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INSIDE

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.

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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,

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

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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, lightening 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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...[E]ducation 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.

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

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/ghome/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 American history and creativity, some of which are in audio and video[2] 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.

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

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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.

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 Descartes'[3] 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.

[1]All sites were active as of publication of this article.
[2]With most audio and video clips certain "plug-ins" are required in order to play them back.
[3]To 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.

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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.

• • •

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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Mankato, MN

Karen Kettle
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Whitby, Ontario

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 nonaccelerates 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

(continued on page 12)

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.

(continued from page 11)

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

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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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