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ABSTRACT

These two newsletters of The National Research Center on the Gifted and Talented (NRC/GT) present articles concerned with research on the education of gifted and talented students. The articles are: "NRC/GT's Suggestions: Evaluating Your Programs and Services" (E. Jean Gubbins); "Professional Development Practices in Gifted Education: Results of a National Survey" (Karen L. Westberg and others); "Preaching to the Choir: TV Advisory Ratings and Gifted Children" (Robert Abelman); "Gifted and Learning Disabled: Twice Exceptional Students" (Dawn Beckley); "Differentiation: Definition and Description for Gifted and Talented" (Susan T. Dinnocenti); "Underachieving Gifted Students: A Mother's Perspective" (Pamela Hunter-Braden); "An Independent Study Model for Secondary Students" (Del Siegle); "Evolution of NRC/GT Products: Resource Toolkits" (E. Jean Gubbins); "I Learn, Therefore I Am: Descartes Ideology in Cyberage" (Siamak Vahidi); "Distinguishing Myths from Realities: NRC/GT Research" (Marcia Gentry and Karen Kettle); and "Academic Decathlon and Secondary Students" (Carol L. Tieso). (Each article contains references.) (DB)

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W I N T E R

The National Research Center on the Gifted and Talented

Evolution of NRC/GT Products: Resource Toolkits

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Periodically, we initiate an information inventory of products resulting from our research studies and commissioned papers. We revisit abstracts, executive summaries, and full-length monographs and assess the evolving knowledge base since the beginning of The National Research Center on the Gifted and Talented (NRC/GT) in 1990 (Gubbins, 1995). We pose questions, such as the following, to ensure that we are fulfilling our original mission:

- What topics have received considerable attention?
- What topics need further elaboration?
- What questions are suggested by practitioners, researchers, parents, and students?
- What information is requested via letters, e-mail, web site, and fax?
- What resources are responsive to information requests?
- What additional resources need to be created or adapted?

In response to these questions, we determine recurring topical areas. Identification and programming are at the top of the list. We took the liberty of adding evaluation to the list, due to its importance. Our information inventory resulted in a discussion of resource toolkits, consisting of a collection of products responsive to frequently asked questions.

When people pose questions about identification, programming, and evaluation, they want to know about instruments and procedures. Some questions are very specific and technical; others are more general. We refer people to selected NRC/GT products, annotated bibliographies, or other resources available from the United States Department of Education, National Association for Gifted Children, ERIC Clearinghouse, State Directors of Gifted and Talented Education, and Council for Exceptional Children, just to name a few. As readers of the *NRC/GT Newsletter*, we thought a description of three resource toolkits would be useful.

Identification Toolkit

Almost daily, we are asked about identification. Questions focusing on characteristics of gifted and talented students and assessment procedures predominate. Historical and current perspectives are available in *Toward a New Paradigm for Identifying Talent Potential* (Frasier & Passow, 1994). Moving the identification paradigm from a single indicator to a multifaceted approach is a central tenet of this monograph. Test scores, teacher nominations, rating scales, observation data, or work samples provide valuable information about students' skills and abilities. In *A New Window for Looking at Gifted Children* (Frasier et al., 1995), an observation form, known as Panning for Gold, is accompanied by sample case studies to be used in training teachers how to document the traits, aptitudes, and behaviors of young people. Pulling all this information together as an individual case study is aided by the Frasier Talent Assessment Profile. Assessment data are recorded on a matrix and additional information is sought to ensure advocacy for each child. The final section of the profile reorients the screening and selection committee, as they move from a data matrix to additional descriptive information to a visual of a circle (the child) in the middle of a rectangle. Each quadrant of the rectangle is completed by summarizing the child's needs: programming options; curricular needs; counseling needs; and goals/outcomes evaluations.

INSIDE

| | |
|--------------------------|----|
| Using the Internet | 5 |
| Conferences | 8 |
| Myths | 9 |
| New CSDs | 12 |
| Decathlon | 13 |
| Web Address | 15 |

(continued on page 2)

(continued from page 1)

Understanding different perspectives on how to identify gifted and talented students is important as educators, parents, and policymakers assess the extent to which challenging educational opportunities are available.

In the appendices of *A New Window for Looking at Gifted Children*, you can review the annotated bibliography of tests, rating scales, product, and process measures. These annotations will help you understand the purpose of various instruments, the scoring format, the age appropriateness of measures, and the availability of reliability and validity data. The annotations also delineate the relationship to the traits, aptitudes, and behaviors listed in the Panning for Gold instrument: motivation, interests, communication skills, problem-solving ability, memory, inquiry, insight, reasoning, imagination/creativity, and humor.

Educators and parents alike describe the behavioral characteristics of young people or ask about traditional and nontraditional assessment procedures. We often suggest a search of *Mental Measurement Yearbooks*, *Tests in Print*, ERIC/AE Test Locator Service (www.ericae.net/testcol.htm), and the University of Virginia repository of identification and evaluation instruments. The *Mental Measurement Yearbooks* summarize the purposes and characteristics of instruments and provide critiques of the test's strengths and weaknesses. However, you need access to the series of yearbooks to find information about tests developed at different time periods, since each yearbook is noncumulative. Therefore, it is helpful to have the companion reference, *Tests in Print*, which is a comprehensive listing of tests across all *Mental Measurement Yearbooks*. If these resource books are not easily available, then consider a search of computer databases from ERIC/AE Test Locator Service that includes all tests from the *Mental Measurement Yearbooks* and *Tests in Print*.

You may request a customized computer search of instrument-related information. The NRC/GT at the University of Virginia conducted an extensive search of available identification and evaluation instruments and created a repository. Information from several databases can be customized according to specific criteria. For example, you may request test reviews on specific categories of giftedness: mathematical/logical aptitude, scientific aptitude, acting ability, or task commitment/motivation. A complete summary of the processes used to create the repository is available in the monographs by Callahan, Tomlinson, Hunsaker, Bland, and Moon (1995) and Callahan, Hunsaker, Adams, Moore, and Bland (1995).

Understanding different perspectives on how to identify gifted and talented students is important as educators, parents, and policymakers assess the extent to which challenging educational opportunities are available. Looking at the

individual needs of students and available programs and services is the first step in determining the educational match. The educational match should also be viewed in light of existing legislation. Two books that are a must among our resources are *The 1996 State of the States Gifted and Talented Education Report* (Council of State Directors of Programs for the Gifted, 1996) and *State Policies Regarding Education of the Gifted as Reflected in Legislation and Regulation* (Passow & Rudnitski, 1993). State directors of programs provide extensive survey data on topics, including:

- state mandates and regulations,
- funding,
- state agency staffing,
- state definitions and identification of students,
- programming,
- program accountability, and
- teacher endorsement and preparation.

There is a wealth of information in tabular, graphic, and narrative formats. Information is easily accessible and comparisons can be made of state or regional data.

A few years ago, Passow and Rudnitski requested state-level documents describing identification and programming strategies and practices. All but one state provided documents, consisting of legislation, regulations, rules, handbooks, and resource materials. All documents were reviewed and analyzed. Illustrative information on topics such as identification, programming, differentiated curriculum and instruction, and counseling and support services provides readers with an overview of existing policies and procedures. In many ways the information can be used as a possible template for improving local or state policies.

Identifying special populations or underserved populations is another topic of great interest. Parents request information about students with dual exceptionalities. They are often well-schooled in their child's disability, understand interventions that address specific needs, and note the emphasis on their child's learning difficulties, rather than learning strengths. Depending on the specific question, we often recommend resources on high ability students with behavior disorders (Reid & McGuire, 1995), attention deficit hyperactivity disorder and creativity (Cramond, 1994), high potential students with cerebral palsy (Willard-Holt, 1994), and high ability students with learning disabilities (Reis, Neu, & McGuire, 1995).

Programming Toolkit

What are the characteristics of effective programs and services? The question of "what works" is

difficult to answer from a distance. Quality programs and services for gifted and talented students must be carefully connected to the needs of students and the school district (USDE, 1993). What talents and abilities of students are nurtured and challenged? What talents and abilities need to be addressed? Asking such questions moves the conversation to the schoolroom. Obviously, recognizing existing programs and services throughout the school district is the first step in developing a comprehensive continuum of services. We often share a continuum of services at elementary, middle, and secondary levels outlined by Renzulli (1994). Some of the options are:

- general classroom enrichment
- within and across grade pull-out groups by targeted ability and interest areas
- non-graded cluster grouping by skill level
- internships
- mentorships
- magnet school
- special school
- honors classes (p. 78)

Delcourt, Loyd, Cornell, and Goldberg (1994) and Delcourt and Evans (1994) conducted quantitative and qualitative longitudinal studies, respectively, of different programming options: special school, special class, pull out, and within class. In the qualitative study of learning outcomes in elementary schools, Delcourt and Evans identified key traits consistent across exemplary program models: leadership; atmosphere and environment; communication, curriculum and instruction; and student needs. A strong administrative voice characterizes exemplary models (Delcourt, 1995). The leader ensures that staff and community members understand the program's purposes and view it as a critical program component of school community. Establishing this connection requires clear and frequent communication with parents, students, teachers, and administrators concerning program activities and student performance. Recognizing students' needs and providing quality programs and services are central goals of excellent school systems (USDE, 1993).

Focusing discussions on service delivery options is certainly not the first decision to be made after determining the academic, affective, or artistic needs of gifted and talented students. However, potential options do have programmatic, personnel, resource, space, financial, and other implications. Understanding students' needs leads to discussions about the appropriate content match. Some related resources for the programming toolkit include: reading (Jackson & Roller, 1993); mathematics (Sheffield, 1994); science (Brandwein, 1995); arts

(Clark & Zimmerman, 1994); curricular options for high-end learning (Gavin et al., 1994); and thinking skills (Burns, 1993).

Evaluation Toolkit

What is the best time to develop an evaluation plan?

- a. end of the first year of program implementation
- b. after three years of program implementation
- c. before new programs and services are added
- d. during initial program planning

If you answered a, b, or c, you are not alone. People often pose tactical questions about program evaluation after programs and services are operational for a few years. They want to be sure that their plans are fully incorporated before they are assessed. Actually, the most appropriate answer is d, since you need to know what has been accomplished and what must be accomplished.

One way to initiate an evaluation during the early stages of program implementation is to conduct a self-evaluation, as described by Fetterman (1993). The assessment may involve questions such as the following:

1. Are the identification, screening, and selection criteria appropriate for the program in operation?
2. Does the program operate in accordance with its own philosophy?
3. Does the curriculum reflect the philosophy and goals of the school program?
4. Are students engaged? Is there any observation, product, interview, or other documentation of critical and creative thinking in the program? (pp. 6-7)

Another approach is to use the Program Profile Form designed by Delcourt and Evans (1994) for their qualitative evaluation of four programs representing one of each service delivery model (i.e., separate class, special school, pull-out program, within-class program). The Program Profile Form consists of four parts. Part I requires that you provide an overview of your program (e.g., philosophy/mission statement, needs/belief statements, definition of giftedness/talent, systems/models, and program options. Part II delineates various categories of information needed to document the identification procedure, including type of instrument, selection criteria, special population provisions, and decision making protocol. Part III requires curriculum/student assessment information on program objectives, evidence of scope and sequence of activities, staff development system, and parent, teacher, student,

(continued on page 4)

Recognizing students' needs and providing quality programs and services are central goals of excellent school systems.

(continued from page 3)

Evaluation should be an ongoing approach as programs and services are designed and implemented.

administrator communication systems. Finally, Part IV addresses components of program evaluation, namely focus, design, information sources, and data gathering methods. As you review your program and document the information for each section of the Program Profile Form, you can visually determine which sections lack information or are not well-articulated. What aspect of your program needs attention? What sections illustrate sound identification, programming, and evaluation principles?

Callahan and Caldwell (1995) prepared a guide to evaluating programs for the gifted. They introduce practitioners to the language of the evaluation field, discuss evaluation designs responsive to programmatic questions, describe how to select or construct instruments, and provide pointers on synthesizing data for appropriate audiences. Evaluation should be an ongoing approach as programs and services are designed and implemented. Evaluation questions are posed, instruments are created or selected, data are collected and summarized, and results are reported to appropriate audiences. Evaluation is a process of decision-making (Renzulli, 1975). Resulting data should be used to modify, extend, or create appropriate programs and services.

Identification, programming, and evaluation toolkits are part of our professional library. We constantly look for sources of information responsive to people's questions. Our collection of favorite resources may change periodically, but we often find that certain key resources always provide critical information for multiple audiences.

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I Learn, Therefore I Am: Descartes Ideology in Cyberage

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Cogito, ergo sum [I think, therefore I am]
—Descartes

When René Descartes (1596-1650), the great French philosopher, mathematician, and scientist wrote this famous statement, his world was at a point of great change. He was one of the vanguards of the scientific revolution. Similarly, our young generation is also at a changing point of time, and will be considered vanguards by generations a few centuries from now. The great change in our time is *mass communication* and its ever increasing ease and availability to deliver knowledge to the general public. That is why, with such abundance of knowledge at our fingertips, we should encourage in our students—in similar spirit as Descartes—the notion that "I learn, therefore I am." But, this is only half of the story, the second half will come later.

The basics of this mass communication is simple; whether schools or homes are in urban or rural areas, all that is needed is a personal computer, a modem, and an Internet service provider and students can reach the world. Today's "technokids" are growing up with computers as an everyday part of their lives, so the question faced by both educators and parents is how to teach them by means of mass communication? The answer is simpler than what we might expect, and education is rising to the challenge by using mass communication as an integral part of students' curricula. With the advent of the World Wide Web (WWW)—the Internet, the vehicle of mass communication—the computer has brought a new dimension of learning for students.

According to a recent survey by the National Center for Educational Statistics, 95% of public schools in United States will be connected to the Internet by the year 2000. In short, this means that education has become, and should be, a joint effort between students, teachers, parents, communities, institutes, and corporations working together. Use of the Internet is a way this collaboration can be achieved. Possible ways of using the Internet to involve students in the act of learning are many and

varied. What follows are some examples of more important ways that the Internet has become an instrument of learning in classrooms and homes.

Research—The Internet has become most useful and efficient for conducting authentic research. Home, school, or local libraries may no longer be able to provide for the diverse research interests of students, a problem easily solved with the use of the Internet. The benefits of using the Internet for research are many fold. They include:

a) Readily available, any time of the day.

Powerful search engines such as Yahoo [www.yahoo.com],¹ Excite [www.excite.com], and Lycos [www.lycos.com] can sift through numerous web pages and supply the listings of sites with information regarding the search query from "abacus" [www.ee.ryerson.ca/~elf/abacus] to "zoology" [www.york.biosis.org/zrdocs/zoolinfo/zoolinfo.htm]. Two things to consider when using search engines are 1) try to reduce the number of finds by giving specific keywords—multiple words are more advantageous, and 2) do not get discouraged on the first attempt, try different wording or even rearrange the order of the wording of the query.

b) Up to date. The posting of scientific or current events can be literally a few minutes old. When Jet Propulsion Laboratory (JPL) first broadcasted the Mars Pathfinder mission [mpfwww.jpl.nasa.gov], 37 million people logged on their computers to watch the live broadcast of the robot tracking the Mars landscape. The project was so popular that the JPL coordinators had to create several mirror sites to accommodate the great number of people visiting the site. This site still updates information on Pathfinder, but only once every few days.

Studies of meteorological and geological events such as tornadoes, hurricanes, volcanic eruptions, lightning strikes, and earthquakes can be monitored at regular intervals. One such site is maintained by the United States Geological Survey, Geologic Division [quake.wr.usgs.gov] which updates information on earthquakes in the United States and some other countries within an hourly bases.

Current Awareness Program [www.landmark-project.com/ca] provided by the North Carolina Department of Public Instruction in partnership with The Landmark Project is a monthly bibliography of the most recent educational and technology related literature from an extensive collection of journals. A short citation of the articles is given so educators can easily find information on their topic of interest.

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(continued on page 6)

Internet is the perfect means for children and students to express their opinions on issues that effect them and their world.

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c) Collaboration. There are many projects developed by different organizations that are geared specifically for students in conjunction with the Internet. Maya Quest [www.mecc.com/mayaquest.html] provided by The Learning Company is an interactive Internet exploration which follows a team of researchers who travel through the rainforests of Mexico, Belize, and Guatemala in search of ancient and yet unfound Maya cities. Through the use of the Internet, researchers receive help on-line from archaeologists, experts, and even classroom students from around the world to locate these undocumented cities.

Another Internet interactive project is conducted by Global Learning and Observations to Benefit the Environment (GLOBE) [www.globe.gov/globe/invite.html]. This is a worldwide network of students and teachers who conduct environmental observations at or near their schools and report their data via the Internet to scientists. In return, scientists use GLOBE data in their research and provide feedback to the students to enrich their science education.

A program from Global SchoolNet Foundation called "Where On The Globe Is Roger?" [www.gsn.org/roger/index.html] invites children to learn about history, culture, and geography, while they electronically travel with Roger Williams as he drives his truck from continent to continent around the World.

d) Enhancement. Educational television programs such as Nature, Nova, and American Experience on Public Television [www.pbs.org], National Geographic Explorer [www.nationageographic.com], Bill Nye the Science Guy [nyelabs.kcts.org], History Channel [www.historychannel.com], and the Discovery Channel [www.discovery.com], as well as magazines such as Natural History [www.amnh.org] and National Geographic have wonderful web sites which supplement stories covered in their programs and articles. They provide more details on certain stories, sometimes requiring interactive participation of viewers, and the possibility of chatting about the stories on-line with other interested individuals. These sites should be visited often since they are updated on a regular basis.

e) Stimulating. With the use of pictures, animations, video clips, and sound clips, students become enthusiastic and eager to learn more. Library of Congress [www.loc.gov], with the mission to preserve the record of the past for the sake of present and future, has a comprehensive

record of American history and creativity, some of which are in audio and video² format.

Inner Learning On-line [www.innerbody.com] provided by Informative Graphics Corporation is an ideal site for students studying human anatomy. It is an informative site for fun, interactive, and educational views of the human body using animations, 100's of graphics, and thousands of descriptive links.

Westward HO!... [town.pvt.k12.ca.us/Collaborations/WWHO/howto.html] is a stimulating game of adventure, drama, comedy, tragedy, and fantastic learning as users hit the Oregon Trail and head west! This project was conceived by two on-line teachers, Kathleen Ferenz and Leni Donlan. Classes from different schools are involved in this experience which involves interactive participation between students, collaboration between teachers, powerful learning, integrated curriculum, and great fun.

Expressing views—The Internet is the perfect means for children and students to express their opinions on issues that effect them and their world. Children's Express [www.ce.org] provided by Children's Express Foundation is designed so that children can voice their opinion about current affairs. This site is run by children, and the topics of discussion are chosen monthly and comments are posted for all to read.

Kidlink [www.kidlink.org], provided by Kidlink Society, is aimed at involving as many youth through age 15 as possible in a global dialog. This work is supported by 38 public mailing lists for conferencing, a private network providing a "chat room," and volunteer teachers and parents living throughout the world.

UNICEF Voices of Youth [www.unicef.org/voy] allows young adults to voice their concerns and share ideas about important world issues. Topics of discussion include solutions and actions on child rights, children in war, child labor, and children and urbanization.

Teleconferencing—The Internet can also provide for live communication between students and researchers. Videoconferencing has the added advantage of allowing students to become familiar with their collaborators. Project OWLink, a distance education project [www.rice.edu/armadillo/Owlink], is a collaboration between Southwestern Bell Telephone Corporation, Rice University, Houston ISD, and South Texas ISD that involves students and teachers at separate and diverse Texas sites in project-oriented work with each other and with experts in the field. The

project is an innovative experiment in the combined use of videoconferencing and Internet technologies in the K-12 setting.

Live from Antarctica 2 [quest.arc.nasa.gov/interactive/livefrom.html] was one of the many programs run by NASA which connected classrooms with Palmer Station in Antarctica. Students used the Internet, E-mail, and telecommunication via CU-SeeMe software to visit with the researchers there. Researchers discussed science and extreme living conditions that make their jobs a true adventure. This project was active from January to March 1997, however, there is a wealth of information available on this site. NASA is continually conducting different programs—check this site for current and future programs.

A program from Rice University called "Ask-the-Scientist" [space.rice.edu/hmns/dlt/video.html] offers schools (and the public) the ability to participate in CU-SeeMe videoconferences. A scientist is available every week for an hour over the Internet to answer questions about exciting new discoveries. Their schedule should be checked frequently for the list of speakers and dates.

Telementoring—Through the use of E-mail and the Internet, students can easily get in touch with experts who are willing to coach them in their areas of interest. Hewlett-Packard has an E-mail mentor program [mentor.external.hp.com] for one-to-one mentor relationships between their employees and 5th-12th grade students and teachers throughout the United States. Their goal is to motivate students to excel in math and science and improve communication and problem solving skills. Students are encouraged by their mentors to pursue their interests and link these interests with their daily school experience.

Telementoring young women in science, engineering, and computing [www.edc.org/CCT/telementoring] is a project provided by Education Development Center. It is in its second year of a three year project that draws on the strengths of telecommunication technology to build on-line communities of support among female high school students, professional women in technical fields, parents, and teachers.

The Electronic Emissary [www.tapr.org/emissary] is a telementoring project based at the University of Texas at Austin. It is a "matching service" that helps bring together students, teachers, and experts in different disciplines, for purposes of setting up facilitated curriculum-based, electronic exchanges among them. Classroom interaction is supplemented and extended by exchanges that

occur asynchronously via E-mail among teachers, students, on-line facilitators and experts.

Lessons and activities—Developing on-line curriculum is fast gaining popularity among educators and parents. National Wildlife Federation [www.igc.apc.org/nwf/atracks/activity.html] offers educational lessons and activities about air, water, habitat, endangered species, and people and environment. These lessons include background information, fun facts, things students can do, and more.

A food safety program called "Safe Food: It's Up to YOU!" [www.exnet.iastate.edu/Pages/families/fs] is prepared by Iowa State University. The lesson includes modules about food handling, consumer information on purchasing and storing food, food contamination, and environmental factors effecting food.

Amazing Space [oposite.stsci.edu/pubinfo/edugroup/educational-activities.html] is an education on-line program provided by The Space Telescope Science Institute which is responsible for the scientific operation of the Hubble Space Telescope. Starting in the summer of 1996, elementary through high school science teachers from across the country have teamed up with scientists and engineers from the institute to develop interactive lessons for the Internet.

The famous oceanographer Dr. Robert Ballard is the founder of the JASON Project [www.jasonproject.org], which is part of the non-profit educational organization the JASON Foundation for Education. After receiving thousands of letters from children who were excited by his discovery of the wreck of the RMS Titanic, Dr. Ballard and a team of associates dedicated themselves to developing ways that teachers and students all over the world can take part in global explorations. The goal of the foundation is to excite and engage students in science and technology, and to motivate and provide professional development for their teachers through the use of advanced interactive telecommunications.

Other activities—Last but not least are two more areas that the Internet can be beneficial to children. First, it encourages them to start a hobby or interest at an early age. Often children's future careers start as a childhood hobby or interest. They learn through their hobbies and take the responsibility for learning. The Internet with its limitless boundaries provides an excellent resource for children to explore and extend their hobbies and interests. Second, it teaches them how to create web pages.

Classroom interaction is supplemented and extended by exchanges that occur among teachers, students, on-line facilitators and experts asynchronously via E-mail.

(continued on page 8)

One of the greatest advantages that learning through the use of the Internet offers is that it provides a hands-on and minds-on experience.

(continued from page 7)

The other side of the Internet is the art of creating web pages. While students are engaged in this activity, they will learn the following: programming in Hyper Text Markup Language (HTML), designing layout of a web page, using digital cameras, using a scanner to digitize pictures, manipulating graphics and image processing, and drawing and animating computer graphics.

One of the greatest advantages that learning through the use of the Internet offers is that it provides a hands-on and minds-on experience. Students feel as though they are actually part of the learning process as opposed to just reading, turning pages, and note taking. In addition, students come with a variety of different learning styles, unique from each other, and the Internet provides a diverse medium to match those styles. And this is where the second part of the story lies: the act of teaching. There is a saying that we cannot take credit for capabilities we have, for that is what we are born with, we only need help finding what those capabilities are. Educators and parents should strive—again in Descartes³ spirit—in

the idea of "I teach, therefore I am" and with this ideal in mind help their students and children fulfill their capabilities.

In closing, there are few other important points to consider. With its vastness, the Internet is still an uneven resource, there may be a myriad of information on certain subjects and none on others, however, this is also an unlimited frontier with the great promise of ever expanding. Expect problems, bad communication lines, slow transmission rates, discontinued links, graphically loaded sites, and a variety of different third party software formats. Beware of the content, getting bombarded with advertisements, misinformation and disinformation, and inappropriate and discriminatory materials. Nevertheless, the positive aspects of the Internet far outweigh its negative aspects, and these can only get better.

¹All sites were active as of publication of this article.

²With most audio and video clips certain "plug-ins" are required in order to play them back.

³To learn more about René Descartes visit these web sites [paul.spu.edu/~hawk/descartes.html], and www.geocities.com/athens/forum/5507/descartes.html].

Summer Training Opportunities

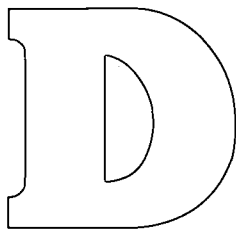
The premier Schoolwide Enrichment Model training will be held on the campus of the University of Connecticut from July 13-24, 1998. Confratute '98 will be celebrating its 21st year of providing educators with specific and practical know-how that will help make their schools more challenging and enjoyable places for young people. Participants may elect to attend for one or both weeks of this extensive training opportunity. For additional information call the Confratute office at 860-486-4826 or check their web site at www.gifted.uconn.edu. Correspondence can be addressed to Confratute, 362 Fairfield Road, U-7, Storrs, CT 06269-2007.

Fordham University's Graduate School of Education will be sponsoring its 6th Annual Institute on Creativity and Talent Development from June 29 to July 2, 1998 at Lincoln Center in New York. This four-day institute will include an overview of the field of gifted education, the discovery and encouragement of talent, and creativity and Creative Problem Solving. The institute will include large

and small group sessions with a combination of lecture-discussion and "hands-on" activities. Participants will receive feedback about their own styles of creativity. For further information about the institute, or registration procedures, contact Dr. Giselle Esquivel at 212-636-6460, Dr. John C. Houtz at 212-636-6469, fax 212-636-7826, or e-mail jhoutz@mary.fordham.edu. Correspondence may be addressed to Drs. Esquivel or Houtz at the Graduate School of Education, Fordham University, 113 West 60th St., Room 1008, New York, NY 10023.

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Edu-fest '98 will be held on the campus of Boise State University in Idaho from July 19-24, 1998. The weeklong training in gifted and talented education will feature keynote addresses by Dr. Felice Kaufmann, Dr. Pat Schuler, Dr. E. Jean Gubbins, Dr. Linda Silverman, and Dr. Anthony Gregorc as well as special sessions covering topics related to the Schoolwide Enrichment Model, underachievement and perfectionism, teaching thinking skills, working with gifted students in and out of the classroom, and administering gifted and talented programs. For more information, phone the BSU Center for School Improvement at 208-385-1837, fax 208-385-3564, e-mail dsiegle@bsu.idbsu.edu, or check their web site at coehp.idbsu.edu/edufest. Correspondence can be addressed to Dr. Del Siegle, BSU-FTSE, 1910 University Drive, Boise, ID 83725.



Distinguishing Myths From Realities: NRC/GT Research

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How well do you know the research findings of the NRC/GT? We developed a quiz to test the extent to which you can really identify what the research says. You often see and hear the phrase "the research says" to support a strongly held viewpoint. But you should ask yourself, does it really say that? We scanned 11 NRC/GT publications and modified or quoted findings. See how well you know the research by marking each statement with (M) Myth or (R) Reality.

- ___ 1. Cooperative learning in heterogeneous groups provides academic benefits for gifted and talented students.
- ___ 2. Acceleration options such as early entrance, grade skipping, early exit, and telescoping tend to be harmful for gifted and talented students.
- ___ 3. Gifted and talented children should spend the majority of their school day with others of similar abilities and interests.
- ___ 4. When using cooperative learning, student achievement disparities within the cooperative groups should not be too severe.
- ___ 5. Cooperative learning can be effectively substituted for specialized programs and services for academically talented students.
- ___ 6. There is some evidence that labeling a child gifted has a positive impact on his/her self-esteem.
- ___ 7. Gifted students have lower self-esteem than non-gifted students.
- ___ 8. Schools should call for the elimination of ability grouping because ability grouping has negative effects on student achievement.
- ___ 9. Bright, average, and slow youngsters profit from grouping programs that adjust curriculum to the aptitude levels of the groups.
- ___ 10. Highly talented youngsters profit from work in accelerated classes as well as from an enriched curriculum.
- ___ 11. Creativity tests are an effective means of identifying artistically gifted and talented students.
- ___ 12. In identifying artistically gifted and talented students, attention should be paid to potential and works in progress as well as to final performance and products.
- ___ 13. Television is bad for young gifted children.
- ___ 14. Primetime, commercial television offers inadequate and inappropriate role models for gifted children.
- ___ 15. Creativity in children is a sign of and a contributor to psychological health.
- ___ 16. Parenting gifted young children is labor intensive.
- ___ 17. Gifted children identified during their preschool years tend to stay ahead of other children with regard to academic performance.
- ___ 18. Teachers need to show students examples of superior student work in order to challenge them to ever increasing levels of math achievement.
- ___ 19. Talented students are capable of greater mathematical power than we have ever asked of them.
- ___ 20. Early reading and writing skills should keep pace with each other.
- ___ 21. In exemplary programs for gifted and talented students, the provision of challenges and choices are major influences on increasing student achievement and motivation.

Now check your responses with the following key. The explanation and relevant resource follow. Should you want more information about the finding, please consult the appropriate NRC/GT publication.

Research Documentation

- 1. *Cooperative learning in heterogeneous groups provides academic benefits for gifted and talented students.*

(continued on page 10)

You often see and hear the phrase "the research says" to support a strongly held viewpoint. But you should ask yourself, does it really say that?

(continued from page 9)

Mixed-ability cooperative learning should be used sparingly for students who are gifted and talented, perhaps only for social skills development programs.

Myth: Mixed-ability cooperative learning should be used sparingly for students who are gifted and talented, perhaps only for social skills development programs. Until evidence is accumulated that this form of cooperative learning provides academic outcomes similar or superior to the various forms of ability grouping, it is important to continue with the grouping practices that are supported by research (Rogers, 1991).

2. *Acceleration options such as early entrance, grade skipping, early exit, and telescoping tend to be harmful for gifted and talented students.*

Myth: Students who are gifted and talented should be given experiences involving a variety of appropriate acceleration-based options, which may be offered to gifted students as a group or an individual basis. It is, of course, important to consider the social and psychological adjustment of each student for whom such options are being considered as well as cognitive capabilities in making the optimal match to the student's needs (Rogers, 1991).

3. *Gifted and talented children should spend the majority of their school day with others of similar abilities and interests.*

Reality: Both general intellectual ability grouping programs (such as School Within a School, Gifted Magnet Schools, Full-time Gifted Programs or Gifted Classrooms) and full-time grouping for special academic ability (such as Magnet Schools) have produced marked academic achievement gains as well as moderate increases in attitude toward the subjects in which these students are grouped (Rogers, 1991).

4. *When using cooperative learning, student achievement disparities within the cooperative groups should not be too severe.*

Reality: When high, medium, and low achieving students are grouped together, high achieving students explain material to low achieving students, and medium achieving students have fewer opportunities for participation. Academically talented students report frustration when working in mixed ability groups with team members who are unwilling to contribute to the group goal. Placing students who are similar in achievement together continues to allow for heterogeneity in terms of ethnicity and gender in the groups. Cooperative learning might be used with groups of high achieving students (Robinson, 1991).

5. *Cooperative learning can be effectively substituted for specialized programs and services for academically talented students.*

Myth: Cooperative learning in the heterogeneous classroom should not be substituted for specialized programs and services for academically talented students. Cooperative learning models have not been compared to special education programs and services for academically talented students in the research literature. Thus, no clear superiority for cooperative learning in the heterogeneous classroom over specialized programs and services for academically talented students has been established. Even advocates of cooperative learning have acknowledged the need for separate course offerings for academically talented students (Robinson, 1991).

6. *There is some evidence that labeling a child gifted has a positive impact on his/her self-esteem.*

Reality: The label of gifted may influence a student to have more confidence in his/her own ability (Hoge & Renzulli, 1991). This has also been noted in the literature with regard to the Pygmalion effect and self fulfilling prophecy.

7. *Gifted students have lower self-esteem than non-gifted students.*

Myth: The majority of studies seemed to indicate somewhat higher levels of general and academic self-esteem for the exceptional group (Hoge & Renzulli, 1991).

8. *Schools should call for the elimination of ability grouping because ability grouping has negative effects on student achievement.*

Myth: On the contrary, Kulik (1992) found youngsters of all achievement groups benefited from ability grouping programs when the curriculum was appropriately adjusted to the aptitude levels of the groups and cautioned that if schools eliminated grouping programs with differentiated curricula, the damage to student achievement would be great. He indicated that higher and lower aptitude students would suffer academically from elimination of grouping. Conversely, he cautioned that schools should resist the call for the elimination of the use of ability grouping.

9. *Bright, average, and slow youngsters profit from grouping programs that adjust curriculum to the aptitude levels of the groups.*

Reality: Cross-grade and within class programs are examples of programs that provide both grouping and curricular adjustment. Children from such grouping programs outperform control children from mixed classes by two to three months on grade-equivalent scales (Kulik, 1992).

10. *Highly talented youngsters profit from work in accelerated classes as well as from enriched curriculum.*

Reality: Talented students from accelerated classes outperform nonaccelerated of the same age and IQ by almost one full year on the grade-equivalent scales of standardized achievement tests. Talented students from enriched classes outperform control students from conventional classes by four to five months on the grade-equivalent scales (Kulik, 1992).

11. *Creativity tests are effective means of identifying artistically gifted and talented students.*

Myth: Caution should be exercised in using creativity tests as a means of identifying artistically gifted and talented students. Creativity tests are used to measure problem solving skills and divergent thinking abilities applicable to a variety of situations. Many contemporary researchers and writers, however, have asserted that the concept of creativity often is poorly understood and poorly defined and that there are no reports of the validity of creativity tests in predicting success in gifted and talented programs for students with high abilities in visual arts (Clark & Zimmerman, 1992).

12. *In identifying artistically gifted and talented students, attention should be paid to potential and works in progress as well as to final performance and products.*

Reality: Many programs for artistically gifted and talented students are based upon defining art talent as the ability to create a superior product or perform in a distinguished manner. Many art educators are now eliminating such requirements; they are expressing concern for students' interest and desire to participate and their potential for performance. Researchers will be challenged to develop methods of identifying students with potential to perform at high levels of ability in the visual arts and at the same time access emerging skills, cognitive abilities, and affective abilities through work in progress, as well as final products (Clark & Zimmerman, 1992).

13. *Television is bad for young gifted children.*

Myth: Young gifted children spend significantly more hours in front of the television set than their same-age peers, but viewing does not necessarily warrant parental concern or dramatic time reductions or limitations. Sizable viewership of television programming at a very early age is reflective of gifted children's natural attraction to accessible and interesting sources of information. TV viewing during the preschool years is not a dysfunctional behavior unless it is taking place of, rather than complementing, other viable means of information (e.g., books); limiting interaction with parents and other children; and resulting in long-term viewing habits of a similar nature. This is not usually the case and once children enter the formal school system, their overall TV viewing drops dramatically (Ableman, 1992).

14. *Primetime, commercial television offers inadequate and inappropriate role models for gifted children.*

Reality: Only 9% of all the new programming during the past decade has had one or more children in the starring or title role, despite that over 17% of the nation's population is under 13 years of age. Gifted children are also highly underrepresented and typically depicted as social misfits (Ableman, 1992).

15. *Creativity in children is a sign of and a contributor to psychological health.*

Reality: It can be difficult to tolerate the individuality and nonconformity of highly creative students, but it helps to remember that creativity is an important personal asset (Runco, 1993).

16. *Parenting young gifted children is labor intensive.*

Reality: Parents report spending considerable time with gifted young children in reading, playing, making up rhymes and songs, and going to interesting places (Robinson, 1993).

17. *Gifted children identified during their preschool years tend to stay ahead of other children with regard to academic performance.*

Reality: Longitudinal studies of preschoolers identified for their early-emerging abilities (not just high test scores) find that they do maintain long-range momentum, even though it may not

Young gifted children spend significantly more hours in front of the television set than their same-age peers, but viewing does not necessarily warrant parental concern or dramatic time reductions or limitations.

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Talented math students need standards and models. Superior student work can serve to reinforce the development of emerging math skills.

be as dramatic as when first seen. Early entrance to school is, therefore, one way to meet the needs of some young gifted children (Robinson, 1993).

18. *Teachers need to show students examples of superior student work in order to challenge them to ever increasing levels of math achievement.*

Reality: Talented math students need standards and models. Superior student work can serve to reinforce the development of emerging math skills (Sheffield, 1994).

19. *Talented students are capable of greater mathematical power than we have ever asked of them.*

Reality: When compared to students from other industrialized nations, our students lag far behind in the development of their mathematical skills, due largely, in part, to the fact that we do not expect them to achieve at great levels (Sheffield, 1994).

20. *Early reading and writing skills should keep pace with each other.*

Myth: Contrary to this commonly held belief, there is no relationship between reading and writing skills in the development of talented young children (Jackson & Roller, 1993).

21. *In exemplary programs for gifted and talented students, the provision of challenges and choices are major influences on increasing student achievement and motivation.*

Reality: Themes in exemplary gifted and talented programs identified included: Leadership (strong administrative voice to represent and implement the program); Atmosphere and Environment (supportive, accepting, and positive throughout the school); Communication (clear and frequent between and among parents, teachers, students, and administrators); Curriculum and Instruction

(teachers' flexibility in matching to student needs); and Attention to Student Needs (commitment to serving students from traditionally underrepresented populations). In addition, the exemplary programs were found to influence student achievement and motivation through exposure to challenge and choices.

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The National Research Center on the Gifted and Talented welcomes the following new Collaborative School Districts:

Windsor Public Schools, Windsor, CT
 Benton Community School Corporation, Fowler, IN
 Billings Public Schools, Billings, MT
 Brockport Central School District, Brockport, NY
 Fremont School District #25, Riverton, WY

Academic Decathlon and Secondary Students

Carol L. Tieso

University of Connecticut
Storrs, CT

Which of the following is known for the development of the 12 tone row? As reported in *The Economist* 1993 survey of countries, even several years before the colony was returned to China, Hong Kong ranked low in . . . (United States Academic Decathlon [USAD], 1997). Could you answer these questions about music or international economics? Thousands of students across the United States demonstrate their knowledge of these disciplines and eight others in a national competition called Academic Decathlon. The USAD is a competition in which teams of students match their intellectual wits with students from other schools in their regions. Students are tested in ten subject areas: Language and Literature, Mathematics, Science, Social Science, Economics, Fine Arts, Speech, Interview, and Super Quiz. Academic Decathlon teams are made up of three students each for Honors, Scholastic, and Varsity categories, which are designated by the United States Academic Decathlon and are contingent upon students' grade point averages ("A" average or Honors is GPA of 3.75+, "B" average or Scholastic is GPA of 3.00-3.74, and "C" average or Varsity is GPA of 2.99-2.00) in academic subjects. Gold, Silver, and Bronze medals are awarded for individual events and plaques for overall high scores. The winning team from each geographical area (usually a county) advances to the state and eventually, the national level. Some schools also have the opportunity to compete on an "at-large" basis if their total team score surpasses a certain benchmark. The Academic Decathlon was created by Dr. Robert Peterson, a former Superintendent of Schools in Orange County, California. Dr. Peterson believed that "everyone's potential could be maximized through competitive challenge." What began as a California state competition in 1981 is now recognized as the most "prestigious high school academic team competition in the United States" (USAD, 1997).

Program Description

The Academic Decathlon consists of ten subject areas for a maximum score of 60,000 points: Super Quiz, Social Studies, Language and Literature,

Science, Mathematics, Essay, Economics, Prepared Speech, Impromptu Speech, and Interview. The curriculum content varies from year to year with some exceptions. Due to its hefty scoring weight, the most important area of study in the competition is the Super Quiz. The collective team score is also reflected in each individual's score; (e.g., a team score seven points greater in the Super Quiz could translate into an overall team score advantage of 3000 points). This is also the most exciting aspect of the competition because of its "College Bowl" atmosphere. The Super Quiz is a live competition in which Honors, Scholastic, and Varsity students compete and answer questions singly. Language and Literature includes one novel, which for 1997-98 is *Jane Eyre* by Charlotte Bronte, a lyric poem or reflective essay, and a section reserved for general literary terms. The Social Science area changes from year to year, from the Cultural Geography of the African Continent (1996-97) to political "isms" such as Capitalism, Communism, Socialism, and Marxism. Science also varies yearly, with physics and environmental engineering the most prevalent topical areas. Fine Arts consists of music and art, with students studying major composers and artists and their most important works from various periods. The Mathematics component is relatively static and consists of arithmetic, algebra, geometry, trigonometry, and introductory calculus. Economics consists of microeconomics and macroeconomics. One major variation in the curriculum for the 1997-98 competition is that economics has been deleted as a subject area, since the major focus of the Super Quiz for 1998 is International Economics. The Essay competition consists of a written reflective, persuasive, or narrative essay scored by a series of proctors using a published essay rubric. The speaking events include a four-minute prepared and a one-and-a-half minute impromptu speech in addition to a panel interview. The United States Academic Decathlon publishes student study guides to help each school prepare for each event. Additionally, many test-preparation companies have sprung up to meet the needs of this burgeoning competition.

Benefits for Four Students

For the past seven years, in addition to my regular duties as the gifted and talented coordinator and Advanced Placement teacher, I served as the coach of the Academic Decathlon team at a high school in California. This past year, the team won the county competition and went on to compete at the California State Academic Decathlon Competition in Los Angeles. In addition to the academic rigor of the competition, there are several other important

(continued on page 14)

Thousands of students across the United States demonstrate their knowledge . . . in a national competition called Academic Decathlon.

(continued from page 13)

The Academic Decathlon was the most positive experience of my high school career.

outcomes for gifted students. Four gifted and talented young people shared their experiences in Academic Decathlon. One team member, Chris, had these musings on his experience on the Academic Decathlon team:

The Academic Decathlon was the most positive experience of my high school career. It made me push myself to the limits and it made me realize my full potential. It helped me to overcome my fear of public speaking and helped me to develop study habits that have really made me a better student in college. It was the biggest boost of my self-esteem in my entire life when I got the medals at the end and realized that I was not just an average student, but one with the definite ability to succeed.

One of the second-year team members reflected on his high school experience after entering college:

I remember the first day in Decathlon when you told me, and the class, that I was going to win the overall title at the county meet. You don't know how much that meant to me at the time and even now. You trusted me and, with that, I'm indebted to you. As I continue with this newer level of education, I'll never forget the way you cared about me and my well being.

A third student, Marcia, is an example of a gifted underachiever who joined Academic Decathlon. In her first year as a Varsity ("C" average) competitor, she earned ten medals in various subject areas. In her senior year, she earned eight of the possible ten Gold medals in the Varsity category. She also earned the team's only Gold medal in the Essay competition at the state meet. Marcia was also enrolled in my Advanced Placement Government course but rarely spoke out in class. As a direct result of her experience in Academic Decathlon, she began to express her opinion more regularly and became a key leader in developing and implementing the area's first Young Women's Conference.

The final student in this narrative, Robert, had been involved in a fatal traffic accident involving a group of students that occurred before his participation in Academic Decathlon. Robert was in emotional tatters after the accident; his classmates could not have blamed him any more than he blamed himself. I was a bit apprehensive when he approached me that spring about enrolling in Academic Decathlon, but I tried to make him feel welcome. He worked incredibly hard and eventually made the competition team. As he waited for his ride home each evening after class (his license had been suspended), we had

long discussions about the accident and its effect on him. He is an extremely bright, articulate young man who had aspirations of attending the University of California. He feared his acceptance might be in jeopardy because of the incomplete grades he had earned from months of physical and emotional therapy. His parents proudly looked on as Robert repeatedly walked to center stage to receive his various medals at the county competition. Afterward, his mother embraced me and thanked me for "giving her her son back." A teacher is lucky to have just one moment like that in her teaching career.

Implications for Gifted and Talented Education

Academic Decathlon allows gifted and talented students the opportunity to learn advanced, accelerated content, acquire higher level thinking skills, develop an interest in and love for interdisciplinary study, learn vital communication skills, have access to multiple learning modalities, work cooperatively with students of similar ability, specialize in an area of interest, develop affective and leadership skills and overcome the deleterious effects of underachievement.

VanTassel-Baska (1994) identifies several key components of an advanced curriculum for gifted learners. "Is the content topic important and worthy of the time to be expended on it?" Academic Decathlon subject areas, especially the Super Quiz, represent content that is current and important in the larger political and social context. For example, this year's Super Quiz topic in International Economics while last year's was the Information Revolution. "Is the content topic conceptually complex enough to render it meaningful for gifted students?" The ten subject areas of the Academic Decathlon are interdisciplinary. Students have the opportunity to study the history, literature, and art of the period or theme for that year's competition. Students specifically refer to the interdisciplinary aspect of the subject areas as a novel aspect of their preparation. "Is the content topic relevant to how the world works?" Two years ago, the social science topic was socialism, Marxism, etc., accompanied by the art and music of revolutions and a Super Quiz topic on the fall of communism in Eastern Europe. Students are able to study, in-depth, areas which are too current to be included in most social science texts. "Is the content topic one that could be taught effectively by the designated instructor?" One of the key aspects of a successful Academic Decathlon team is the coach. Many hours of preparation, working with students who may be emotionally excitable and highly sensitive,

can leave the most experienced teacher emotionally and physically spent. It is vitally important for school officials to choose teachers who are excited about working with these students and experienced enough to deal with their ever-changing emotional and intellectual personalities.

A key contribution of Academic Decathlon to gifted and talented education is the incorporation of higher level thinking skills. Feldhusen, VanTassel-Baska, and Seeley (1989) suggest that higher level thinking skills, such as those promoted by the writing and speaking aspects of the competition, can and should be taught to gifted learners. "We endeavor to build strength in thinking in students who show promise of high-level cognitive attainment, and we assume that strength in thinking will transfer to a wide variety of problem situations" (p. 240). Students involved in Academic Decathlon are able to build cognitive thinking skills through the continuous process of writing, speaking, and revising.

Karnes and Riley (1996) identify a multitude of ways in which academic competitions such as Academic Decathlon positively affect gifted students: "Their knowledge bases are expanded in the specific areas of the contests, along with the skills needed for participation. Gains are made in process skills and personal and interpersonal development" (p. 14). Students are encouraged to think creatively and critically during discussions of literature, music, and art examples. Additional skills are developed in leadership, group dynamics, goal setting, and communication.

Emerick (1992) studied students who reversed academic underachievement by utilizing some of the same techniques embedded in Academic Decathlon. She suggests that one way students were able to overcome their own underachievement "was through developing goals, the attainment of which was both personally motivating and directly related to academic success" (p. 143). All of the students mentioned earlier noted that the opportunity to work toward a group goal, winning

the competition, while achieving an individual goal, winning a medal, were highly motivating and crucial to their academic success in high school.

Finally, perhaps the most important benefit of participation in Academic Decathlon is in students' affective development. Gifted students, particularly those in the Scholastic and Varsity categories, may be dealing with issues of underachievement, low self-esteem, and a low sense of self-efficacy. Participation in a competitive, yet cooperative, situation can have positive effects on students' self-concept and locus of control (Karnes & Riley, 1996). All four of my students were positively affected by their participation in Academic Decathlon, from the underachievement reversal of Marcia to the rejuvenation of spirit in Robert. The Academic Decathlon team leader, Sai, summarized the importance of the experience to him:

The various topics provided by Decathlon allowed these students (Scholastic and Varsity categories) to find their niche and since they know that they can compete with others of higher grades, it increases their self-esteem and puts down all the doubts they had in the past from teachers who told them that they weren't good enough What everyone gets from Decathlon, I think, is a sense of direction.

For high school students who suffer from underachievement and multi-potentiality, there could be no more priceless lesson.

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What everyone gets from Decathlon, I think, is a sense of direction.

A complete listing of NRC/GT publications and abstracts of selected publications are available from our World Wide Web site at the University of Connecticut. Any computer user with access to the Internet can use this service. Our address is www.gifted.uconn.edu.



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I S R I N G
S R I N G

The National Research Center on the Gifted and Talented

N RC/GT's Suggestions: Evaluating Your Programs and Services

E. Jean Gubbins
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It's that time of the year when all of our day-to-day reflections on the programs and services for gifted and talented students are put into perspective. You reflect on your students' accomplishments and the extent to which the programs and services met your expectations. Informal or formal evaluations of special programs and services for gifted and talented students require considerable planning. Whether your district's program is relatively new or fully established, it is important to revisit why you developed specific programs and services and to determine how these programs and services promote high-end learning opportunities.

The impetus for developing challenging learning environments for all students is usually implicit in mission and philosophy statements proposed by districts. These statements provide the rationale for developing defensible programs and services for gifted and talented students. As you review your school year, convene a group of educators, parents, and recent graduates with first-hand experiences to consider the following questions:

- Why do we need special programs and services for gifted and talented students?
- How are the programs and services extensions of the regular education program?
- How are the programs and services differentiated from the regular education program?
- How do the programs and services affect the educational experiences of all students?

Do you have a defensible response to each question? Do you need to revise your program philosophy, goals, and objectives? Are these statements of purpose thoroughly understood by educators, parents, and students? The philosophy, goals, and objectives should document **what** is to be accomplished and **how** it is to be accomplished. If you pose questions about **what** you are doing and **how** you are doing it, you are taking the first step in framing a program evaluation. The evaluation of programs and services becomes a process of reviewing what has been done, determining its effectiveness, generating options for making improvements, and deciding on the most appropriate course of action.

The following sample of **what** and **how** questions can help you determine whether your initial plans for programs and services are actually aligned with the program implementation. These draft questions, focusing on students, curriculum, program implementation, and service delivery model, need to be tailored to your district's needs.

Focus on Students

- How are gifted and talented students identified and served?
- What existing data confirm the effectiveness of the screening and identification system?
- What additional screening and identification criteria need to be considered to ensure that special populations are not being overlooked?

I N S I D E

| | |
|--------------------------------|----|
| Professional Development | 3 |
| TV Advisory Ratings | 5 |
| GT/LD | 6 |
| Differentiation | 10 |
| Underachievement | 12 |
| Secondary Students ... | 14 |

The selected data collection strategies should maximize the opportunity to secure program information that will provide guidance for program changes as warranted.

(continued from page 1)

- What academic and behavioral characteristics differentiate gifted and talented students from regular education students?
- How is the program meeting the academic, artistic, affective, and counseling needs of individual students?
- How can program activities be used with all students to spot latent interests and talents?

Focus on Curriculum

- What curricular options are available to meet the students' academic needs?
- What data indicate the effectiveness of the curriculum?
- How is acceleration used in specific content areas?
- What is the effectiveness of the acceleration options?
- What is the impact of training in the arts?
- What units of study are developed to challenge students' abilities?
- How are advanced research skills introduced and applied by students?
- What is the quality of students' projects as a result of their program involvement?
- What new skills do students acquire due to their program involvement?
- How are the new skills being applied to other curricular areas?

Focus on Program Implementation

- How are the program goals and objectives implemented?
- What program goals and objectives need to be clarified?
- How are the program goals and objectives connected to the district's mission and philosophy statements?
- What is the impact of the programs and services on the regular education program?
- What is the effectiveness of the gifted and talented programs and services?
- What advanced training opportunities are available for all teachers?
- What are the unanticipated outcomes of the program?
- What are the reactions of students, parents, teachers, and administrators to the program implementation?
- How are formal and informal feedback used to improve program quality?
- How well do the instructional staff perform their tasks and demonstrate continual professional growth?

- What instructional strategies and curricular techniques are applied to the regular education program?
- What are the educational outcomes of students involved in the program?
- What are the long-term effects of student involvement with the program?

Focus on Service Delivery Models

- How are the curriculum approaches being implemented at various grade levels?
- How is the program organized and coordinated?
- How is the program implementation documented?
- What program resources are needed to maintain or improve the quality of the present program?
- What evidence has been gathered to judge the merit of present service delivery models?
- What additional service delivery models should be considered?

Questions, such as those above, based on students, curriculum, program implementation, and service delivery models, can be expanded to include other areas of interest or concern. You can customize questions based on the comprehensiveness of your programs and services. Consider establishing a program review committee to generate additional questions.

Once the program committee generates or modifies questions, data collection strategies need to be considered. Numerous data collection strategies are available. Strategies are limited by the amount of time that is needed to answer pertinent questions, the personnel required to process the information, and the resources needed to interpret the collected information. It is important to consider the alignment between each evaluation question and the process used to secure the information. The selected data collection strategies should maximize the opportunity to secure program information that will provide guidance for program changes as warranted. Data collection strategies might include:

- interviews
- questionnaires, rating scales
- logs, journals, anecdotal records
- program records, documents
- formal observation data
- students' products
- satisfaction/reaction data
- individual student reports
- test scores
- portfolios

The evaluation questions and data collection strategies direct data analyses techniques. The range of techniques may include descriptive analyses of information from interviews, logs, journals, and observations or statistical analyses of numerical data. The level of sophistication of data analyses techniques is once again dependent on the human, material, and financial resources available for the evaluation.

Evaluation strategies should be an integral part of program planning and implementation. Throughout all stages of the programs and services the evaluation strategies will lead to decisions to

advance program quality and effectiveness. Moving evaluation questions and strategies from a year-end process to an on-going plan will continually make your programs and services for gifted and talented students responsive to their needs and to the district's mission and philosophy. If you don't currently have a comprehensive evaluation plan in place, it is time to reflect on programs and services and seek answers to:

- What works?
- What needs improvement?
- How will possible changes in programs and services improve the educational options for students?

Professional Development Practices in Gifted Education: Results of a National Survey

**Karen L. Westberg, Deborah E. Burns, E. Jean Gubbins,
Sally M. Reis, Sunghye Park, and Lori R. Maxfield**
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Have you noticed how frequently the following recommendation is stated at the conclusion of research reports in gifted education: "These findings suggest that teachers should be provided with more training to meet the needs of gifted students in the regular classroom"? Policy makers and educators have long recognized the importance of providing professional development experiences to teachers for improving student learning. However, we still do not understand whether information on meeting the needs of capable students is included among these training opportunities and the types of experiences provided to classroom teachers. In 1996, the University of Connecticut site of The National Research Center on the Gifted and Talented (NRC/GT) developed, field tested, and administered a comprehensive survey to investigate the scope and nature of professional development practices in gifted education used in school districts throughout the country. Professional development was defined on the survey as "a planned program of learning opportunities to improve the performance of the administrative and instructional staff."

The Professional Development Practices in Gifted Education District Level Survey solicited demographic and gifted education program (if applicable) data, as well as information about districts' professional development practices in gifted education. Close-ended statements were

included in the following areas: mission and philosophy, needs assessments, goal setting, incentives, design of professional development practices, impact, topics, formats, scheduling options, and providers. For example, "Beginning, intermediate, and advanced levels of professional development in gifted education are provided to the faculty" was followed by responses on a 4-point scale ranging from "not accurate" to "completely accurate," and "Peer coaching between classroom teachers and gifted education teachers is used as a format for professional development practices in gifted education" was followed by responses on a 4-point scale ranging from "never" to "often."

The surveys were mailed to a random sample of 2,940 school districts throughout the country, stratified by region, type of community, and socioeconomic status. Of the surveys disseminated, 1,231 usable surveys were returned, providing a 41.87% response rate and a sampling error estimate of 2.76%. The surveys were mailed to the superintendents, but the individuals who completed the surveys held different positions; for example, 31% of the respondents were superintendents, and 27% were gifted education coordinators. The survey was comprehensive (11 pages long) and provided many findings. Selected descriptive and inferential findings from the survey are presented on the next page.

Many districts do not take into account the needs of individual faculty members when designing professional development experiences in gifted education....

(continued on page 4)

(continued from page 3)

...[T]he professional development practices in gifted education provided to classroom teachers throughout the country are limited in nature, degree, and scope.

- A very small proportion of school districts' total professional development dollars is spent on gifted education topics: Districts spend only 4% of their total professional development budget on professional development practices related to gifted education.
- The individuals who determine the professional development practices in gifted education are primarily the gifted education coordinators (21.4%), superintendents (14.3%), or a district-wide committee (14.3%).
- Gifted education specialists rarely provide professional development training to other faculty members within their school districts; for example, 21.6% of the gifted education specialists never provide any training to other faculty members.
- Many districts do not take into account the needs of individual faculty members when designing professional development experiences in gifted education; for example, 70% of the districts indicated they had provided at least one professional development experience in gifted education within the last three years, but 17% indicated this was "completely accurate," and 24% indicated this was "generally accurate."
- The majority of districts do not evaluate the impact of their professional development practices in gifted education on teachers and students; for example, less than 6% of the districts indicate that this is a "completely accurate" description of their evaluation practices.
- Peer coaching between classroom teachers and gifted education teachers is seldom (25%) or never (28%) used to provide professional development.
- When examining differences among districts in the four regions of the country (Northeast, North Central, South, and West) with regard to the extent to which professional development experiences were provided within the last three years, significant differences were found ($F(3, 1172) = 31.13$, $p < .05$ with a Bonferonni adjustment), and

the post hoc analyses indicated that districts in the South provided significantly more experiences.

- When examining differences in districts' professional development practices within the past three years according to state mandates (mandate to identify and serve gifted students, a partial mandate, and no mandate), significant differences were found ($F(2, 1173) = 8.55$; $p < .05$ with a Bonferonni adjustment), and, as anticipated, the post hoc analyses indicated that more experiences were found in districts with state mandates to identify and serve gifted students. No significant differences were found, however, among these three categories with regard to the degree to which districts provide teachers with beginning, intermediate, and advanced levels of professional development in gifted education ($p > .05$).

The overall findings from the survey indicate that the professional development practices in gifted education provided to classroom teachers throughout the country are limited in nature, degree, and scope. One discouraging conclusion drawn from the findings was that only a handful of districts provide differentiated professional development experiences for their teachers. Unfortunately, the "one-size-fits-all" criticism of how capable students are treated in classrooms can be applied also to how teachers are afforded professional development opportunities within districts. The limited use of peer or collegial coaching as a practice for professional development was another disappointing finding, particularly when research indicates that this practice has the highest effect size for increasing teachers' knowledge, skills, and transfer of training (Joyce & Showers, 1995). The findings and conclusions from the survey are being considered as we investigate methods for providing effective professional development experiences to teachers in the remaining years of this five-year research study.

Reference

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The National Research Center on the Gifted and Talented
welcomes the following new Collaborative School Districts:

Los Angeles Unified School District, Los Angeles, CA
Westerley School District, Westerley, RI

P reaching to the Choir: TV Advisory Ratings and Gifted Children

Robert Abelman
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In January 1996, with the House voting 414 to 16 and the Senate voting 91 to 5, the first major rewrite of communications regulation in a half-century was approved. One provision in the new Telecommunications Act required every TV set sold in the U.S. to come with the ability to block programming (the V-chip) based on an electronically encoded rating. The entertainment industry itself was required to develop the rating system, which would identify violence, sex, and other indecent material, and agree voluntarily to broadcast signals containing such ratings. In December 1996, the Motion Picture Association of America (MPAA) presented an on-screen system that separated entertainment programs on broadcast, cable, and public television into six age-based categories: TV-M (mature audiences only); TV-14 (may be inappropriate for children under 14); TV-PG (parental guidance suggested); TV-G (suitable for all audiences), Y-7 (suitable for children 7 and older), and Y (suitable for children of all ages).

It did not take long before critics of the proposed rating system went public with their concerns. The Parents Television Council—the entertainment-monitoring arm of the conservative media watchdog Media Research Center—pronounced the MPAA ratings "hopelessly vague," "inconsistent," and "contradictory." National Parent Teacher Association president Joan Dykstra called the industry's age-based system "confusing and insufficient." Senator Conrad Burns (R-Mont.), chairperson of the Communications Subcommittee, feared that parents would find the rating system counterproductive when attempting to influence their children's television habits and practices. Even Edward Markey (D-Mass.), father of the V-chip legislation that prompted the ratings, said that "the industry system doesn't give parents information they need to make appropriate decisions for their own kids, and it won't give them the choices they need to block programming." The Annenberg Public Policy Center and the National Association of Broadcasters confirmed these observations. They reported that almost two-thirds (65.3%) of parents were not using the rating system to guide their children's viewing.

Although the MPAA television advisory system was not a resounding success, the Communication Research Center (CRC) at Cleveland State University sought to identify those parents who did employ the ratings in their mediation of television use in the household, and profile the type of parent most likely to use the ratings. By way of a national survey, the investigation reached the following general conclusions about ratings usage:

- Parents who engaged in high induction/low sensitization child rearing practices—that is, parents more likely to influence their children using reasoning, explanation, and appeals to pride and achievement (induction) rather than by using actual or implied power, physical punishment, and the deprivation of material objects or privileges (sensitization)—were more likely to employ the rating system than other parents;
- Of the parents using the ratings advisories in their mediation of television, these high induction/low sensitization parents were more likely to use the ratings to inspire and guide discussions of programs. High sensitization/low induction parents were more likely to use ratings as a method to directly restrict viewing preferences or influence viewing practices;
- Parents who believed that TV was likely to have significant positive or negative consequences were more likely to employ the rating system in their mediation than parents unconcerned about the impact of TV on their children;
- Those who perceived TV's impact to be primarily cognitive, influencing thought processes and abilities, or emotional were more likely to employ the rating system in their discussions about TV; those who perceived TV's impact to be primarily behavioral were more likely to use the ratings as a method to directly restrict viewing preferences and practices;

Parents who believed that TV was likely to have significant positive or negative consequences were more likely to employ the rating system in their mediation....

(continued on page 6)

Nonetheless, most of these parents were concerned about the impact of television on their children and, thus, employed the ratings in their discussions.

(continued from page 5)

- Parents of young girls were more likely to employ the rating system in their mediation than were parents of young boys or older children; and
- If the father was identified as the primary rule-maker and rule-enforcer in the family, the rating advisories were mostly used as a method to directly restrict viewing preferences or practices. Mothers and parental dyads as the rule-making and rule-enforcing agent were more likely to employ the ratings in discussions.

The investigation also profiled the type of parent most likely to embrace the rating advisory system. In line with the above information, the most avid users of the ratings were high inductive child rearers who believed that television could have a significant impact on children, particularly with regard to their cognitive abilities and the effort with which they employ them. Interestingly, these parents had children who, according to the scientific literature, were least vulnerable to television's impact and tended to need parental mediation and ratings advisories the least. They were:

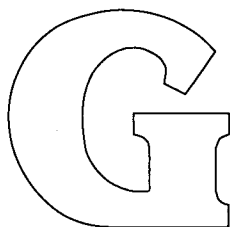
- high academic achievers, most of whom were school-classified as intellectually gifted and participating in special education opportunities;

- low-to-moderate consumers of television;
- often participants in co-viewing with parents and/or older siblings; and
- not given a TV set for their bedrooms.

Nonetheless, most of these parents were concerned about the impact of television on their children and, thus, employed the ratings in their discussions. Much of the concern focused on the perceived waste of time associated with televiewing, television serving as a distraction from important tasks and assignments, and the belief that their children were often exposed to age-inappropriate programming and objectionable (i.e., sexist, ageist, aggressive) content.

In the summer of 1997, the age-based television advisory system was revamped to include content-specific information. There is no evidence that the system is being used any differently than the age-based ratings by parents of gifted children—that is, as fodder for discussion when planning to watch or while watching television. Similarly, when the availability of the V-chip becomes a reality in late 1998, it would seem unlikely that parents of gifted children would modify their child-rearing strategies and use this technology to block programming from their children. While the advisories were essentially preaching to the choir, the V-chip is likely to fall on deaf ears.

Robert Abelman is the author of *Reclaiming the Wasteland: TV and Gifted Children* (Hampton Press)



Gifted and Learning Disabled: Twice Exceptional Students

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Since Terman's time, a widespread belief about gifted children has been that they regularly score high on intelligence tests and perform well in school (Brody & Mills, 1997). Yet during the last decade, increasing attention has been being given to the confusing question of high ability students who also have learning disabilities. These learning disabled gifted and talented students, or "twice-exceptional students" (Nielsen, Hammond, & Higgins, n.d.), need remediation activities. At the same time, they also require opportunities to promote their own individual strengths and talents in one or more domains in which they have previously displayed their superior abilities.

There are at least three subgroups of twice-exceptional students whose dual exceptionality remains unacknowledged. The first of these groups is comprised of students who have been identified as gifted yet are exhibiting difficulties in school and are often considered underachievers. Many of these students are working at grade level and are likely to be overlooked by the screening procedures that are necessary to identify subtle learning disabilities. Their underachievement is often attributed to poor self-concept, lack of motivation, or laziness. It is often not until school becomes more rigorous that their academic difficulties may increase to the point where they are falling

considerably behind peers. Only then does someone ultimately consider that a student has a disability.

A second group includes students who have been identified as having learning disabilities, but whose exceptional abilities have never been recognized or addressed. Inadequate assessments and/or depressed IQ scores often lead to an underestimation of their intellectual abilities. If students' exceptional aptitudes remain unrecognized, their strengths never become the focus of their instructional program. These students are first noticed for what they cannot do instead of the talent that they are demonstrating.

The last and perhaps largest group of unserved students are those who are sitting in general classrooms and are considered unqualified for services provided for students who are gifted or have learning disabilities. The students may appear to possess average abilities due to the fact that their abilities and disabilities mask each other. They typically perform at grade level but unfortunately are also performing well below their potential (Baum, 1990; Brody & Mills, 1997).

Student Characteristics

Twice-exceptional students are atypical learners who are often characterized as smart students with school problems. These students assume that learning tasks will be easy for them and are not prepared for the difficulty that arises from activities in areas of their disability. This leads to frustration, tension, and fear that eventually becomes defensiveness. Due to this frustration, these students often tend to be aggressive, careless, and frequently off-task. They also cause classroom disturbances, and, similar to learning disabled students, seem deficient in tasks emphasizing memory and perceptual abilities. In other areas, their learning characteristics resemble those of high ability students. For example, they may excel at assignments involving abstract thinking and problem solving (Baum, 1984a, 1984b; Baum & Owen, 1988).

High ability/learning disabled (LD) students perceive themselves as deficient more frequently in academic areas, which most likely increases their motivation to avoid school tasks. Twice-exceptional students feel shy and perceive themselves as less effective in school. It becomes disheartening for these students with eager, bright minds to continuously experience failure in school while learning and creating successfully at home. This often leads to poor academic self-concepts and

makes them feel as if they do not fit in with their peers. They also tend to have more creative productive interests. They are able to conceptualize quickly, to see patterns and relationships readily, to reason abstractly, to generalize easily, and to enjoy the challenge of solving novel problems autonomously. Basic automatic skills such as graphomotor speed, perceptual scanning, sequencing, organization, and study skills are at the center of their difficulties (Barton & Starnes, 1989). Hobbies and interests that require keen motivation and creative thinking abilities are often observed outside of the school environment, while their performance in school is poor (Baum, 1984a, 1984b; Baum & Owen, 1988). These students are often referred to as street smart with school problems.

Identification

Due to various definitions of giftedness and learning disabilities, problems in identifying students who are twice-exceptional arise. Generally, twice-exceptional students are those who meet the eligibility criteria for both giftedness and learning disabilities. Giftedness usually pertains to high intellectual abilities or potential rather than students' specific accomplishments. Gifted students are commonly depicted as having exceptional abilities or potential for learning and problem solving. Learning disabilities are defined as problems in learning due to a cognitive-processing difficulty in which the dysfunction affects one or more cognitive processes instead of obstructing overall intellectual ability. These disabilities are customarily identified by an inconsistency between their measured potential and their actual performance on academic tasks (Hannah & Shore, 1995). A twice-exceptional student is one who experiences special educational programming to accommodate one or more handicapping conditions while also promoting the student's potential for exceptional achievement in one or more areas in which they may be gifted (Whitmore, 1981).

Twice-exceptional students are not only identified by depressed academic skills, but also by personality and behavioral problems (Waldron, Saphire, & Rosenblum, 1987). Typically, these students suffer from an auditory processing problem, visual perception problem or attention deficit disorder, or display difficulty in following a sequence of verbal directions (Vaidya, 1993). Even considering the research on twice-exceptional students over the last decade, we are still inclined to identify students for gifted programs and special education services as mutually exclusive activities. Too many twice-exceptional students fail to meet

Twice-exceptional students are atypical learners who are often characterized as smart students with school problems.

(continued on page 8)

When planning for the educational needs of twice-exceptional students, it is important to focus on the development of the strengths, interests, and superior intellectual capacities.

(continued from page 7)

the qualification requirements for either program because the identification protocols fail to consider the special attributes of this population. Documentation of underachievement is usually essential to screen for learning disabilities among the population of gifted/LD students.

Numerous researchers in the field of gifted/LD students focus on the Wechsler Intelligence Scale for Children-Revised (WISC-R) score patterns to clarify identification. Currently, the data from this research have shown no consistent pattern of results. Schiff, Kaufman, and Kaufman (1981) reported a notable Verbal-Performance (V-P) discrepancy with Verbal scores higher, while Waldron and Saphire (1990) found that significant discrepancies between Verbal and Performance scores may not be the best indicator of a learning disability in students. Schiff, Kaufman, and Kaufman conclude in their investigation that the group of superior-IQ LD students revealed above-average verbal comprehension and expression skills and numerous creative talents, but they also indicated weaknesses in the cognitive area of sequencing, motor coordination activities, and emotional development. Waldron and Saphire found that these students are inclined to depend on visual skills for word recognition and analysis, and they also performed poorly in auditory areas, such as sound discrimination and short-term memory.

Vaidya (1993) advocates using portfolio-type assessments and creativity tests, in conjunction with information obtained from IQ and achievement tests, to identify twice-exceptional students. The IQ assessments should be used to determine the learner's strengths and weaknesses, while achievement tests may be used to determine giftedness in a specific subject area. The portfolio should provide an insight into the child's thought processes and uniqueness of ideas by including records of ideas, drafts, critiques, journal entries, final drafts, teachers' suggestions, or parents' suggestions. She also recommends the use of creativity tests that measure divergent thinking. One such test, Torrance Tests of Creative Thinking, measures fluency, flexibility, originality, and elaboration. A student's performance on a test such as this one determines the nature of the student's thinking rather than the specific skills used while completing academic tasks.

Like Vaidya (1993), Eisenberg and Epstein (1981) recommend the use of IQ and achievement scores, but they also recommend using the Scales for Rating the Behavioral Characteristics of Superior Students

(SRBCSS) (Renzulli, Smith, White, Callahan, & Hartman, 1976), for example the Learning, Motivation, Creativity, Leadership, Art, Music, Drama, and Communications scales. Sample items include: possesses a large storehouse of information about a variety of topics (beyond the usual interests of youngsters); has rapid insight into cause-effect relationships; tries to discover the how and why of things; prefers to work independently; becomes absorbed and truly involved in certain topics or problems. They also found that peer and self-nominations were valuable, often more than teacher nominations, in identifying twice-exceptional students (Davis & Rimm, 1994).

Regardless of the method used, when identifying students who are gifted/LD, one should search for evidence of a special gift, talent, or the ability to perform at a high level. It is important to remember that the gifts of twice-exceptional students often remain invisible to teachers and sometimes even parents. Often the disability itself masks the student's expression of special gifts and talents. Giftedness in students is often revealed in oral language and memory skills. Their problem-solving capabilities, curiosity, and drive to know are also associated with giftedness. Creativity is an indicator, but it is less reliable and is much more difficult to assess. The emphasis on cognitive abilities used in the creative process is critical to the accuracy of this indicator. One should look for individuals who generate unique ideas, produce creative solutions, or are extremely motivated to engage in complex and sustained creative activity, such as that required to write a novel or produce a play (Whitmore & Maker, 1985). Twice-exceptional students need an environment that will nurture their gifts while attending to their learning disability. It is also important to provide them with the necessary emotional support so that they can better deal with their inconsistent abilities.

Curricular Needs

When planning for the educational needs of twice-exceptional students, it is important to focus on the development of the strengths, interests, and superior intellectual capacities. Since learning disabilities are inclined to be rather permanent, it is also important to teach and encourage the use of compensation strategies. These strategies could include the use of advanced organizers, technology, and a variety of communication alternatives. Students who have difficulty with short term memory should be taught strategies for remembering (Baum, 1990). Any type of enrichment activity should be designed to develop strengths and interests and to challenge the learner.

Programs need to focus their attention on preventing the disability from becoming a barrier in the development and expression of the child's talent. Students need guidance while trying to accurately understand the nature of their learning disability in addition to the nature of their giftedness. While making students aware of the way in which their disability interferes with their learning, their gifts need to be cultivated. Teachers need to help students shape a healthy, realistic self-concept in which students accept their personal strengths and weaknesses (Whitmore & Maker, 1985). Strategies must be introduced to students so that they can compensate for their learning disabilities. They need to develop alternative ways for thinking and communication so that they can learn according to their strengths (Reis, Neu, & McGuire, 1995).

Vaidya (1993) also points out that while many parents are familiar with the high quality of their gifted child's intellectual ability, they may be concentrating on addressing the difficulties posed by the child's learning disability and neglecting the importance of nurturing their giftedness. Therefore, it is imperative that parents and teachers comprehend the combination of giftedness and learning disabilities.

Twice-exceptional students need an appropriate curriculum that addresses both of their special education needs. These needs relate to their specific intellectual giftedness and to their specific learning disability (Whitmore & Maker, 1985). Students need assistance in areas of weakness, but they also require time to recognize and develop their gifts. Like all students, they especially need enriching and stimulating cognitive experiences where they can use problem-solving abilities and independent research skills.

Gifted/learning disabled students need a program that is challenging and yet also provides structure and strategies to accommodate weaknesses. When a student's talents are identified and nurtured, there is an increased willingness on the part of the student to put forth more effort to complete tasks (Baum, Emerick, Herman, & Dixon, 1989). Students should be encouraged to take pride in their accomplishments and strengths. This will encourage students to compensate for weaknesses by developing strengths (Baum et al.).

Conclusions

There are at least three subgroups of twice-exceptional students, many of whom are not being properly served by the current educational system.

The first group is students who have been identified as gifted yet are exhibiting difficulties in school. Students identified as learning disabled, but whose exceptional abilities have never been recognized or addressed comprise the second group, and students in general education classes and are considered unqualified for services provided for students who are gifted or have learning disabilities make up the third group.

There are many characteristics associated with twice-exceptional students. No single characteristic is enough to consider a student as gifted/learning disabled, but if a student exhibits many of the previously described characteristics a closer evaluation is warranted.

There is no one absolute identification method for twice-exceptional students. Most experts recommend using IQ and achievement tests along with other data. These data may include teacher rating scales, creativity tests, peer and self-nominations, or a portfolio.

When setting up a curriculum, it is important to individualize the learning tasks for all students. The curriculum needs to develop students' gifts while also providing them with compensation methods to work around their disability. It is also important to engage learners in activities and projects that reflect their personal interests.

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...[W]hile many parents are familiar with the high quality of their gifted child's intellectual ability, they may be concentrating on addressing the difficulties posed by the child's learning disability and neglecting the importance of nurturing their giftedness.

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Differentiation... must be accurately defined and described so that pedagogical strategies and classroom environments are appropriate for gifted and talented students.

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Differentiation: Definition and Description for Gifted and Talented

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Educational terms often become buzzwords communicated through various media and professional conversations. Within these dialogues, misconception replaces the intended meaning that results in confusion or lack of implementation for necessary strategies that benefit high ability students.

Differentiation cannot become another buzzword! Rather, it must be accurately defined and described so that pedagogical strategies and classroom environments are appropriate for gifted and talented students.

Differentiation Defined . . .

Three components that are most notably associated with differentiation are: content—what is being taught; process—how it is being taught; and product—tangible results produced based on students' interests and abilities. In the last few years, researchers have added to the content, process, and product definition by addressing the teacher's role, evaluation methods, and the goals of differentiation.

Tomlinson (1995) emphasizes that in differentiating the curriculum, teachers are not dispensers of knowledge but organizers of learning opportunities. To provide optimal learning opportunities the classroom environment must be changed to accommodate the interests and abilities of the

learner. Another dimension included in classroom differentiation involves assessing student performance. Riley (1997) states that when differentiating, appropriate evaluation methods should be utilized including rubrics, portfolios, and checklists based on the products created.

Renzulli's (1997) Five Dimensions of Differentiation include the aspects previously addressed, while defining goals of what each dimension should include for a truly differentiated approach. Goals related to the five dimensions are:

- content—** put more depth into the curriculum through organizing the curriculum concepts and structure of knowledge;
- process—** use many instructional techniques and materials to enhance and motivate learning styles of students;
- product—** improve the cognitive development and the students' ability to express themselves;
- classroom—** enhance the comfort by changing grouping formats and physical area of environment;
- teacher—** use artistic modification to share personal knowledge of topics related to curriculum as well as personal interests, collections, hobbies, and

enthusiasm about issues surrounding content area.

Differentiation Described . . .

The following description paints a picture of what a differentiated classroom resembles.

Within the **content** area, representative topics are explored and webbed, with open-ended questions that probe into a particular field of knowledge (Renzulli, 1997). For example, under the study of Health, a representative topic would be childhood obesity explored by the discussion of whether obesity is a result of genetic or dietary factors. This type of content exploration supports Slocumb and Monaco (1986) who state that, "Curriculum must allow for students to discover the bridges between ideas and fields of study and the paths to new learning" (p. 32).

Pedagogical strategies or **processes** used to stimulate thinking would include but not be limited to problem-based learning, Socratic method, simulations, independent study (both guided and unguided), and higher-level thinking questions. According to Maker (1982), higher-level thinking questions are necessary for critical thinking skills to be grasped by students to respond to curriculum content at higher levels. These processes are illustrated in classrooms where Future Problem Solving activities (researching, brainstorming, identifying an underlying problem, and developing an action plan) are used or where the training of how-to skills is utilized to motivate independent investigations of real world problems.

Products associated with a differentiated approach reflect both the learners' expression and the applied skills of a field of study. These products can be achieved through exposure to learning opportunities developed within the classroom or through the external environment (Passow, 1982) such as agencies, museums, TV, radio, community organizations, and mentorships or apprenticeships. A student's product related to childhood obesity may be a newly designed diet for children developed with the aid of hospital dieticians. Another would be an exercise program that takes into consideration the genetic predisposition of children generated with the knowledge and assistance of an exercise physiologist.

When differentiation is occurring in a **classroom environment** there is a combination of interest and learning centers, study areas, computer stations, and work areas for artistic and scientific discoveries. Some students may need the use of

other school learning areas (e.g., library, gym, auditorium, lab) if the topic being investigated requires additional resources or environments that allow for freedom of movement.

Most importantly, the **teacher** extends him/herself by becoming part of the learning exploration through direct personal experiences, an opinion or belief that sparks a curiosity or confrontation with knowledge, or by modeling the love of learning as the process unravels.

Passow (1982) states that differentiation is essential for gifted students to develop their unique gifts and talents. "Teachers responsible for these students must have an appropriate base of knowledge and skills to meet these needs, and should enjoy working with these students" (Coleman & Gallagher, 1995, p. 32).

Educators of the gifted and talented have the task of developing and utilizing the five dimensions of differentiation in a consistent and progressive manner to truly address the needs of highly able learners and direct them into choices that challenge their potential. Differentiation is the necessary strategy by which gifted and talented children "realize their contribution to self and society" (Marland, 1971, p. ix).

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Differentiation is the necessary strategy by which gifted and talented children "realize their contribution to self and society."

The problem of identifying under-achievers reminds me of a quote ascribed to a supreme court justice about the definition of obscenity—"I can't tell you what it is, but I know it when I see it."

Underachieving Gifted Students: A Mother's Perspective

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I teach preschool. I have done so for long enough to watch a number of my students reach high school. Several have been identified as gifted, which came as no surprise since ability and potential often show themselves clearly at early ages. Several more have not been identified officially and I question what the school district has done to thwart what I considered obvious.

I also parent. Of my four children, the two in the middle have been tested and assigned IQs of 140. The oldest, whose judgment sometimes belies his intelligence, received a 130 score. His standardized test scores rank at a higher percentile than does his IQ. The fourth is in third grade and testing has not been done. He's plenty bright; whether or not he needs special classes has not been determined.

The only really interesting thing about my children's test scores are the circumstances surrounding the referrals to the psychologist. The oldest was tested because a diagnosis of Attention Deficit Disorder (ADD) was being considered when he was in eighth grade. The next child, a second boy, was also tested in junior high because of distractibility and daydreaming. The third, a girl, was tested in second grade. It could have been earlier. Her kindergarten teacher used her as a classroom aide to help other children.

So, as my second son would ask, "What's up?" My children meet most definitions of gifted. Only my daughter has received special services. The oldest dropped out of high school and obtained his GED in under a week. He plans on starting college with his former classmates this fall and majoring in history. He thinks he might want to teach high school. The comedian with the 140 IQ is in tenth grade. He has a late August birthday; he is the youngest of his friends. He loves music and when his choir teacher can get him to stop talking, he sings beautifully. His grades in ninth grade were horrible. This year they fluctuated wildly. The girl is in accelerated everything, is taking French with kids two years older and teachers love her. I'm impressed that she does her homework, something I have not witnessed her older siblings do with any kind of enthusiasm or regularity.

I also go to school. I have a degree in Child Development, a minor in psychology, and am now taking classes for my elementary certification. Recently, I've been reading about underachievers. I figured I'd been observing them since my first Mother's Day so I might as well see what the experts were saying.

The problem of identifying underachievers reminds me of a quote ascribed to a supreme court justice about the definition of obscenity: "I can't tell you what it is, but I know it when I see it." Identifying underachievers is similar. Teachers and parents may not know why their children are not reaching their potential, but we know them when we see them. Still, it is difficult to decide who gets to make a judgment about students that declares that they are not working up to their potentials. What measurement techniques are used? Can anyone be a true underachiever or just gifted students? And what is the definition of a gifted student?

McCall, Evahn, and Kratzer (1992) define underachievement as "discrepancy between actual and expected performance" (p. 2). An earlier definition which they cite is that "the underachiever with superior ability is one whose performance, as judged by either grades or achievement test scores, is significantly below his high measured or demonstrated aptitudes or potential for academic achievement" (p. 2).

Whitmore (1980) provides a checklist to identify gifted underachievers. If, after observation, a student exhibits 10 or more of the listed traits, it is suggested that more tests be done to determine whether the student is gifted and underachieving. Of the 20 traits listed, Whitmore cites 7 that are most significant:

1. Poor test performance;
2. Achievement at or below grade-level expectations in one or all of the basic skill areas: reading, language arts, or mathematics;
3. Daily work frequently incomplete or poorly done;
4. Superior comprehension and retention of concepts when interested;
5. Vast gap between qualitative level of oral and written work;

6. Wide range of interests and possibly special expertise in an area of investigation and research; and
7. Low self-esteem in tendencies to withdraw or be aggressive in the classroom.

Whitmore also states that:

All studies comparing the characteristics of the achiever with those of the underachiever indicate that negative self-concepts are the central trait distinguishing underachievers from those who are achieving commensurate with their ability. (p. 178)

Coil (1992) believes that "while signs of underachievement often begin by third or fourth grade, middle school or junior high usually marks the highest point of consistent underachievement" (p. 2).

Perhaps the most telling personal characteristics of underachievers are listed by McCall et al. (1992):

Self-Perception

1. Low perception of abilities
2. Poor self-concept and low self-esteem
3. Self-critical
4. Fear of failure, fear of success
5. Anxious, nervous (especially over performance)

Goal Orientation

6. Unrealistic standards; perfectionistic
7. Lack of or low educational and occupational aspirations
8. Lack of persistence
9. Impulsive reaction to challenges

Peer Relations

10. Lack of friends, lonely, alienated, withdrawn
11. Immature or ineffectual social skills, not liked by peers
12. Feel rejected

Authority Relationships

13. Overtly aggressive, hostile
14. Discipline problems, delinquency
15. Rebelliousness, independence-striving
16. Lack of self-control, manipulative
17. Irresponsible, unreliable
18. Passive-aggressive

Locus of Control

19. External control, blame others for problems
20. Hypercritical of others, negativistic

Emotional Expression

21. Flat affect, apathy
22. Emotionally explosive, poorly controlled emotions
23. Unhappy or depressed. (pp. 23-24)

Even with so many possible characteristics, the authors remind educators that "theoretical work on underachievement is not well developed. Some theories are not tied to specific measures and therefore difficult to test" (p. 34).

From an article from CBS Action, Stay-in-School Tool Box (1995), a profile of dropouts includes personal risk factors such as low self-esteem and difficulty with long-range goals and rewards. This profile included the group to which underachievers would most likely belong. The last third are often non-conformists:

- they are disruptive, mouthy, hyper;
- they exhibit problematic behavior;
- they can't sit still;
- they learn differently from the norm;
- they have lots of energy;
- they are often innovative;
- they are often gifted.

Well, okay, I recognize enough traits in my children to feel guilty about either my genetic bestowal or my parenting. Now, what can be done? My sons are far from being the only gifted kids who are not excelling. Do we ignore them and concentrate on the ones who produce or do we restructure education so the underachievers will produce, too? After all, even my oldest, the dropout, has won storytelling competitions, tennis trophies, and National History Day awards. Maybe he could have succeeded in school if a few changes had been made. And while he jokes with people about his alternative path to college, there is little doubt in my mind that his confidence would be stronger had he finished high school successfully.

In her book, *Up From Underachievement*, Heacox (1991) states that "anywhere from 5 to 50 percent of students identified as gifted and talented are also called underachievers." (p. 2)

She goes on to say that she has

. . . come to realize that underachievers want school to be different. Some are angry, some are hurt, nearly all have negative feelings about themselves, but they still have a desire to be successful in school. They simply don't know how. (p. 2)

The first problem to overcome is the cycle of blame which begins when a child fails. I think that as long as parents blame schools, schools blame students and parents, and students blame everyone, there will be no solution. Heacox makes this point, also. She admits that it is not always possible for parents,

I think that as long as parents blame schools, schools blame students and parents, and students blame everyone, there will be no solution.

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The cost of discounting a child's worth is substantial. Ultimately, schools have to care about the vast amounts of potential being wasted and differentiate curriculum for under-achieving gifted students.

teachers, and students to work together well, but that it is always preferable. I would add administrators to the pool as well.

Coil (1992) also lists numerous strategies for helping underachievers. Her chapter heading categories are building self-esteem; improving study skills and remediating academic weaknesses; motivating students—an essential element of achievement, flexibility, and change within the school system; and finally, working with parents.

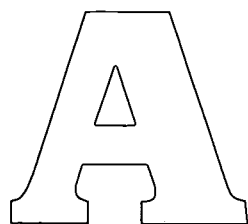
A two year study of secondary students found that when underachieving students were placed with high achieving peers they made greater gains than when placed with other underachievers (Karnes, McCoy, Zehrbach, Wollersceim, & Clarizio, 1963). The gains were attributed to content and teaching rather than to the peer grouping. Another study found gains when teachers taught with differentiated methods and showed a caring attitude (Raph, Goldberg, & Passow, 1966). These gains disappeared when the student went to a new teacher.

Because there is no "one-size-fits-all" solution to helping underachievers, there has been limited progress made in their behalf. It is time for schools

to be more flexible. Some students will need much interest-based selection, others will need the same differentiation strategies used for other gifted students—faster paced instruction or curriculum compacting. The cost of discounting a child's worth is substantial. Ultimately, schools have to care about the vast amounts of potential being wasted and differentiate for underachieving gifted students.

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An Independent Study Model for Secondary Students

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When gifted students are asked what they like best about being in a special program for the gifted and talented, the first response usually deals with the greater freedom allowed for selecting topics of study. Conversely, when they are asked about their greatest objection to the regular curriculum, students' comments frequently refer to the limited opportunities to pursue topics of their own choosing. Providing gifted students with options for studying areas that interest them in secondary education involves some unique problems that are often not present when providing elementary services. Not only must the material be differentiated at a more advanced level, it must be available in a variety of

talent areas. As gifted students enter high school, they demonstrate more understanding and depth in specific content areas which result in a need for individualized educational opportunities related to these interest areas. Unfortunately, this is occurring at a time when class schedules are less flexible and personnel resources may be limited. Beneficially, it is also occurring when their teachers are more subject oriented and are better equipped to delve in-depth into specific disciplines. Thus, while the diversity of talents exhibited by high achieving students at the secondary level warrants a multitude of educational options, the educational system that serves the secondary level, while often lacking flexibility in scheduling options, does have many of the resources necessary to provide a richer education experience.

One option for serving gifted and talented students at the secondary level is an independent study model based on student developed courses (SDC)¹. The SDC model was developed to provide students with opportunities for further study in their talent areas. The model is based on the Schoolwide Enrichment Model (Renzulli & Reis, 1985) and the Autonomous Learner Model (Betts, 1985). It

fits well within the traditional high school schedule and can be easily implemented in small as well as large high school settings.

The SDC model provides secondary students with the option to study topics that match their interests and talents through a two-step process. First, students learn about their talents, weaknesses, and learning styles in a one semester SDC class. In that class they also learn how to design an independent study course. Students cannot be expected to possess naturally the skills necessary to design and conduct an independent study. The SDC class teaches students how to design and execute an independent study based upon their unique strengths and interests.

Following completion of the SDC class, students are encouraged to register for a one semester independent study that they design. A student with a special interest in photography might elect to document historic homes in the community and publish a web site featuring her work. A student interested in creative writing might wish to write and produce a play, or a student interested in science might build a laser or study the effects of radiation on tissue development. Although not all students will wish to develop an independent study option after completion of the SDC class, many elect to design and complete one.

After completing the SDC class and prior to beginning an independent study, students develop proposal outlines for their studies. The outlines include learning objectives, a list of proposed activities and a timeline, a list of resources needed to complete the project, a description of the final product and audience, and a description of how the project will be evaluated.

Once the independent study proposal is complete, the student contacts one of the secondary teachers to mentor him/her through the project. The teacher's role is to monitor the student's progress during the semester for which the student enrolls in the independent study. Initially, the teacher will assist the student in finding a place to work. Once the project begins, the teacher and student might

meet briefly once a week, or less frequently, to discuss the student's progress and to resolve any roadblocks the student might be encountering. At the completion of the project, the teacher and student jointly review the student's progress and final product. This evaluation is based on the goals the student developed prior to beginning the study.

Students receive one semester credit for their projects. They register for this credit as they would register for any regularly scheduled class and work on their project during a scheduled time just as they would other courses. Traditionally, independent project credits serve as elective credits within the content area that the student has chosen to investigate. The photography project mentioned earlier could count as an art elective, while the laser project would serve as a science elective.

While one staff member is responsible for teaching the SDC class that prepares students for their independent projects and which is required before students may design their independent studies, the entire secondary faculty is available to guide students through their projects. This serves three purposes. It capitalizes on faculty interests and skills within the subject areas where they have expertise, it does not unnecessarily burden a single faculty member, and it creates broad ownership for educating gifted and talented students.

The independent study option is one viable means of meeting the needs of many students. It affords students an opportunity to expand their understanding of specific disciplines through self-directed inquiry under the guidance of adults with similar interest, while providing minimum interruption in the secondary schedule.

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¹ Early work on the model under the name PREP was conducted by Terry Hoffer and Jay Radke.

The SDC model provides secondary students with the option to study topics that match their interests and talents through a two-step process.

Washington Association of Educators of Talented and Gifted Annual Conference
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WAETAG's annual conference is designed to provide teachers, administrators, and parents with tools to meet the unique needs of highly capable students. Among the workshop offerings will be presentations that emphasize creative and critical thinking strategies that can be integrated into both regular and gifted education classrooms.

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