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Opinions expressed by individual authors do not necessarily represent official positions of TAGT.
Although budget cuts and educational reform continue to pose challenges to those who advocate for appropriate education services for gifted children, one merely needs to visit with the dedicated teachers and administrators in the field, the supportive parents of gifted children, and gifted children themselves to know that there is promise in our future. Even in the midst of turmoil in education there are those who are willing to do whatever it takes to ensure that the academic and affective needs of gifted kids are effectively addressed. Why? Because it is the right thing to do. These youngsters are our future and they deserve the opportunity to learn, grow, and develop their gifts and talents. As we look toward the future and closely examine ways that obstacles we face may be overcome, it becomes clear that the myriad of changes taking place in the field of education will necessitate adjustments in the instructional practices of teachers and gifted service delivery models. For this reason, the theme of the upcoming TAGT Annual Professional Development Conference, Gifted 3.0—Testing the Gifted in the 21st Century: Looking Forward, is especially timely and relevant.

This issue of Tempo aligns with the conference theme, focusing on future trends in gifted education and providing readers with a look at timely topics and promising practices in gifted education. It begins with an article by Dr. Bertie Kingore, one of the most revered authors and presenters from the State of Texas. Dr. Kingore, in her manuscript “Differentiating Instruction to Promote Rigor and Engagement for Advanced and Gifted Students,” describes learning environments that promote rigor and shares teaching strategies that educators can implement to ensure that bright students in their classrooms remain engaged in the learning process.

The second article, “Helping Gifted Children Learn From and Learn With Technology,” by Dr. Del Siegle, a Past President of the National Association for Gifted Children, offers an overview of ways that technology is changing our world and provides educators with ideas for integrating technology into meaningful learning experiences for gifted kids.

Dr. Siegle’s article is followed by “A Case for the Future in the Gifted and Talented Classroom,” written by Dr. Peter Bishop, who takes a close look at the interests gifted youngsters have in the future, global issues, and moral dilemmas and presents ideas for incorporating the study of futures into curriculum for gifted students.

Next, Dr. Dina Brulles and Susan Winebrenner outline the structure and process for using cluster grouping to provide quality differentiated learning opportunities for all students in the classroom in their contribution, “Reviving Gifted Education With the Schoolwide Cluster Grouping Model.” These authors focus on grouping practices that keep gifted kids challenged while improving the achievement of all students and establishing learning environments that allow teachers to target the needs of the students with whom they work.

Finally, Ian Byrd, gifted teacher and designer of a website that offers valuable information including gifted education resources for teachers, lesson ideas, and links to professional development and chat rooms, offers insight into new trends by focusing on “The Future of Professional Development.” Highlighting the potential of technology for providing professional development training and the sharing of ideas among educators, Byrd suggests a step-by-step process for engaging in professional growth online along with specific websites that teachers might find useful as they enter the world of professional development through technology.

Three of the well-known authors who have contributed to this issue of Tempo will present at the TAGT Annual Conference, November 30th–December 2nd, in Austin, Texas. Dr. Bertie Kingore will present the opening conference keynote session, Dr. Dina Brulles will offer a full-day conference institute, and Ian Byrd will participate in a panel discussion, Transforming Education through Social Networking Tools. I hope you can join us at the conference as parents, teachers, administrators, and others gather to network, support one another, and hear some of the most outstanding authors, educators, and presenters in the field of gifted education.
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Advanced Academics
San Antonio ISD

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When I was working on a campus, the beginning of the school year was one of my favorite experiences. Few professions provide such a unique opportunity for annual renewal. For educators, the new year is a time to set new goals, employ new strategies, and meet new students. For parents and students, a new year is marked by exciting changes in development.

Another reason I love the fall semester is because it means it’s time for football season. I appreciate the co-curricular lessons athletic programs provide to students. Although a focus on academics is clearly paramount, activities, arts, and athletics all play an important role in student learning. At no other time is this synchronicity so evident than at the start of a new year.

I imagine that in many ways this year is the same as others. Educators, parents, and students are excited about the promise and potential of the new year. In a sense, everyone is “undefeated.” However, in one very important way, this year is different. In many school districts, budgets have been slashed, and district and campus leaders are searching desperately for ways to work with less. Educators may feel like they are starting the game two touchdowns behind.

Whether you are an educator or parent with a passion for gifted education, this year will require an increased vigilance and commitment to our field. As many schools deal with the grim reality of unprecedented losses in funding, resources, and personnel, it will be natural for our leaders to look to gifted services as a potential area for cuts. Myths regarding giftedness may become justification for dismantling gains made over the last 30 years.

In Texas, football creates a passion in communities that would be game changing for schools if channeled into academic programs. So, how can we best apply the attitudes toward football to create a similar passion for our gifted children? Consider just three myths about gifted education and the food for thought we can provide decision makers.

Myth #1: Gifted students don’t need help; they’ll do fine on their own. Can you imagine the concern if there were not programs in place to develop student athletes? What if our kids were expected to organize practice schedules and game plans and fully develop their skills and talents without the support of a school-sponsored system? We do not expect young football players to coach themselves and to be responsible for their own development, regardless of their natural abilities. Like football players, gifted learners deserve our support.

Myth #2: Gifted kids will be ok in classrooms with teachers who don’t have specialized training and resources. Only in rare cases would a school assign a coach who had never played football, much less received specialized training, to be in charge of a varsity football team. We expect our coaches to be sound in fundamentals, innovative in their approaches, and up to speed on the latest trends in the sport. We expect our coaches to differentiate coaching styles based on the varying talent levels of athletes. Like football players, our gifted students deserve teachers who are trained to meet their unique needs.

Myth #3: Acceleration placement options are harmful. How often have we witnessed a talented young freshman athlete, with physical abilities well beyond his years and peers, be given the opportunity to compete at an advanced level? Most wouldn’t think twice about moving a highly capable younger student to the varsity team, especially when he could make the difference in a team’s run to a championship. In many schools, athletes are allowed and even encouraged to compete at their ability level, rather than at their grade level. Like football players, our gifted children deserve the opportunity to learn at their demonstrated level and beyond.

I believe strongly in the importance of co-curricular activities and I believe that athletic programs are essential in our schools and communities. I am not proposing that schools limit resources for athletes, restrict access to qualified coaches, or that students not be allowed to compete based on their ability. Rather, I am saying that we, as educators and parents of gifted children, must insist that schools simply apply the same expectations to gifted programs. Many myths about the gifted will likely be bandied about the halls of our schools and we must be prepared to counter these thoughts. Services provided by TAGT, such as the 2011 Professional Development Conference in Austin, can strengthen our resolve and knowledge base. Perhaps we can convince others to embrace new attitudes toward gifted learners by tapping into the expectations applied to football. After all, every student deserves to experience a winning season.
While at TAMS, Wen Chyan became a nationally recognized inventor. He earned kudos from two of America’s most prestigious high school research competitions for his invention of a groundbreaking product that could help prevent a variety of bacterial infections. The bacteria sicken more than 2 million hospital patients – and kill about 100,000 – each year. Inspired by family members who contracted such infections while hospitalized, Chyan engineered an antimicrobial coating that releases silver ions to prevent and kill bacteria on needles, breathing tubes and other devices commonly used in health care.

UNT’s Texas Academy of Mathematics and Science — the nation’s first accelerated residential program for gifted teens who take university courses to complete their first two years of college while earning high school diplomas – has launched many promising research careers for exceptionally talented students like Wen Chyan.
What an amazingly hot summer we had in Texas this year! We hope you found a way to enjoy some time off away from the heat—both literal and figurative. My girls and I actually spent the summer in Oz . . . performing in *The Wizard of Oz* at our local community theater. It makes me think about the past year and the year to come. For some of us, visiting Oz was a powerful experience that helped us to appreciate what we have as far as services and support for gifted learners in our district. Others may still be lost in Oz, trying to find their way back home without the help of the Wizard or Glinda or the witch’s ruby slippers. Still others may have been so tossed about by the cyclone, they aren’t sure where they are or where they stand. Whichever situation you find yourself in this year, please know that TAGT remains a powerful resource for you in your efforts to meet the unique needs of the gifted and talented students in your life and work. Have you visited the TAGT website (http://txgifted.org) recently? There is a wealth of information and resources available to parents, students, and educators.

**AWARENESS**

If you are new to gifted education, look for the section on *What is Giftedness?* under the Parents tab, which provides information on the characteristics and needs of this student population, and the *Gifted Glossary* to help clarify education terms and jargon. You can also find research reports and links to online and state resources, including the TEA website. Teachers can conduct self-assessment with the *Teacher Knowledge and Skill Standards for Gifted and Talented Education*, a collaborative effort of the National Association for Gifted Children and the Council for Exceptional Children. Suggested reading lists for parents, students, and educators are also included. You might want to check out the latest Legacy Book Award winners for their powerful literary contributions. You can explore a variety of programs, grants, and awards available to students and educators. TAGT offers many conferences and events throughout the year that provide information and insight to everyone from the novice to the expert! While on the website, don’t forget to register for the Annual Conference in Austin November 30–December 2!

**ADVOCACY**

In addition to the awareness information, there are many advocacy tools on the TAGT website. Parents can locate information on becoming a parent advocate and receive guidance through the recommended *15 DOs and DON'Ts of Advocacy*. If you are interested in working with other parents, there is a listing of current parent groups across the state as well as a guide for creating a parent group in your area. Parent support groups were quite powerful in some districts during the financial crisis this past year and used the advocacy tools TAGT provided to help support their positions. TAGT follows the legislature closely year-round and provides legislative updates and links to state and national news. Educators and parents can connect with elected officials and voice support for gifted services. On the national level, you can learn about and request support for the TALENT (To Aid Gifted and High-Ability Learners by Empowering the Nation’s Teachers) Act, which essentially replaces the Javits funding.

**ACTION**

Once you are versed in awareness and advocacy, you can really take action! Again, the parent groups are a great way to accomplish this and there is now a TAGT Parent and Community Division that members can join when renewing or beginning their membership. TAGT is expanding opportunities for becoming active in the association through the restructuring of the governance structure and implementing a more robust committee structure that allows more members to serve the association and membership.
A demand for increased rigor in learning environments and outcomes is a significant statement heard across our nation. Educators seek to encourage deeper thought among students with a greater emphasis on persuasion and analysis. However, a secondary teacher recently shared this concern: *I can’t initiate more rigorous instruction. My gifted students will not work on difficult tasks. My special education students try harder than my gifted students.* Unfortunately, it is true that some advanced students have learned habits of mind that are counterproductive, but I believe that it is time to help students reset their learning attitude—reset from *What is the minimum I can do to get an A?* to *What helps me learn and make connections at ever-higher levels?* In a rigorous learning environment, educators exhibit a greater concern for quality and conceptual thinking rather than quantity and memorization because it is the quality of thinking, not the quantity, that defines rigorous learning (Daggett, 2007). The first step is to clearly define rigor and explore how the elements of rigor affect students in high-level learning cultures. The next step is to develop ways to use rigor to differentiate instruction by eliciting higher level responses and developing students’ autonomy and responsibility for continuous learning.
Rigor and engagement are significant components for all students, but differ by degree when nurturing advanced and potentially gifted children. Blackburn (2008) made an important point when defining rigor as students demonstrating learning at high levels in an environment where students are expected to learn and are supported so they can learn. Although that definition is significant for all children, it is not sufficient for the learning profiles of gifted learners who benefit from an increased pace of instruction, in-depth content, and more complex levels of process and product (National Association for Gifted Children [NAGC], 2010; Sousa, 2009). Thus, I propose the following definition of rigor and engagement to appropriately nurture advanced and gifted learners:

Gifted students deserve a rigorous learning environment in which they are expected to engage at high levels in diverse processes, supported so they can learn beyond-grade-level concepts and skills, and required to produce high-end products that evidence relevant, sophisticated content.

This acrostic for rigor organizes five key elements for action:

- **R**ecognize realistic and relevant high-level expectations.
- **I**ntegrate complexity, breadth, and depth in content, process, and product.
- **G**enerate cognitive skills.
- **O**rchestrate support systems and scaffolding for success.
- **R**efine assessments to guide instruction and benefit learners.

**RECOGNIZE REALISTIC AND RELEVANT HIGH-LEVEL EXPECTATIONS**

High-level expectations are a popular objective in education. However, educators recognize that expectations must be realistic and relevant. Sullo (2009) admonished that when students perceive that they cannot succeed, they typically seek power in less responsible ways, such as assuming an *I don’t care* attitude or becoming a disruption. For students to know that their effort will result in success, let them know verbally that their learning is guaranteed and help them establish beliefs that they will learn. For example,

I guarantee you will learn in this class! To ensure that guarantee, you need to bring three personal things to class each day: I will think; I will try; I will participate. If you bring those three things, I guarantee that you will succeed.

This technique may seem too simple or even silly, yet it sets a tone of shared responsibly and realistic expectations. If a student is not making progress despite thinking, trying, and participating, it removes the burden from the student and becomes a clear indication to approach this learning situation another way.

Relevant learning is transdisciplinary and connects real-world contexts and students’ interests through authentic problems, current issues, simulations, service learning, and teaching others. Rigor without relevance can result in students who do well academically but seem dysfunctional in the real world (Daggett, 2007). Although students must ultimately determine what is relevant to them, at times, teachers need to facilitate students making those connections to specific content or skills. Hold up a sign that reads *4Me* as a gimmick to elicit students’ discussions: *What is in this lesson for me, and how will I ever use this?* Demonstrating relevance is particularly significant with adolescents who are in the developmental stage of identity formation (Sullo, 2009).

There is a clear link between motivation and engagement, and students respond more positively to high-level expectations when they value what they are doing. Unfortunately, it is true that gifted students are motivated by *their work*; they may not be motivated by *ours*. However, what is significant to long-term memory and learning dispositions is not how many assignments gifted students complete, but how they engage in the work (Sousa, 2009; Willis 2007). Increase students’ motivation and engagement by incorporating authentic audiences and student interests.

Convey to students a sense of an authentic audience beyond the classroom. For example, students in a Spanish language class incorporate essential learning standards as they write primary-level books in Spanish to send to rural areas in Costa Rica where children have no books to read or to use to learn to read. Although most students benefit in some ways, meaningful projects and appropriate support provide advanced students an incentive to strive for excellence beyond grade levels while simultaneously integrating targeted concepts and skills. An archive of more than 400 authentic projects has been compiled by Expeditionary Learning Schools (http://www.elschools.org).

Egan (2009) posed a provocative question related to reaching high expectations through student interests: *What if every student were charged with becoming an expert on something?* Gifted students typically have learning passions—topics about which they want to learn everything. These students are willing to spend considerable time in and out of school learning and working on something they care about once teachers guide them to connect and apply those interests. As students demonstrate commitment to their research, teachers must facilitate students’ incorporation of the essential elements of rigor into their transdisciplinary work.
INTEGRATE COMPLEXITY, BREADTH, AND DEPTH IN CONTENT, PROCESS, AND PRODUCT

Increased complexity, breadth, and depth in content, process, and product are likely when teachers facilitate students’ investigations of real-word problems with fuzzy, transdiscipline solutions. To elicit maximum opportunity for rigor, students must be responsible for designing the process, content, and products rather than merely completing a learning task provided by the teacher. For example, students might devise a procedure for testing consumer products, such as the flavor of peanut butter or the absorbency of paper towel brands, collect and analyze data, and then organize the results using graphing calculators and computer spreadsheets (Jones, 2010). Or, students might identify a school-related problem, such as a dangerous traffic crossing, and devise procedures using digital cameras to record data, edit and organize the data graphically, identify the person with the power to initiate change, and write a persuasive report to that person.

Inquiry learning exemplifies this degree of complexity in learning. The process begins with teacher-directed experiences to develop foundational skills and continues as students move toward increasing independence in developing these learning opportunities that elicit autonomy, research skills, and productive habits of mind. The complexity and depth of the inquiry process rests on the teacher’s skill in planning and preparing foundation-level tasks and the availability of resources and technology for students. International Baccalaureate’s (IB) emphasis on the process of inquiry is an excellent example of using inquiry to generate cognitive skills and nurture the natural curiosity that leads students to solutions for complex problems. IB stresses that inquiry is not merely a novel way of repackaging subject-specific content. Rather, it is a way for students to use a range of subject-specific knowledge, concepts, and skills in order to develop a deeper understanding of transdisciplinary themes (http://www.ibo.org).

If gifted students are to be held to high expectations in complexity and depth, appropriate materials beyond grade level must be available. Nurture gifted students’ higher level responses by increasing text difficulty and concept density. To ensure continued learning growth, instruction must challenge students to work slightly above their comfort level rather than at or below their current achievement level (Sousa, 2009). This level of instruction necessitates that gifted students work with intellectual peers at times rather than solely engage in whole-class instruction.

Facilitate students as they access websites that enable advanced exploration of their interests and topics of study with greater complexity, breadth, and depth, such as the websites in Figure 1. All of these sites are active at the time of publication and present a sampling of the resources available for students’ pursuit of beyond-grade-level information. They are proposed as a useful starting point for explorations and individual projects. Nearly all of the sites have hyperlinks to related sites to expend the value of the information.

http://khanacademy.org
This site is an amazing collection of more than 2,100 instructional videos and 100 self-paced exercises that teach beginning to college-level math, science, humanities, and test preparation skills. These videos serve as excellent tutor tools for clarification and as vehicles for self-directed learning extensions.

http://libraryspot.com
Library Spot is a free virtual library research center allowing students to explore the web for valuable resources and information. It serves as a gateway to the web sites of more than 2,500 worldwide libraries.

http://icom.museum/vlmp/
These virtual museums pages present a comprehensive directory of online museums and museum-related resources around the world.

http://artsedge.kennedy-center.org
The Kennedy Center Arts Edge offers free student materials, videos and articles related to the arts and becoming an artist, as well as standards-based teaching materials for use in and out of the classroom for arts-based instruction and assessment.

http://nationalgeographic.com/education/
This newly redesigned site provides online worldwide adventures, maps and geography, student activities and projects, photos and videos, online library, history activities, lesson plans, and much more.

http://hoagiesgifted.org
This is a site for gifted children, including great links, resources, reading lists, and movies featuring gifted kids. Kids Speak Out features kids’ contributions from artwork to writing and photographs.

Figure 1. Websites for complexity, breadth, and depth.

GENERATE COGNITIVE SKILLS

Cognitive skills require the sort of mental activity that enables students to:
• scrutinize, evaluate, and assimilate text and ideas coherently;
• communicate clearly, logically, and concisely;
• substantiate precise, strategic scientific and mathematical thinking; and
• engage in reflective thought, problem solving, and decision-making.
The main point is that any topic or content area can foster cognitive skills if it is taught in intellectually challenging ways. Noddings (2009) admonished that today's specific objectives or standards may reduce content to CliffsNotes for everything and foreclose learning to think. Educators need to emphasize specific strategies such as questioning and high-level thinking to generate cognitive skills.

Questioning is central to intellectual pursuits. Although many resources address different types of questions, such as factual, convergent, divergent, and evaluative, teachers must also address the issue of the competency and skill by which students pose quality questions. Rigor should challenge advanced students to pose essential questions relevant to the real world more than accumulate simple correct answers from the past. Socratic Seminars—a method of intellectual engagement founded upon questioning skills—provide rich opportunities for model and apply the art of questioning. Implementing Socratic seminars in which students take the leadership roles in preparing and conducting the seminars will encourage students to think critically, address ambiguity, analyze multiple possibilities, and communicate among themselves with clarity, confidence, and respect.

Bloom's revised taxonomy (Anderson & Krathwohl, 2001) is widely used for organizing high-level thinking, but a problem emerges when printed resources suggest that teachers differentiate instruction by requiring remember, understand, and apply for struggling to grade-level students while requiring analyze, evaluate, and create for grade-level to advanced students. I caution against this interpretation, as I firmly believe all students can and should be involved in high-level thinking as often as possible. Wiggins and McTighe (2005) reminded us that knowledge and skills are necessary but not sufficient elements of understanding for long-term retention and achievement. Hence, I consider two points crucial when the goal is to generate cognitive skills:

- Engage all students in high-level thinking as frequently as is feasible.
- Raise the complexity of high-level thinking for advanced and gifted students.

To promote complexity for gifted students in mixed-ability classrooms, differentiate instruction by tiering analyze, evaluate, and create from more simple, concrete to more complex, conceptual thinking adaptations. Using an example for social studies, Figure 2 compares analysis tasks at two tiers of complexity. Both tiers require students to analyze. However, Tier 1 incorporates somewhat simpler and more concrete analytical tasks when compared to the analytical challenges prompted by Tier 2. Tier 1 provides relevant high-level thinking opportunities for all students; these are valuable prompts to engage students in analytical responses. Simultaneously, Tier 2 invites adaptations with greater complexity through more sophisticated content and information processing, increasing the likelihood that gifted students are analyzing more complex content with more complex thinking. When teachers tier high-level thinking, they promote complex and in-depth responses from advanced and gifted students as they generate cognitive skills.

**ORCHESTRATE SUPPORT SYSTEMS AND SCAFFOLDING FOR SUCCESS**

Rigor involves high expectations for students, but it also requires educators to build the scaffolding and provide the encouragement that will enable students to fulfill these expectations. Students need support for their efforts to learn. An effective support system that promotes high levels of achievement includes personalized relationships between adults and students, effective scaffolds that bridge the gap between what is known and what needs to be learned, and productive collaboration among students. Sager (2009) believed that students need continuous encouragement, and he challenged educators to ask themselves two questions every day as students exit the classroom: As a result of today's experience, will these students be more or less confident that their futures are bright? Will students walk out of the classroom feeling more capable than when they walked in? (p. 53).

Teachers are a major influence on the learning success of students. 

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**Figure 2. Tiered thinking prompts: social studies. Adapted from Kingore, B. (2006). Integrating Thinking (2nd ed.). Austin, TX: Professional Associates Publishing.**
Students differ in their degree of independence and skill, but all learners benefit from a teacher’s instruction, modeling, interaction, guidance, support, encouragement, coaching, and feedback—even gifted students whom some educators perceive as always making it on their own (Kingore, 2007b). Although teachers feel overwhelmed at times by the stress of helping struggling students succeed, no teacher intentionally wants to ignore any members of the class. As a faculty or instructional team, network and develop realistic ways to support advanced and gifted students in mixed-ability classrooms. The ideas in Figure 3 are provided to prompt decisions regarding support that is practical for busy teachers to provide.

Sullo (2009) asserted that teachers must create a needs-satisfying environment that responds to students’ five basic needs: belonging/connecting, power/competence, freedom, fun, and survival/safety. When these basic needs are being met, all students are more likely to be engaged in learning and less likely to demonstrate management problems. Every classroom activity does not need to meet each need, but across a segment of time, teachers should ensure a reasonable chance that all these needs are met. Although educators must assure survival/safety for all students, several of these basic needs have implications when differentiating instruction for gifted students. For the gifted student:

- belonging/connecting requires respectful interactions in class and, through technology, participation in virtual teams with intellectual peers as well as age peers;
- power/competence requires a learning environment that promotes responsibility and autonomy through opportunities for students’ decision-making and continuous learning beyond grade-level mastery;
- freedom requires choice and the right to be passionate about personal talent areas without apologies (Siegle, 2011); and
- fun results from engaging learning tasks with people who care.

**REFINE ASSESSMENTS TO GUIDE INSTRUCTION AND BENEFIT LEARNERS**

Nationally, only one out of four educators think that standardized testing is increasing student competence (Neill, 2010). Neill (2010) asserted that a healthy assessment system would include limited large-scale standardized testing, extensive school-based evidence of learning, and a school-quality-review process. Teachers have the power to lead this need for assessment balance by documenting assessment evidence within their classes. Indeed, teachers exercise a simple way to increase rigor and relevance when they implement more complex forms of assessment that challenge students to think and more fully explain demonstrations of understanding beyond simple recall.

- Encourage young gifted learners and English language learners with only beginning reading and writing skills to conduct research, create projects, and share complex ideas through verbal recordings rather than written responses.
- Regularly employ preassessments to document exempting gifted students from work they have already mastered. Implement replacement tasks instead of redundant work.
- Encourage student autonomy by posting a list of generalizable products from which students can select when pursuing replacement tasks.
- With gifted students, generate criteria that promote high-quality responses so students can document their approximations to excellence when pursuing replacement tasks.
- Require gifted students to daily self-assess learning behaviors, effort, and results when working on replacement tasks or projects. Review these self-reflections and debrief with students as appropriate.
- Ensure that gifted students maintain records of progress and personal changes as learners rather than gauge their results through comparisons with grade-level peers.
- Form interest-based groups across grade levels to nurture more in-depth information and problem solving. These students regularly work together when teachers place others in small groups for re-teaching or to practice and apply grade-level skills.
- When appropriate in class, place gifted students in similar-readiness small groups to promote applications beyond grade level.
- As flexible groups, implement text clubs or literature circles with a diverse range of materials that allow all students to select books at, below, and beyond grade level.
- Jigsaw using complex materials for advanced students during cooperative learning.
- Implement Socratic seminars in which students take the leadership roles in preparing and conducting the seminars.
- When practicing grade-level learning standards, allow gifted students to use higher level materials for applications. For example, all students can be practicing mathematical operations using a range of materials instead of only the grade-level textbook.
- Implement cluster-grouping classrooms so gifted students have constant access to an intellectual peer group as well as an age peer group. The key to success is a teacher who likes gifted students and is quite accomplished at differentiating instruction.

**Figure 3.** Supporting gifted potential in mixed-ability classrooms.
of answers. When appropriate, use assessments that elicit beyond-grade-level responses. Extended work, such as research projects, narrative assessment logs, self-evaluative questionnaires, demonstrations, and portfolios are likely to yield far more accurate information when assessing the range, depth, and quality of gifted students’ accomplishments and changes as learners (Neill, 2010; Sousa, 2009).

Refine assessment beyond testing and the recording of grades. The purpose of assessment is to gather information that guides instruction and benefits students. High expectations for quality, more purposeful applications of rubrics, and incorporations of self-assessments result in a clearer, more comprehensive view of gifted students’ learning, and can greatly augment summative assessments.

Communicate realistic high expectations for quality work. Work with gifted students to generate a set of criteria that promote high quality so students can document their approximations to excellence when pursuing replacement tasks. Criteria (e.g., complexity, content depth, conceptual thinking) communicate that content and understanding are more important than appearance or flash value. These criteria become the main ideas for the evaluation of learning tasks. As adults work with students to develop rubrics that incorporate these criteria and specify levels of proficiency for each criterion, educators need to clarify for themselves the differences among student responses that meet grade-level expectations, demonstrate advanced-level responses, or are typical of gifted-level responses, as modeled by Figure 4.

Although most often implemented as a valued standard for evaluation, rubrics should also provide a guideline to quality by describing the requirements to achieve various levels of proficiency on a learning task (Kingore, 2007a). For a more purposeful application of rubrics, educators can use rubrics in three ways to promote personal growth and high achievement for gifted learners:

- students use the rubric to set goals before beginning the learning experience;
- students use one color to mark self-assessments of their achievement level on each criterion when they complete the task; and
- teachers conclude the process by using a different color to evaluate the student on the same rubric copy (Kingore, 2007a).

Using rubrics these three ways promotes an atmosphere of collaboration.

Self-assessment formats, such as rubrics, learning logs, narrative responses, and checklists of concept and skill applications, escalate achievement, necessitate students’ increased involvement, and nurture a sense of ownership in evaluative procedures. Through consistently evaluating their own achievement, students become better achievers with a greater incentive to improve (Wiggins & McTighe, 2005). When pursuing replacement tasks and research projects, require gifted students to daily self-assess their learning behaviors, effort, and results. Review these self-reflections and debrief with students as appropriate to facilitate and support their learning. Ensure that gifted students maintain records of progress and personal changes as learners rather than solely gauge their results through comparisons with grade-level peers.

<table>
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<tr>
<th>Grade-Level Expectation</th>
<th>Advanced Response</th>
<th>Gifted Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content Depth</strong></td>
<td>Valid content; accurate facts and details but little depth or elaboration; conveys a general idea or understanding</td>
<td>Covers topic effectively; well developed; explores the topic beyond basic facts and details</td>
</tr>
<tr>
<td><strong>Complexity</strong></td>
<td>Simple and basic information; limited critical thinking</td>
<td>Critical thinking is evident; compares and contrasts; integrates topics, time, or disciplines</td>
</tr>
<tr>
<td><strong>Conceptual Thinking</strong></td>
<td>Concrete ideas; appropriate but literal; event based</td>
<td>Concludes appropriate relationships; uses some metaphors to develop relationships; discusses concepts and principles based on events</td>
</tr>
</tbody>
</table>

**Figure 4.** Rubric for conceptual thinking, complexity, and content depth. Adapted from Kingore, B. (2004). *Differentiation: Simplified, Realistic, and Effective*. Austin, TX: Professional Associates Publishing.
CONCLUSION

Rigor eludes gifted differentiation when we fail to respond with different levels of instruction to students’ different levels of readiness. In today’s school climate, it seems politically correct to say All children are gifted, or I teach all children as if they were gifted, but what does that imply? Do all children actually learn in the same way, at the same pace, at the same level? Are we debasing learning differences and interests? It is time to respectfully recognize that children differ and exhibit a wide range of capabilities, interests, and needs. Adults model the art of education when they respond to those differences so all students, including the gifted, experience continuous learning at their highest capabilities. Rigor should guarantee continuous learning.

REFERENCES

National Association for Gifted Children.


Bertie Kingore, Ph.D. is an international consultant who has worked with students, their teachers, and their parents for more than 30 years. She is also an award-winning author of numerous articles, instructional aids, 24 books, and seven interactive CD-ROMs on education. Dr. Kingore has received many honors including the Outstanding Alumnus Award from the University of North Texas where she earned her Ph.D. She is a past president of the Texas Association for the Gifted and Talented and was also recognized as the first Texas Gifted Educator of the Year. Dr. Kingore may be reached at http://www.bertiekingore.com.
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Dr. David F. Lohman will be presenting two sessions:

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and

“A Simple Way to Account for Opportunity to Learn in the Test Scores of Poor and ELL Children”

For information and/or samples contact:

Heather Queener
heather.queener@hmhpub.com
Northeast Texas & Dallas County

Monica Uphoff
monica.uphoff@hmhpub.com
Central and Southeast Texas

Lupina Vela
lupina.vela@hmhpub.com
South Texas and El Paso County

Scott Dittner
scott.dittner@hmhpub.com
North Texas and Panhandle

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Technological innovations touch all aspects of our lives. Not only are new technologies emerging every day, older technologies are being combined in new ways. Technology is changing the way we work, how we communicate with each other, and how we learn. Within the context of providing learning opportunities for gifted children, technology presents (a) extensive sources for access to more advanced content, as well as communication with experts in various disciplines; (b) contexts for developing and applying critical and creative thinking skills; and (c) tools for constructing and sharing sophisticated products much like practice professionals use (Siegle & Mitchell, 2011).
Our goal with technology ought to be to help students govern their learning by providing them with opportunities to gather information, organize it in meaningful ways, and share it with others. In this way, students are actively engaged in using technology as a productive tool that not only guides their learning, but also demonstrates what they have learned. In the process, they are learning from and with technology.

PHASES OF TECHNOLOGY IMPLEMENTATION

During the last 3 decades, we have moved through three distinct stages of computer use in classrooms (Valdez et al., 2000). Initially, teachers saw computers as an opportunity to automate print. This often resulted in drill-and-practice programs that resembled self-correcting worksheets. The novelty and game-like format of many of these programs motivated students to use them. Although these innovations in the early 1980s eased a teacher’s burden of correcting papers and provided students with immediate feedback on their progress, the programs did little to promote student innovation and creativity.

In the 1990s, a shift occurred in technology use in education. This shift was driven by the development of productivity tools for business. Educators shifted computer use in the classroom from a delivery instrument to a productivity tool. Word processing was the first of these tools to become a staple of educational computing; spreadsheets and presentation tools followed. One of the tools, the database, never gained the popularity in classrooms that it held in the business world. Interestingly, databases now drive most of the technology all of us use today.

Tools were also emerging that allowed students to develop more professional-looking and innovative products. These included sound and video products, as well as posters, documents, and web pages and afforded students with opportunities to be more creative in developing and sharing their ideas. Students were now beginning to function as practicing professionals in various disciplines. The Internet also began to change the processes of information-gathering and communication, and students started collecting data from a variety of online sources, analyzing and organizing this information, and creating impressive multimedia projects that communicated their understanding of the material.

The third phase, now in its infancy, features data-driven virtual learning. The key feature of this phase is data collection and analysis for a specific purpose in a particular setting and content area. Students determine what data they will need to solve a particular problem or answer a specific question, where they will find these data, and how they will analyze the data to reach a reasonable solution to their problem. Digital data are expected to surge fivefold in the next 3 years, which opens new worlds of discovery for data sleuths (Lohr, 2009) and makes the skills of finding and using data to address problems a paramount 21st century skill.

Our goal with technology ought to be to help students govern their learning by providing them with opportunities to gather information, organize it in meaningful ways, and share it with others.

THE INTERNET AS A RESOURCE

The Internet has had the single greatest impact over the last decade on how we use technology in schools and removes many of the common information resource barriers that, in the past, have frequently created learning ceilings for gifted and talented students.

The Internet provides the most extensive and accessible collection of information available to students. Since gifted and talented students require greater depth and breadth of information than other students, the Internet is an important resource for them. Many gifted students are passionate about esoteric topics, and they require advanced information that cannot be found in most school and local libraries. The Internet meets their quest for content related to their passion areas above and beyond what is available in textbooks and local libraries. (Siegle, 2005, p. 30)
However, students not only need to know how to find information, they also need to know how to determine whether that information is accurate and how to use and synthesize that information (Leu, Kinzer, Coiro, & Cammack, 2004). Skills in evaluating content resources are especially relevant for gifted students who may be seeking levels of knowledge and understanding about a topic well beyond what their peers and even their teachers will explore. With the plethora of reliable and unreliable information on the Internet, students must develop skills in assessing the material they find on their own. McCoach (2002) suggested that students should be taught to evaluate Web content according to three criteria: reliability, authorship, and purpose. She proposed that students consider some of the following when evaluating Web content:

- Has the Web content been through any sort of review process?
- Does the site provide citations or references for print material that supports the information contained on the site?
- Does the site provide links to other reputable Web sites? Is the site listed within other reputable Web sites?
- Does the site provide contact information?
- Are the author’s credentials provided on the site?
- Is the content on a personal Web page, or is it on one that is associated with a reputable organization?

Students’ capacity to determine answers to these types of questions is an important learning outcome that cuts across all content areas. The critical thinking skills they develop through this process have implications for students throughout their lives.

**VIDEO CONFERENCING**

Although most educators primarily view the Internet as a repository of knowledge that is easily accessible through a search engine such as Google, an equally popular feature of the Internet is its capacity to connect users. Video conferencing is one of these options and, with the Internet, is now a simple process that allows students to stretch beyond the four walls of the classroom as they connect and interact with others. It provides access to expertise and advanced content across a wide variety of fields and can enhance interaction opportunities for gifted students by not only interacting with experts from various domains, but also interacting with other gifted students, an essential option for gifted students in rural or isolated areas.

Student video conferencing projects fall into four categories: courses and tutoring, virtual field trips, multi-school projects, and community events (AT&T Education, 2008). A number of educational opportunities exist within these categories. Because the technology necessary to video conference is inexpensive and easy to implement, the extent of its use is limited only by educators’ imaginations. Students can share their interests and communicate firsthand via video with professionals in the field who share their passion for a given topic. Interactive video can extend traditional mentorships, as well as enhance telementoring relationships. Schools can create cooperative agreements to share classroom instruction via video conferencing for students who have outpaced their school’s available curriculum. Students can visually experience other students’ living environments and cultures within this country and with other countries and can connect with other classrooms and develop joint projects, form book clubs, conduct debates, or set up pen (video) pals to share expertise with each other. In addition, they can interview book authors, politicians, and various other experts. I often have the students in my university classes video conference with the authors of articles we read in the classes.

Skype (http://www.skype.com), one of many Internet-based telephone options that are replacing traditional phone service for many people, is currently the most popular free video conferencing option. In addition to the free service for connecting computers to standard phone numbers, the company offers free voice and video calls between personal computers connected to the Internet, which makes it a viable option for educators. In order to use the program, users must create a free account and download and install the Skype software on their computer. This involves selecting a Skype name and password that...
are used to log into the Skype network. Using these IDs, Skype users call each other through their computers. Users can search the Skype network for friends’ Skype names and add these friends to their contacts lists. Calls are made by selecting the desired name in the contact list and clicking on the video call icon. If a computer does not have a built-in video camera, an inexpensive webcam can be installed. Low-end webcams can be purchased for under $20. Once the account is established and the Skype software installed, free video conferencing is a simple mouse click.

Although Skype requires user registration and software installation, Koowy (http://www.koowy.com) does not and can easily be accessed with any computer connected to the Internet. Only a web browser, Flash player (usually installed with the web browser, but free downloads are available from http://www.adobe.com/products/flashplayer/), webcam, and microphone are needed. Users simply visit the Koowy site using their Internet browser and type a title for a video chat room they wish to create. The system automatically creates a video chat room for up to 16 people and participants can invite others to join the chat room by giving them the room’s URL. Each participant enters the URL into a web browser or visits the Koowy site and enters the common video chat room name into the entry box to join the video conference. As individuals enter the video chat room, additional video windows appear with their video images. Koowy is one of the most user-friendly, free video conferencing options available; however, there are drawbacks. Unlike Skype, Koowy is an open conference where anyone with the conference address can join; however, users can avoid unwanted intruders by selecting unique, possibly meaningless, conference names. Educators and parents should be aware that the advertisements that appear on the Koowy site may also contain more mature themes. Finally, Skype video quality is superior to Koowy. Given its drawbacks, Koowy is still a viable option for those who do not wish to download and install software or for those who do not wish to register for user identifications and passwords.

Although programs and sites like Skype and Koowy provide two-way video interactions between individuals, Ustream (http://www.ustream.tv) allows an individual to broadcast to an audience of thousands, and anyone with an Internet connection and a camera can broadcast video events. Legions of Ustream users broadcast a wide variety of content, from concerts to sporting events to graduation ceremonies. The program founders met at West Point in 2007 and created a service that allowed servicemen to communicate with their families and friends live, all at once. To access Ustream, users must register a user name and password, but no software needs to be installed and once the free account is established, users simply log into the Ustream website, select “Broadcast Now,” and begin broadcasting their video through the Internet. The broadcast can be recorded and stored on the user’s Ustream channel for later viewing (see Figure 1). Ustream also offers a free iPad app that allows users to broadcast directly from their iPad, iPod, or iPhone.

Educators should plan for the unexpected when setting up video broadcasts or video conferencing sessions. Using the following tips will ensure a smooth event when video conferencing from a classroom:

- Expect something to go wrong and have a backup plan ready to fill the time scheduled for the video conference.
- Test the equipment prior to the conference and, if at all possible, schedule a brief trial test with the other site or sites.
- Account for different time zones and possible holidays and vacations for those with whom conferences are scheduled.
- Have students conduct background researches before the video conference so they are adequately prepared and do not waste other conference participants’ valuable time.
- With multiple participants, state a person’s name first before directing a question to him or her.
- Prior to conferencing, inform video conference guests about the students with whom they will be interacting.

![Figure 1: Events can easily be broadcast throughout the Internet through the Ustream site.](image-url)
• With large group video conferences, use a video projector so students can see the conference more easily. This also allows some flexibility to reposition the webcam. (Siegle, 2008)

## CLOUD COMPUTING

Many educators are unaware that a variety of free software options exist, and most of them do not actually require installing software on the user’s computer. One such option is cloud computing, a popular technology trend that has been gaining momentum over the last 5 years. Cloud computing uses the Internet and remote servers to maintain data and applications, allowing students and teachers to use applications without installing them on their computers. It also permits access to saved files from any computer with an Internet connection. This technology facilitates more efficient computing by centralizing storage, memory, and processing while enabling a number of individuals to simultaneously work on a project—regardless of their location. The term “cloud computing” is used because the services and storage are provided over the Internet, affectionately known as the “cloud.”

There are four major advantages to cloud computing. First, multiple copies of software applications do not need to be installed on computers around the school, saving installation time and the cost of site licenses. Second, although documents created with these applications can be downloaded to the user’s computer, they often are saved on the software provider’s server, which means they can be accessed from any computer connected to the Internet. Third, in several cases, the creator of a document can collaborate with others by inviting them to view and even edit the document. People in different locations can interact simultaneously with a single document, eliminating the need for multiple versions of the same document. Finally, in many cases, each version of the document is saved and previous versions of a document can be retrieved. Some cloud computing options contain all of these features; others contain one or two of them.

### Office-Like Options

Google led the charge 5 years ago with its online documents (Google Docs [http://docs.google.com]), allowing doc users to create and share word processing, spreadsheet, presentation, drawing, and interactive form documents. Now, other software developers have entered the field. Microsoft (http://office.microsoft.com/en-us/web-apps) offers scaled down versions of Word, Excel, PowerPoint, and OneNote, providing users with options for creating files that can be shared on Microsoft’s SkyDrive. Students and educators can create Word, Excel, PowerPoint, and OneNote documents through Windows Live (http://www.windowslive.com) without having the Office program installed on their computers. Once they create a Windows Live login, they can freely create, edit, save, and share documents without installing any software. After logging into Windows Live, students access files they have saved or create new files and have the ability to share Office documents with others who have Microsoft Office installed on their computers or those who do not have it installed and are using the free cloud version through Windows Live. Additionally, two people can simultaneously edit the same spreadsheet, Word document, or PowerPoint presentation from different locations through a PC, the Web, or a Windows Mobile phone.

### Graphic and Sound Editing

Cloud computing is not limited to traditional Office-like applications. Photographs can easily be edited with Citrify (http://www.citrify.com), Splashup (http://www.splashup.com), and Pixlr (http://www.pixlr.com). The latter two provide more advanced editing features such as layers and filters. With these applications, retouching photographs online is a simple process (see Figure 2). Online sound editing is available at Aviary (http://www.aviary.com), which also provides a graphic editing option. Most of these sites do not require a login and password unless the user wishes to save the final work online.

### LiveBinders

Organizing the ubiquitous selection of websites teachers may wish to
share with their students is a daunting task. LiveBinders (http://livebinders.com/) is a simple solution to organizing and presenting various pieces of information, whether they are website links or files, in one place for easy, accessible sharing. LiveBinders provides an online system that permits teachers to organize information in an electronic, online binder through a series of tabs. The teacher can restrict who has viewing access to the binder and can also allow others editing privileges. Users organize a binder with various tabs and subtabs, and users can select any tab to access the information the binder creator has provided on the pages.

LiveBinders features different layout templates, similar to the templates available for many presentation programs. These templates allow teachers to include written text to accompany the media. The media box of a layout can contain any of the following file formats: .pdf, .jpg, .gif, .ppt, .doc, .txt, or .mov. When websites are inserted, the actual website appears in the media window, so students can view the website and read the teacher instructions without leaving the binder. YouTube videos can be included in a media window, allowing teachers to suggest a list of topics in the textbox for students to consider when viewing a video. Once again, students watch the YouTube video and consider the questions the teacher has proposed without leaving the binder. Teachers can customize binder tabs to differentiate learning for students.

**ConCLUSION**

There is a wide range of technology that teachers can use to enhance the curriculum and learning for gifted students. Technology tools can provide access to advanced content; opportunities for students to solve challenging, ill-structured problems and to develop critical thinking skills; varied creative product options; and ways for students to integrate their thinking about concepts to new contexts. The examples of technology tools provided here are a small sample of free options educators have at their fingertips. Educators who fail to embrace technology and its changing nature will fall behind. Worse, their students’ motivation and learning will suffer. Successful implementation of technology is only limited by teachers’ creativity, their understanding of their curriculum, and their willingness to explore the technology tools that surround them.

**Successful implementation of technology is only limited by teachers’ creativity, their understanding of their curriculum, and their willingness to explore the technology tools that surround them.**

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Del Siegle, Ph.D., is head of the Educational Psychology Department in the Neag School of Education at the University of Connecticut. He also directs the Three Summers and online master’s degree programs in gifted education at the University of Connecticut. He is a past president of the National Association for Gifted Children and webmaster for The Association for the Gifted.
Modern society is fascinated with and even mesmerized by change and by the future. Ever since the Enlightenment, when thinkers hit upon the idea of progress—that humans and their societies were perfectible (Bury, 1921/2003)—we have been changing the world like crazy, but we have been given little preparation for doing it well, particularly in our education.

Futures studies is the study of long-term change in society and in the organizations and individuals that make it up. The field is divided into two broad divisions—change that is coming to us from the world (inbound) and change we create ourselves (outbound). Futures studies helps us anticipate, be prepared, and even look forward to change in the world that we have no influence over whatsoever. It also gives us an approach to affect that change within our spheres of influence.

The field did not begin just yesterday or even within the last century. Rather, it has a long and storied history. Sebastien Mercier (1771/1999) was the first author to place a utopia in the future, to the Year 2440, no less, where utopian writers before him had always placed their utopias in far-away places. In the 19th century, Jules
Futures studies is the study of long-term change in society and in the organizations and individuals that make it up.

The automobile, the airplane, the telephone, freeways, and household appliances—all of which appeared on the National Academy of Engineering list of the 20 most important developments of the 20th century (Tallent-Runnels, 2005).


Futures studies also had an impact on education. Jim Dator created a well-known concentration in Futures Studies within the political science department at the University of Hawaii, and Jib Fowles and Chris Dede established the M.S. in Studies of the Future at the University of Houston–Clear Lake (now at the University of Houston), both of which still exist. Dr. E. Paul Torrance founded the Center for Creativity and Futures Studies (now the Center for Creativity and Talent Development) at the University of Georgia. He also founded the Futures Problem Solving Program that currently involves hundreds of thousands of students and teachers who explore futures issues worldwide.

But there it stopped. Futures studies fell out of favor in the 1980s. It was “That 70’s Thing!” The forecasted crises failed to materialize, the price of oil collapsed, the Federal Reserve tamed runaway inflation, and Ronald Reagan told us it was “Morning in America.” The question is whether, instead of just being an extracurricular activity, the study of future issues is important enough to be at the core of every school’s curriculum, particularly for gifted and talented students.

The Case for Studying the Future
Calvin Cannon, the Dean of the School of Human Sciences and Humanities at UH–Clear Lake, was fond of saying, “We study the past, don’t we? Why can’t we study the future?” Most people, including teachers, have an answer to that question. “You can’t study the future because it hasn’t happened yet. The future doesn’t exist.” By that criterion, however, we should not be able to study the past because it doesn’t exist either.

On the contrary, we study the future in exactly the same way that historians study the past and that scientists study nature. They make inferences about conditions they cannot directly observe based on evidence that they can observe. But there is a difference—the quality of the assumptions used. Historians are on pretty firm ground when they assume that the artifacts of the past are what they appear to be. Ruins were probably constructed around the time they were supposed to be, as were the documents, the photographs, and the implements. People writing letters and diaries are almost certainly trying to report their time as accurately as they can. They can be mistaken, but their documents are excellent evidence for historical inferences because the assumptions required to use them are pretty hard to challenge. The same can be said for scientific inferences. No one has put an electron on a balance beam or stuck a thermometer into the sun, but we claim to “know” the weight of the electron and the temperature of the sun by inferring from the evidence we observe.

Statements about the future are also inferences based on evidence. Futurists use statistical trends, goals and plans of influential people and institutions, and images and expectations that people have of the future—all are evidence for making statements about the future. The difference from historical and scientific evidence, however, is that it is fairly easy to challenge the assumptions required to use that evidence. Will the trend continue throughout the forecast period? Will the plan be successful? Will the future turn out as people expect it to? It usually does, but not always, certainly not often enough to be as sure about inferences involving the future as we are about inferences involving...
As a result, futurists deal in multiple futures, called scenarios. One of those, the expected future, is the one that will occur if all the most reasonable assumptions turn out to be true. Most of them usually do, but not always and hardly ever in exactly the way we expect them to. As a result, we are often surprised when something else happens instead.

Most forecasters usually report just the expected future. It is more likely than any other future, but it is not all that likely in itself. Something else usually happens instead. So futurists go beyond the expected future and report the most plausible alternative futures as well.

So back to education. Is it unreasonable to expect students to be able to extrapolate trends and plans, to identify the resulting differences between the present and the future, and to discuss the implications of those differences for themselves, their families, and for others in the world? Should they not also be able to identify the assumptions they use to construct the expected future, challenge those assumptions with other plausible alternatives, and identify the different futures that result?

None of this is rocket science. It does not involve complicated math or computer simulations. If anything, it is nothing but the core of critical and creative thinking, skills that are high on the list of learning objectives for gifted and talented students. True, there are many ways to teach and practice critical and creative thinking, but why not use the future when it is accessible and engaging for students? Teachers who do teach about the future report that their students are better able to perform the mental gymnastics required to do good critical and creative thinking.

But the future is more than anticipating what the world will do. We are players in our own story; we shape our own future to some extent. So we want to empower gifted and talented students, to encourage them to believe that they can make a difference—not in solving all the world’s problems right away of course, but within their sphere of influence, such as their school or their community. Their future is a combination of what the world does, how it offers opportunities and constraints, and what we do, how we can use our actions, the actions of others, and the forces of the world to make the world better for ourselves and the people we care about. The forces thudding towards us are powerful, but they are not definitive. We have power, too, and students should be considering how they can use their power for themselves and for those around them.

Texas Association for the Gifted and Talented

REGIONAL PROFESSIONAL DEVELOPMENT CONFERENCE

Gifted Education: Beyond Borders
Saturday, October 22, 2011 ~ El Paso, Texas

KEYNOTE ADDRESS BY DR. JULIA ROBERTS
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future in the curriculum is that there is no time. In a time when whole disciplines like art and physical education are being torn from the curriculum, who is going to add a new subject? But teaching the future need not be a new subject—perhaps someday, but not today. Rather, the future can be a useful vehicle for teaching what we already teach in the gifted and talented (GT) curriculum and indeed in the regular curriculum. Let’s look at some examples.

**Futures Studies in the GT curriculum**

Mary Tallent-Runnels (2005) has summarized the case for teaching the future to gifted and talented students from numerous sources of the last 30 years:

- …gifted learners have said they love to think about the future, and this love increases as they become older (Torrance, 1978).
- They are more interested in global issues than other students and sometimes feel helpless to do anything about these issues (Galbraith, 1985; Tallent-Runnels & Mullen, 2004; Tallent-Runnels & Yarbrough, 1992).
- …they have the potential for intense social, moral, and ethical concerns (Passow, 1988).
- …gifted learners worry about the future, because they are sensitive to world problems (Passow, 1988).
- They also can be more morally sensitive than others—a trait that is essential to the welfare of our society (Silverman, 1994).
- When supported and guided in positive directions, these qualities can empower them to successfully manage change (Carroll, 1991) and to cope with problems in general and change the future (Torrance, 1974).
- Finally, many believe that gifted youth will become our world leaders and ultimately solve our global problems. Therefore, we must help them develop their leadership abilities and learn to think ahead to the world they will lead (Passow, 1988; Roeper, 1988; Volk, in press)… They can become change agents and set realistic goals as they lead others (Carroll, 1991).

On a more focused level, what do we want gifted and talented students to learn or be able to do?

- Critical thinking—the ability to use evidence to assess the support for conclusions
- Creative thinking—the ability to break frames and see alternatives
- Problem solving—the ability to identify issues and suggest strategies for influencing them

All three of these skills can be taught effectively using the future. Students think critically when they examine the evidence and identify the assumptions...

### RESOURCES

The following are resources that teachers can use to teach about the future in their classroom.

- In fact, the whole World Future Society is a place to start. It publishes *The Futurist*, a monthly magazine filled with futuristic ideas. It maintains up-to-date lists of the most recent books in the futures field, and it also conducts a Learning Summit each year at the annual meeting, which meets in different cities in North America.
- Art Shostak’s books (2008, 2010) are the most directly focused on foresight education. Although they are targeted at school administrators and policy makers, they also contain dozens of great ideas of bringing the future into the classroom.
- *Shaping Tomorrow* is a treasure trove of future trends and issues.
- Charles Whaley graduated from the University of Houston program and then worked with Dorothy Sisk to develop practical books (1984, 1987, 1991) for teachers.
- The Millennium Project is another great source of information. The Project is a network of 40 nodes around the world that contribute research to *The State of the Future*, an annual publication that focuses on 15 challenges facing the world today along with other issues. The Project also distributes the Futures Research Methodology CD that contains more than 40 futures tools and techniques.
- The Waitt Family Foundation funded a project some years ago to produce a 2-day workshop for high school students called *Shaping Our Future*. The video of that workshop and the complete facilitator’s guide is available.
- The University of Houston has also offered summer camps on the future both in Houston and at the International Competition for the Future Problem Solving Program. A DVD, *How to Host a Futures Camp*, is available. The DVD also contains the complete curriculum for the camp.
- The universities mentioned in this article also offer courses in futures studies, and the University of Houston and Regent University offer courses. The Houston program also conducts a one-week certificate program for which teachers receive a 20% discount, and teachers in the Houston area offer a 6-hour in-service for GT teachers on futurizing their classrooms. The in-service will also be webcast over four Thursday afternoons in October and November 2011.

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1. [http://www.wfs.org](http://www.wfs.org)
4. [http://millennium-project.org](http://millennium-project.org)
7. [http://houstonfutures.org](http://houstonfutures.org)
that support the expected future. They think creatively when they entertain alternative assumptions and develop images of alternative futures. Finally, they use both skills in problem solving, first by identifying the real underlying problem or issue and then by creatively brainstorming and selecting the right path for influencing it.

What is more, the study of the future is inherently interdisciplinary. Every aspect of society affects the future—population, nature, technology, economy, governance, and culture. Students learning about the future identify change within each of these sectors and to see the impacts of each sector on the others.

And what about building a strong moral and ethical basis for decisions? The real dilemmas of the future are not between good and bad, although they often portrayed that way in the media. The real dilemmas are between good and good. Students need to be able to recognize the values underlying their choices (and the values that others may use in making different choices) along with the trade-offs inherent in their decisions. It’s all about the future: What is the best thing to do (now and in the future)? What are the values that make that the best thing? What are we giving up in making a choice? And ultimately, what shall we do and why? All of these questions are about the future.

Finally, future studies also fit nicely with the Texas Performance Standards Project (TPSP) for fourth, eighth, and exit levels now required by the Texas Education Agency:

Over the course of a year, each student works with a mentor, who is a professional in the student’s field of study, to create a unique, innovative final product or performance that is of professional quality. With the mentor, the student investigates an area of interest and passion, which may be outside the traditional high school curriculum. The TPSP provides opportunities for students to explore their areas of interest to an extent that is not often possible in school. Such an in-depth study may impact students’ future studies and career plans. In other words, the project allows the student to extend beyond the classroom walls. (TPSP Guide to Success: Exit Level, Texas Education Agency, 2006, http://www.texaspsp.org/exit/ExitGuidePrintVersion.pdf.)

What better way to cap a career in the gifted-talented classroom than to explore the future of the student’s interest!

CONCLUSION

The future is an interesting and engaging subject for students. It requires no more preparation on the part of the teacher than to ask three simple questions, whether it’s math, science, literature, or social studies:

• What do you think will happen next? (evidence, extrapolation, the expected future)
• What might happen instead? (assumptions, critical and creative thinking, alternative futures)
• What do you want to happen? (values, consequences, implications)

If the last few decades have taught us anything, it is that we cannot simply wait for the future to happen before we respond to it. We must be proactive, anticipating change before it occurs. The attacks, the collapses, and the technologies that have so amazed us over the last few decades were not predictable per se, but they could have been the subject of serious scenarios had we been educated to think of the future as a set of plausible scenarios rather than as a single, predetermined future, one that looked a lot like the present. History is the story of interesting and dangerous twists and turns, of events that created whole new worlds for past generations. The future should be the same. And we are the generation that can begin to introduce this thinking into the schools where we can shape minds to deal with the future as it really is rather than as we wish it to be.

AUTHOR NOTE

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REFERENCES


Verne, J. (2011). From the Earth to the moon. Seattle, WA: CreateSpace. (Original work published 1865.)


Peter Bishop, Ph.D., is an Associate Professor of Strategic Foresight and Director of the graduate program in Futures Studies at the University of Houston. Dr. Bishop specializes in techniques for long-term forecasting and planning. He has published a book on the subject, Thinking About the Future: Guidelines for Strategic Foresight, with co-author Andy Hines, and he delivers keynote addresses and conducts seminars on the future for business, government, and not-for-profit organizations. He also facilitates groups in developing scenarios, visions, and strategic plans for the future. Dr. Bishop may be contacted at pbishop@uh.edu or http://houstonfutures.org.
Reviving Gifted Education

With the Schoolwide Cluster Grouping Model

Dina Brulles, Ph.D., & Susan Winebrenner
Gifted education has fallen on tough times. Traditional gifted programs, including pull-out classes and enrichment programs, have become victims of shrinking budgets, staff layoffs, and political pressures to focus on achievement for students struggling to meet grade-level standards. Rather than belabor what we have lost, now is the time to reframe our approach. By restructuring gifted education services, we can rebuild and strengthen our current fractured system.

Some prevailing models of gifted education services have met with success throughout the years, and others have been criticized for their shortcomings. Pull-out programs represent the most common model used, and these programs can take many forms. Some pull-out programs benefit students by supplementing classroom instruction, albeit on a limited basis. On its own, however, the model provides very limited part-time service, sometimes as little as one hour per week. In addition, when such programs are used as the sole service model, some classroom teachers believe that gifted students’ learning needs are being sufficiently addressed during the time they are in the pull-out class, and appropriately challenging learning experiences are not provided for them in the regular classroom.

This article describes a method that provides improved services for all gifted students in our schools and has the potential to raise achievement for all students. The Schoolwide Cluster Grouping Model (SCGM) can address the needs of gifted students without compromising attention to struggling students. The model facilitates these outcomes with no significant budget requirements.

**THE SCHOOLWIDE CLUSTER GROUPING MODEL**

The Schoolwide Cluster Grouping Model is an inclusion model in which gifted students are integrated into mixed-ability classes with teachers trained to provide appropriate differentiation opportunities. Cluster grouping is becoming a prevalent way to provide effective and consistent gifted education services.

The SCGM clusters all students at a grade level according to their abilities and potential. Gifted cluster groups consist of four to nine gifted students. When there are 10 or more gifted students identified at a grade level, the model provides services to those students as well. The SCGM creates a balance across each grade level yielding desirable outcomes that benefit all students and enfranchising gifted students who have previously been kept out of gifted programs. This includes gifted children in the primary grades, twice-exceptional students, gifted culturally and/or linguistically diverse (CLD) students, gifted students who are nonproductive or uncooperative, and those of high ability who may lack background knowledge and experiences due to poverty (Winebrenner & Brulles, 2008).

Table 1 shows a suggested classroom composition for a single grade level.

Grouping categories consist of:
- **Group 1: Gifted**—All identified gifted students, including those who are not fluent in English, those who are not productive in school, and twice-exceptional gifted students.
- **Group 2: High Average**—Highly competent and productive students who achieve well in school.
- **Group 3: Average**—Students achieving in the average range of grade-level standards.
- **Group 4: Low Average**—Students who may struggle slightly with math or reading.
- **Group 5: Far Below Average**—Students who struggle in most subject areas and score significantly below proficiency levels on academic measures (Winebrenner & Brulles, 2008).

**GROUPING STUDENTS IN THE SCHOOLWIDE CLUSTER GROUPING MODEL**

With the SCGM, all students are grouped into classrooms based on their abilities and potential. Gifted cluster groups consist of four to nine gifted students. When there are 10 or more gifted students identified at
a grade level, a second gifted cluster classroom may be formed.

Prior to placing students into classrooms, all students in the grade level are assigned to one of the five groups noted above. Assignments to the various groups are determined using formal and informal assessment methods—a combination of standardized achievement and ability test scores along with teacher observations and other anecdotal data. All identified gifted students are placed in Group 1, whether or not they are currently working at advanced levels. All other students are assigned to groups using the previously described achievement and ability descriptors.

Students are assigned to classroom groups by teachers from the sending and receiving grades with assistance from the principal and other educators (e.g., special education teachers, counselors, gifted specialists) as needed. One method for making placements incorporates the use of colored index cards. Using this method, each student group is represented by a designated color, indicating the student’s gifted identification or achievement level. Each classroom teacher assigns his or her current students to the appropriate card color. Colored cards in the grade level are then combined to create the class combination as illustrated in Table 1 (Winebrenner & Brules, 2008).

Placement Steps:
1. Cluster all gifted identified students into designated gifted cluster classrooms.
2. Next, group high average students into classrooms that have not been assigned to the gifted cluster.
3. Place average students evenly in all classrooms.
4. Place low average students evenly in all classrooms.
5. Place far below average ability students in the classes that do not have the gifted cluster.

Classroom compositions are carefully structured with two main goals: to ensure a balance of abilities throughout the grade level and to reduce the learning range in every classroom. These careful grouping practices allow teachers to more readily respond to the needs of all students, to challenge gifted students clustered together in mixed-ability classes, and to engage in practices that lead to increased academic achievement for all students.

CLUSTER GROUPING & PULL-OUT SERVICE: A COMPLEMENTARY COMBINATION

The SCGM can enhance existing pull-out programs, and there are several benefits of combining these two models. Schools with pull-out programs have a gifted teacher who teaches the pull-out class and can also serve as a resource to cluster teachers. When combining the two models, the pull-out teacher needs to work closely with only one classroom teacher’s schedule at each grade level, easing the scheduling of special area classes. When the gifted students leave the cluster class, the regular classroom teachers can spend time working with students who need more assistance. The grade-level teams in some schools regroup students by ability levels for reading and/or math instruction during the gifted pull-out time, thus lowering the number of students in every class for instruction in these subjects.

Gifted students benefit from spending time together. Pull-out programs allow this to happen. However, to justify a pull-out component, its curriculum should be beyond the academic ability of on-grade-level learners. For example, identified gifted students might learn content while in the GT pull-out class that is above grade level, replacing that which is taught in the regular classroom. They could then continue working together on the advanced activities introduced in the pull-out class while in the gifted cluster class.

BENEFITS OF CLUSTER GROUPING

Anecdotal reports from schools that incorporate the Schoolwide Cluster Grouping Model with fidelity suggest the following benefits:
• Gifted students can receive full-
Effective cluster teachers accept the fact that some students may have already mastered certain grade-level standards and recognize that gifted students frequently need less time than their age peers to learn new material.

### DOCUMENTING SCHOOLWIDE SUCCESS

Although increasing in popularity in current years, cluster grouping models are not new. Various forms of the model have existed for more than 30 years (Gentry 1999; Gentry & MacDougall, 2008; Kulik & Kulik, 1992; Rogers, 2002; Winebrenner & Devlin, 2001). A growing bank of research shows that gifted students’ achievement increases when learning together in this model (Brulles et al., 2010; Gentry, 1999; Gentry & MacDougall, 2008) and research that documents the benefits of keeping gifted students together in their areas of greatest strength for at least part of the school day supports cluster grouping (Allan, 1991; Brulles, 2005; Kulik, 2003, Rogers, 2002).

When gifted students are grouped together in cluster classes with teachers who have had training in gifted education, they are more likely to engage in challenging learning activities (Tieso, 2005). Therefore, a large part of the model’s success relies on the gifted cluster teacher, who is expected to provide consistent curriculum compacting and differentiated learning opportunities in the cluster classroom (Brulles, 2005; Gentry & MacDougall, 2008; Winebrenner & Brulles, 2008). However, effective strategies and instructional methods used in the SCGM are not specific to gifted education. Many classroom teachers use these methods routinely and with great success (Tomlinson, 1999).

### FREQUENTLY ASKED QUESTIONS IN THE SCGM

#### What does it mean to place gifted students in cluster groups?

Cluster grouping occurs when a group of identified gifted students is purposefully clustered in a mixed-ability classroom. Gifted students are clustered and placed with a teacher who participates in ongoing professional development in gifted education and implements differentiated instruction. When there are 10 or more gifted students in one grade level, an additional gifted cluster class may be designated.

#### Is cluster grouping the same as tracking?

No, there are several important differences between cluster grouping and tracking. In a tracking system, all students are grouped by ability for much of the school day and usually remain in the same track throughout their school years. When tracked, students are assigned a set curriculum based on their ability level. They generally do not veer from that curriculum, making it unlikely they would have the opportunity to move to a different track in future years.

In cluster classes, students work at different levels for different subjects. All classes in the grade level have students with a range of learning abilities; all classes have high-ability or high-achieving students. In a cluster model, extended learning opportunities are open to all students in the class. Teachers use students’ entry points, or readiness, to determine levels and pace of curriculum. Student placements change yearly, so only the gifted students remain grouped together every year.

#### Why should gifted students be placed in a cluster group instead of being assigned evenly to all classes?

When placing gifted students evenly among all classes, each teacher is faced with effectively meeting the needs of students with a full range of abilities. Teachers trying to meet the diverse learning needs of all students, from levels of very advanced to very low, have difficulty providing adequately for everyone. Often, the highest ability students are expected to “make it on their own.” However,
when a teacher has a cluster of gifted students, taking the time to make appropriate provisions for them seems more realistic.

Gifted students learn more when grouped with other gifted students (Brulles et al., 2010; Gentry, 1999). When gifted students have opportunities to learn together, they are more comfortable working with content at extended levels of depth and complexity. Gifted students’ willingness to take risks in learning experiences increases when they spend time learning with peers who have similar interests and abilities.

Will the clustered gifted students inhibit the performance of the other students in that class?

When the gifted cluster group is kept to a manageable size, cluster teachers report that there is general improvement in overall achievement for the entire class. This suggests the exciting possibility that when teachers learn how to provide for what gifted students need and offer modified versions of the same opportunities to the entire class, expectations and the levels of learning are raised for all students. Therefore, the SCGM can actually increase achievement for many students when the placement recommendations of the model are closely followed (Gentry, 1999; Gentry & MacDougal, 2008).

What are the learning needs of gifted students?

As with all students, gifted students need consistent opportunities to learn new material and develop skills for addressing academic challenges. With gifted students, this requires going deeper into grade-level standards or moving beyond them. Because these students have previously mastered many of the concepts they are expected to learn in a given year, a major part of their school time may be wasted unless consistent interventions are made.

How does gifted cluster grouping compare with other inclusion models that integrate students with exceptional educational needs into regular classes?

Inclusion models have been used for many years to provide special education services to students who have been identified as having exceptional needs. Students with special education needs are purposefully clustered into the regular education classroom. Gifted cluster grouping follows the same philosophy. Students with special needs take comfort in being with other children with similar learning needs. We cluster gifted students for exactly the same reasons. When teachers have a noticeable group of gifted students in their classes, they are more likely to accommodate for student learning differences (Winebrenner, 2001).

How should gifted students be identified for the cluster group?

In an effort to identify gifted students who have not been identified previously, identification should be conducted each spring with assistance from someone with training in gifted education. Standardized ability tests (both verbal and nonverbal) are recommended for identifying students to be placed into the gifted clusters. If there will be more than one cluster class in one grade level, the identified gifted students can be assigned to various classrooms based on their areas of strength (e.g., math, reading, science, social studies). This works especially well at the middle school level.

What does an effective gifted cluster teacher need to know?

Gifted cluster teachers understand and appreciate the need for differentiating curriculum and instruction for students who would benefit from differentiated learning opportunities. Cluster teachers should know how to recognize and nurture behaviors typically demonstrated by gifted students. Effective cluster teachers accept the fact that some students may have already mastered certain grade-level standards and recognize that gifted students frequently need less time than their age peers to learn new material. Ongoing professional development helps prepare cluster teachers to create learning environments in which:

- all students are learning at their challenge levels; acceleration occurs when needed;
- differences in learning needs are respected;
- students can demonstrate mastery and receive credit for previously learned standards (curriculum compacting);
- students can pursue and develop areas of special interest;
- flexible grouping occurs based on readiness, interests, and learning styles;
- independent and small-group learning takes place;
- sophisticated research investigations are facilitated;
- technology is utilized for differentiation, research, inde-
Is clustering feasible beyond elementary school?

Cluster grouping may be used at all grade levels and in all subject areas, but the structure will vary when incorporated at the middle school and high school levels. Gifted students may be clustered into one section of any heterogeneous team, especially when there are not enough students to form an advanced section for a particular subject. Variations of cluster grouping are also an effective option in small rural settings and in almost any grade-level configuration (Gentry & Kielty, 2001).

Do gifted clustered students always work together?

Gifted students have varying levels of achievement and different interests and experiences. Therefore, their need for acceleration or enrichment will also vary depending on the content being learned. There are times when some students in the gifted cluster group will be experiencing differentiation or acceleration, and times when they won’t. There are also times when students who have not been identified as gifted can benefit from available differentiated learning opportunities. Opportunities for moving faster or going deeper into the curriculum are routinely offered to the entire class.

What are potential challenges of cluster grouping?

As with any gifted program model, there are potential challenges for which schools should prepare. There may be pressure from parents to have their children—who have not been identified as gifted—placed in a cluster classroom. Another challenge occurs when gifted students move into the district or are identified as gifted during the school year. Ensuring that differentiation of curriculum and instruction takes place on a consistent basis and making sure classrooms are balanced with high-achieving and high-ability students can also represent challenges. These situations may be handled in the following ways:

• Provide training for all staff in compacting and differentiation so parents can expect those opportunities in all classes.
• Consider rotating the cluster teacher assignment every 2 to 3 years among teachers who have had appropriate training so parents understand that many teachers are capable of teaching gifted students.
• Develop a method for obtaining gifted testing records from schools; screen and/or test students when they enroll during the school year.
• Ensure that cluster teachers consistently compact and differentiate the curriculum by building in classroom observations, peer support, and planning time.

CONCLUSION

Changing times provide opportunities to reexamine our gifted education services and restructure when needed. This practice requires analysis and attention. Gifted services will continue to develop when given this scrutiny. Such inspection of gifted education in our schools draws attention to the needs of all students. Due to its inclusive nature, the Schoolwide Cluster Grouping Model promotes higher expectations, increased achievement, and equity of educational service to all students in the school. Implementing the SCGM can revive lagging attention to our schools’ gifted populations and, with teacher training and administrative support, raise the standard for all students in the school.

REFERENCES


Dina Brulles, Ph.D., is the Director of Gifted Education Services in the Paradise Valley Unified School District in Arizona and Gifted Program Coordinator for Arizona State University. Dina assists school districts in developing gifted programs and training teachers. Her publications include The Cluster Grouping Handbook: How to Challenge Gifted Students and Improve Achievement for All and Helping All Gifted Children Learn: A Teacher’s Guide to Using the NNAT.

Susan Winebrenner is a consultant and author whose work in gifted education has been nationally and internationally recognized for several decades. She has spoken at gifted education conferences in more than 40 states and contributed articles to many gifted education publications. She lives in San Diego, CA.

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Testing the Gifted in the 21st Century: Looking Forward

Texas Association for the Gifted and Talented

Professional Development Conference

Austin Convention Center • November 30-December 2, 2011

As part of its 34th Annual Professional Development Conference, TAGT will offer a “conference within a conference” that will focus on the assessment and identification of gifted youth. This event is designed for psychologists,* but should also be of interest to experienced administrators in the field of gifted education.

Three-Hour Introduction for All Participants - Thursday

- The Fundamentals of Gifted Assessment—Linda Silverman, Ph.D., Gifted Development Center, John Wasserman, Ph.D., Independent Practicing Clinical Neuropsychologist, Bobbie Gilman, M.S., Gifted Development Center, and Kathi Kearney, M.A., Knowlton School / Gifted Development Center

One-Hour Breakout Sessions - Thursday & Friday

- The Problem of Misdiagnosis in Gifted Children—Paul Beljan, Ph.D., Beljan Psychological Services
- Identifying Gifted and Talented Students Using the Hispanic Bilingual Gifted Screening Instrument—Alma Contreras-Vanegas, Ph.D. Candidate, Texas A & M University, Rafael Lara-Alecio, Ph.D., Texas A & M University, and Beverly Irby, Ph.D., Sam Houston State University
- RTI and the Twice-Exceptional Child—Bobbie Gilman, M.S., Gifted Development Center, and Kathi Kearney, M.A., Knowlton School / Gifted Development Center
- Identifying Students from Diverse Backgrounds—Susan Johnsen, Ph. D., Baylor University
- Problems and Triumphs in Finding and Serving Gifted Students from Poverty—Joyce Juntune, Ph.D., Texas A & M University
- Peer Nomination Form for Lower Graders—Fatih Kaya, Ph.D. Candidate, Texas A & M University, and Joyce Juntune, Ph.D., Texas A & M University
- A Simple Way to Account for Opportunity to Learn in the Test Scores of Poor and ELL Children—David Lohman, Ph.D., University of Iowa
- Introducing Form 7 of CogAT: The First 21st Century Ability Test for All ELL and Non-ELL Children—David Lohman, Ph.D., University of Iowa
- The Second Edition of the NNAT: Paper and Pencil and Online Administration Formats—Jack Naglieri, Ph.D., University of Virginia
- Using the NNAT2 for Screening and Instructional Planning—Jack Naglieri, Ph.D., University of Virginia, and Dina Brulles, Ph.D., Paradise Valley Unified School District / Arizona State University
- Using Test Results to Support Clinical Judgment—Linda Silverman, Ph.D., Gifted Development Center
- An Evidence-Based Consumer’s Guide for Major Intelligence Tests Used for Gifted and Talented—Jack Wasserman, Ph.D., Independent Practicing Clinical Neuropsychologist
- Redefining Giftedness for a New Century: Shifting the Paradigm—James Webb, Ph.D., Great Potential Press

Optional Three-Hour Institute - Wednesday Afternoon

- The Unique Inner Lives of Gifted Children—Linda Silverman, Ph.D., Gifted Development Center

*The Texas Association for the Gifted and Talented (TAGT) is applying to the American Psychological Association to be a sponsor of continuing education for psychologists. Regardless of the outcome of the application, TAGT maintains full responsibility for this program and its content.
just as the online space has forever changed the music industry, bookstores, and the way we communicate, it is fueling a revolution in professional development. Two years of writing about gifted education on Byrdseed.com has demonstrated the hunger teachers have for continuing education that is simply not being met by traditional professional development.

My site is the tiniest of slivers in the online world of education, yet I see 10,000 visitors arriving every month. I send out a monthly newsletter to an audience of nearly 3,000 teachers involved in gifted education. I receive countless e-mails from teachers offering encouragement, asking for help, and offering critiques of my ideas. Because of the Internet, the number of teachers I interact with directly has risen exponentially, and those I indirectly interact with are impossible to count.

The barrier to online professional development is nearly non-existent. Free services such as Google Reader and Twitter allow teachers to follow existing discussions. After joining the conversation through comments on articles, teachers can begin publishing their own content through a free service such as Tumblr. Some are even organizing their own virtual conferences or international chats. However, for teachers who have not tapped into this world, their only options for continuing education are district workshops and perhaps an annual conference.

MOVING PROFESSIONAL DEVELOPMENT ONLINE

Although not advertised, not associated with expert speakers, and not sponsored by corporations, there is vibrant professional development occurring online. It appears as tiny snippets on Twitter, links shared through Facebook, and comments posted to blogs. This highly collaborative space fills in the gaps left by traditional options.

• Barriers between presenters and audience are nearly non-existent. Passive audience members easily become active participants. Participants transition to presenters them-
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A MIXED MODEL

Is the future devoid of traditional models of professional development? Not at all! In fact, the traditional reigns supreme as a venue to hear fantastic, inspirational speakers in a live setting. I wouldn’t trade my chance to hear Dr. Joseph Renzulli or Disney Imagineer Marty Sklar speak for the world. In both situations, I was crammed into an overflowing room, listening to a lecture. Yet, hearing these inspirational speakers discuss their areas of expertise was very beneficial.

Furthermore, traditional workshops and conferences offer the unique opportunity to meet and collaborate face-to-face with online colleagues. For me, attending the NAGC conference was an experience of constantly repeating, “It’s nice to finally meet you!” Conferences are also enhanced through online reactions and reflections posted by attendees. This is part of being in a personal learning network (PLN), which is a community of educators that make online collaboration relevant in a way that is impossible to duplicate offline.

Onsite conferences and workshops are here to stay, but most educators need more than conferences offer. The future of professional development will mirror a high-quality classroom full of feedback and collaboration, places where mistakes are stepping stones to success.

TAXONOMY OF ONLINE INVOLVEMENT

Just as students are eased into learning, educator involvement with an online community is a step-by-step process.

Step 1: Consume

The first stage of entering the future of professional development is to simply consume what’s already been created. Although the options are nearly unlimited, here are two low-commitment, free avenues to get started.

Subscribe to websites. The first method of consuming is to subscribe to websites. Although this will naturally include education specific sites, I firmly believe that producing well-educated students requires us to constantly feed ourselves from areas beyond education. Most of my favorite classroom ideas were inspired by art, technology, or gaming blogs. Begin collecting sites about your hobbies and passions. As a teacher, you will transform these interesting tidbits into classroom lessons.

You probably already have a handful of sites you like to check regularly. As this collection grows, the difficulty of remembering to check each site will increase. Fortunately, this problem has already been solved through feed-readers...
such as Google Reader (reader.google.com). This service pulls the latest updates from all of your favorite websites and puts them in one location, enabling you to visit reader.google.com and see everything that's been written since your last login. It's much like subscribing to magazines rather than constantly browsing the book store, checking for new issues.

This image shows Google Reader in action. The right panel scrolls to show recent updates, in this case an article from brain-puzzle website FutilityCloset.com. On the left is a list of all my subscribed sites, along with the number of recent updates.

To check all of the sites I'm interested in, I scroll down the list on the right. This reveals all updates, ordered chronologically. When an update is particularly intriguing, I “star it” within Google Reader. This saves the update, making it easy to return to later—the modern equivalent of clipping newspaper articles.

Google Reader is powered by a technology known as RSS, or Really Simply Syndication, identified by a simple orange logo and found on nearly every website. A click on this logo or on the words “Add to Google” allows you to directly subscribe to the site through Google Reader, as seen in this image from Time.com.

Subscribing with RSS is the most efficient way to keep yourself inspired with news, articles, and discussions.

Listen in to Twitter. Google Reader will keep you up to date with your favorite websites, but this is only half of the professional development revolution. You also need to be plugged in socially with like-minded educators. Twitter is a hotbed of educational discussion and is the simplest way to listen to a worldwide conversation about gifted education.

On Twitter, users post short messages limited to 140 characters. These messages include links to websites, replies to other users’ comments, or questions. With millions of people using Twitter, the first step is to find and follow people with similar interests. A search for “gifted education” on Twitter brings up a list of publishers, teachers, advocates, and writers who all active in the conversation. Visit tinyurl.com/6jolzlk to see the results of this search (Note: a free Twitter account is required).

Through Twitter, I collaborate with educators around the globe. My involvement there directly led to an invitation to present at NAGC. While at NAGC, Twitter was the avenue for meeting up with other attendees as well as sharing the convention with those unable to attend. For further information about using Twitter, gifted education advocate Deborah Mersino has written a beginner’s guide located at http://www.ingeniosus.net/archives/2009/06.

Step 2: Converse
After discovering favorite sites and listening in on conversations, the next step is to bring your own voice to the online discussion. Whether expressing encouragement, confusion, or a different opinion, this act moves you from consumption to conversation. A recent post on math educator Dan Meyer’s site (http://www.mrmeyer.com) highlights the power of this conversation. The original article is simply a highlight of a workshop Meyer attended (Meyer, 2011):
The Two Lies of Teaching, according to Dr. Tom Sallee:

1. If I say it then they will learn it.
2. If I don’t say it then they won’t learn it. (para. 1)

On its own, this post is a thought-provoking example of how writing online extends the influence of traditional conferences. However, the true depth of the content is found in the discussion section that follows rather than in the main article itself. This article has produced more than 70 comments in the discussion. These comments are more than congratulatory slaps on the back and include questions, critiques, clarifications from the author, conversations between commenters, and links to other articles.

In the middle of the conversation, Meyer sensed a disconnect in what people considered a “lecture,” so he moved the conversation to a new venue: Twitter. Here, Meyer asked the community for a definition of “lecture” (tinyurl.com/6xqc9qz).

Meyer then posted a sampling of Twitter’s responses into a comment to his original post (tinyurl.com/62tdxjs), which stimulated further discussion. He edited his original article to include a reader’s comment (tinyurl.com/6ajceqa). Best of all, this conversation still continues, and the comment form is still enabled. Readers can link new articles to Meyer’s original post or post a page on Twitter that they have found helpful, adding more voices to the conversation.

Discussions like this span the globe, evolve over weeks, and involve dozens of educators. Participants are actively involved without sites or their own, expressing confusion, reservations, or excitement. These conversations simply cannot be duplicated offline and represent an exciting future of professional development.

Step 3: Create

After engaging in conversations on other teachers’ blogs and sharing ideas on Twitter, you may begin to think about a site of your own. However, publishing new content naturally strikes fear into many potential participants’ hearts.

What if I run out of ideas? All creators fear the loss of inspiration. But if you have even one amazing lesson, one thought-provoking idea, or one motivational anecdote, then the community misses out if you keep it to yourself. No one considers Harper Lee a failure because To Kill a Mockingbird was her sole novel. Ideas for your site can be less than fully-realized super lessons. I write articles that range from 1,000-word discussions to simple lists of resources I’ve discovered while browsing. Some of the most thought-provoking posts are simply questions or frustrations that lead to interesting discussion. Your site simply becomes an outlet for your everyday reflections and thoughts.

I won’t have the time. The time commitment is entirely up to you. Simply begin creating, and you will find a schedule that works for you. After initially (and unsuccessfully) attempting to write twice a week, I settled into a comfortable rhythm of three posts a month. I’ve been able to maintain this pace for two years through parent conferences, vacations, and end-of-the year business. There are no editors, no deadlines, and no commitments other than your own schedule.

I don’t have the technical knowledge. Setting up and maintaining a website is a hurdle beyond most teachers’ abilities. Luckily, there is a multitude of blogging services that require no setup beyond choosing a name. One free platform worth investigating is Tumblr.com.

As this image below shows, setup is simple. Tumblr.com requires filling in three textfields: e-mail, password, and a URL (the name of your site). Once you’ve signed up, creating posts is a simple three-step process. Add a title, write the article, and click a button. Your update is online instantly.

Beyond Tumblr, other free blogging sites popular with educators are Wordpress.com and Blogger.com.

I don’t want my name out there. Any action on the Internet brings with it a fear of revealing the wrong infor-
The Soft Skills Conference (tinyurl.com/6at2k4q), bringing online educators together to write about a common topic. He structured this conference around five “keynote speakers,” who wrote about the topic on their own sites (Lark, 2010). However, anyone with a site was also welcome to “speak” at the conference, simply by writing a post on their site and alerting Lark of their contribution. The 2010 conference had 17 contributors. In 2011, Lark organized his second conference, asking teachers the intriguing question, “What is the center of your classroom?” (tinyurl.com/69vwl4q).

Community powered conferences. EdCamp (http://www.edcamp.wikispaces.com) is another unique take on traditional conferences. These “unconferences” are a series of real-world events organized entirely by local teachers. EdCamps are picking up steam, growing from 8 events in 2010 to 13 after the first half of 2011 (http://edcamp.wikispaces.com/complete+edcamp+calendar).

EdCamps are participant-driven with no set schedule. Rather, attendees walk in to an empty board and put their name in a slot to create a session (Steele-Pierce, 2011). Within an hour, the schedule has planned itself. EdCamps recognize that the teachers from the local community know what their colleagues need, promoting practicing teachers’ expertise over expensive speakers. Further, EdCamps shun the commercial presence of traditional conferences, offering no vendors’ hall or sponsor displays. By keeping the events teacher-led, most EdCamps are free to attend (Hertz, 2010).

International chat. Deborah Mersino is an online advocate for gifted education who writes at http://www.ingeniosus.net. She is best known for hosting two weekly chats on Twitter every Friday. These events, known as #gtchat, attract stakeholders in gifted education from around the world. Parents, teachers, and administrators come together to discuss a topic selected through weekly polls. These fast-paced events cover one topic in an hour and feature dozens of participants generating more than 1,000 comments (Mersino, 2010). Visit http://www.ingeniosus.net/gtchat to get involved.

Online professional development is vibrant, authentic, and multifaceted.

We need your voice. Online professional development is vibrant, authentic, and multifaceted. Even by taking the first step of consuming what’s already out there, you will find yourself thinking about your students in new ways. I encourage you to become a part of the conversation. The online community represents the future of teacher education, and we need your voice.

References


Ian Byrd teaches gifted and talented students in Garden Grove, CA, where he grew up as a gifted student himself. Before having his own classroom, Ian ran a high school youth group, worked with children with special needs, and earned a degree in computer science. He writes about gifted education at Byrdseed.com.
Call For Manuscripts

Here is your chance to have your voice heard! If you would like to be considered for publication in an upcoming issue of TEMPO, please follow the guidelines for article submissions below. We are currently soliciting manuscripts for the following issues. For deadlines and more details regarding upcoming issues, please contact TEMPO editor Krystal Goree at Krystal_Goree@baylor.edu.

Application of Rtl to Serve Gifted Populations
Due December 1, 2011

Perspectives on Gifted Education
Due March 1, 2012

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Due June 1, 2012

Affective Needs of Gifted Students
Due September 1, 2012

Guidelines for Article Submissions

TEMPO, a quarterly publication, welcomes manuscripts from educators, parents, and other advocates of gifted education. Manuscripts may focus on all areas of gifted/talented education including policies, applications of research, programs, and practices. TEMPO is a juried publication and manuscripts are evaluated by members of the editorial board and/or other reviewers.

Please keep in mind the following when submitting manuscripts:

1. Manuscripts should be 2,000 to 10,000 words on a topic related to gifted education.
3. Submit an electronic copy, typed, 12 pt. font, double-spaced manuscript. Use a 1½” margin on all sides and number pages.
4. In addition to the title page, a cover page must be attached that includes the author’s name, title, school or program affiliation, home and work address, e-mail address, phone numbers, and fax number.
5. Place tables, figures, illustrations, and photographs on separate pages. Each should have a title and be referenced in the text. Submit electronically with manuscript.
6. Author(s) is fully responsible for accuracy of quotations, citations, figures, and facts.
7. Author(s) of accepted manuscripts must transfer copyright to TEMPO, which holds copyright to all articles and reviews.
8. Upon acceptance of a manuscript, the author(s) submits a 50–100 word biography and a 100–150 word abstract of the manuscript.

Please send manuscripts and inquiries to: Krystal Goree, Ph.D., TEMPO Editor, Krystal_Goree@baylor.edu

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