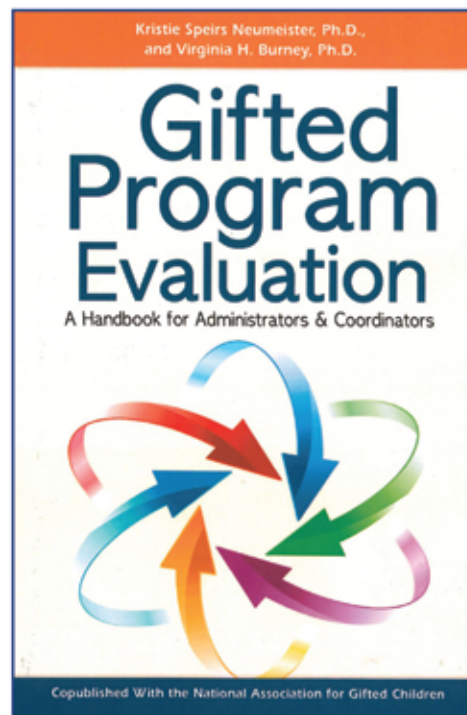
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Editor's Note: In order to connect current research and theory with quality classroom practice, issues of THP periodically contain a complementary article to one found in the pages of Gifted Child Quarterly. It presents a brief look at an issue and associated educational implications. An more expanded version of this column is originally published in TEMPO, published by the Texas Association for the Gifted and Talented <http://www.txgifted.org/tempo>, as well as in the NAGC Professional Development newsletter <http://www.nagc.org/ProfessionalDevelopmentNetwork.aspx>.

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