

GIFTED EDUCATION PRESS

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NEWSLETTER
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Three problems of gifted education are addressed by the authors in this Newsletter with considerable insight, sensitivity, and practical knowledge. The first article by Judith Sachwald describes an educational proposal recently submitted by Governor Schaefer to the Maryland State Legislature. As we go to press, the Bill for establishing The Maryland School for Science and Technology has been rejected by this state's Senate, and a vote is now pending in it's House of Representatives. This proposed residential high school for the gifted has been severely criticized by some Maryland citizens as being a frivolous addition to the State Budget and unnecessary for the education of these students. As Ms. Sachwald so clearly indicates in her article, the United States has a severe shortage of scientists, engineers, and mathematicians who are American citizens. Dr. Virgil S. Ward, through his Call to Professional Arms (October-December 1987 issue of GEPN), urged educators of the gifted to improve this enormously important field of education by taking positive actions. In this regard, we recommend that one immediate and worthwhile step would be for individuals in Maryland and other states to send letters of support for The Maryland School for Science and Technology to our address or to Judy Sachwald (Executive Assistant; Office of the Governor; State House; Annapolis, Maryland 21401; Phone 301-974-3004). If you would like further information about the School, Ms. Sachwald will provide it. This proposal by Governor Schaefer would establish a high-powered secondary level program in central Maryland (near Baltimore and Washington D.C.) which is close to major state and federal research centers such as The University of Maryland, Goddard Space Center, and the National Institutes of Health (NIH). Would this educational proposal be rejected by such nations as Japan, Korea, Israel, West Germany, or the Soviet Union? We do not think so.

The second article by Gary Heideman and Ruth Harris (Rockford, Illinois Public Schools) discusses important matters of identifying and educating minority, disadvantaged and limited English speaking gifted students, while the third article by Patricia Tierney and William Penn of the Pittsburg Public Schools demonstrates how a large school system educates it's gifted students. We welcome your comments and look forward to receiving descriptions of how other school districts and state agencies deal with the problems discussed here.

In order to continue publishing this Newsletter, we are requesting that all interested educators and parents pay \$12.00 for a one-year subscription. This amount will enable us to cover the increasing costs of printing and postage which make it impossible to continue distributing this publication on a gratis basis. With your help, we will continue our efforts to publish (quarterly) the best articles on the current problems of educating gifted children.

Maurice D. Fisher, Publisher

A PROPOSAL: THE MARYLAND SCHOOL FOR SCIENCE AND MATHEMATICS
 BY JUDITH S. SACHWALD, EXECUTIVE ASSISTANT
 OFFICE OF THE GOVERNOR
 ANNAPOLIS, MARYLAND

". . . and secure the blessings of liberty to ourselves and our posterity, . . ." (Preamble, U.S Constitution)

As our celebrations to honor the birth of the U.S. Constitution continue, it seems most appropriate also to examine our international leadership position and to ponder our continuing ability to remain a world leader. These facts paint an unhappy picture:

-- Japan, with half of our population, trains twice the number of scientists.

-- 58% of the students in American universities earning Ph.D.s in engineering, and 50% of the Ph.D. candidates in physics, are from other nations.

-- In 1987, only 362 Ph.D.s in mathematics were awarded by American universities to American citizens.

-- Non-citizen scientists employed by American industry increased from 10% in 1975 to 17% in 1982.

-- The percentage of American college freshmen indicating an interest in majoring in science dropped from 13% in 1975 to 8% in 1984.

-- American team members at the 1987 International Chemistry and Physics Olympiads placed 23rd and 34th in the chemistry event, substantially behind the gold medalists from East and West Germany, the Soviet Union and China.

Adequately educating all of our young people for potentially happy and productive lives in the 21st century is a challenge that a democratic society cannot afford to ignore. If we are to succeed, we must explore a variety of non-traditional approaches and offer public school students a variety of educational opportunities.

In Maryland, Governor William Donald Schaefer has proposed two programs for students with very different needs, yet both would contribute to the future health and well-being of the state and its citizens. One program, ties state,

federal and private resources together to establish a drop-out prevention program. The second program weds a three-year residential high school offering a liberal arts curriculum, which emphasizes science and mathematics for highly able students, with a center to improve science and mathematics education for all students. This center will assist elementary and secondary schools throughout the state. The purpose of this article is to share the vision for The Maryland School for Science and Mathematics, and how this program for gifted and talented students will have a positive effect on the general education program.

By being committed to moving Maryland to the forefront of science and mathematics education, Governor Schaefer seeks to establish a public educational institution of national standing that will: (1) contribute to scientific literacy for all of Maryland's students, and (2) expand the number of Maryland students preparing for further studies and careers in mathematics, science and engineering.

Six hundred young people from every part of Maryland will live and study in a stimulating educational environment. The proposed enabling legislation calls for the School to develop and implement enrollment policies that are both consistent with admissions standards, and accept students based upon each county's proportion of the state's total public school enrollment for kindergarten through grade 12. It further provides for a minimum goal of three students from each county for each entering class of 200 students. The proposed statute also requires the School to develop and implement outreach programs to attract female and minority applications.

Admissions decisions will be based on a variety of factors that reflect each student's past accomplishments, potential development and personal interests. Students may be asked to take an objective aptitude test (e.g. the SAT), to write an essay, to submit teacher evaluations, or to participate in a personal interview. The School staff, educators from the community and business leaders will participate in the application evaluation process.

The curriculum will provide students with a broad variety of science and mathematics courses in physics, chemistry, biology, mathematics, computer science, and their interrelationships. Students will study the social sciences and the humanities, learn to write clearly and expressively, become proficient in a foreign language, and develop an appreciation for the arts. Students will have opportunities for independent study and for participation in research activities in private, university and government laboratories.

The academic program will promote the excitement of learning and will emphasize the learning of skills, mastery of information, and understanding the methods of scientific inquiry. At the same time, students will be taught the special responsibilities of scientists to society, both through the study of

historical relationships of science and society and through required community service projects. Varsity and intramural sports and a wide variety of extracurricular activities also will be a part of the program.

At The Maryland School for Science and Mathematics, students will learn with other young people of similar interests and goals in a supportive environment. In a residential setting, they will continue their concentrated study beyond the regular school day. Furthermore, this residential setting is designed to: (1) foster and nurture high performance expectations and standards for students; (2) increase opportunities for student-faculty interaction; (3) enhance student peer support for academic pursuits and achievement; and (4) encourage student initiated projects.

The Center for Science and Mathematics Education, as an integral part of the School, will assist elementary and secondary schools across Maryland in improving the quality of science and mathematics instruction for all students. The Governor will appoint an advisory council composed of educators from across the state to participate in the development of the programs. The Center will build upon the already successful programs operating in local school systems, the Summer Gifted and Talented Centers and the Maryland Professional Development Academy sponsored by the Maryland State Department of Education.

Most likely, the Center will: (1) sponsor summer residential institutes for elementary teachers and secondary science and mathematics teachers; (2) develop and share innovative teaching techniques and a new curriculum with science and mathematics teachers; (3) provide a forum for teachers to exchange promising practices; (4) arrange for teachers from across the state to serve as "visiting" teachers for an academic year (with approval from the appropriate local authorities); (5) offer summer enrichment programs in science and mathematics to the general school-age population; and (6) seek federal, private and foundation support for science and mathematics initiatives across the State. The full-time students at the School will be encouraged to share their knowledge and excitement for learning with other students.

The State of Maryland spends \$1.5 billion annually on elementary and secondary education (24 local school systems with approximately 650,000 students). Federal and local funds bring the total spending for public schools in Maryland to approximately \$2.9 billion. The Maryland School for Science and Mathematics will cost about \$8.3 million annually when it is fully implemented. The program has been designed to supplement and complement the ongoing activities of Maryland's public schools and to become the nucleus for science and mathematics education in Maryland. Perhaps, we will become a national leader in sharing the fruits from programs for gifted students with the general education program. (At this writing, March 10, 1988, we are waiting for the General Assembly to act.)>>

**IDENTIFICATION AND PROGRAMMING FOR MINORITY, DISADVANTAGED AND LIMITED ENGLISH
SPEAKING GIFTED LEARNERS**

BY GARY E. HEIDEMAN, DIRECTOR OF GIFTED PROGRAMS
AND RUTH L. HARRIS, GIFTED PROGRAM PSYCHOLOGIST
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Over the years, several approaches have been suggested for identifying gifted children from minority, disadvantaged, and limited English-speaking populations. Frazier (1984) has suggested the use of a nonbiased assessment profile which allows the interpretation of data from multiple sources. Despite the soundness of this approach, implementation of such a model becomes extremely difficult, particularly for large school districts, because of various regulations which dictate the nature of the identification process. Furthermore, identification as the only issue becomes a dead end avenue for children from these populations, if it is not initially coupled with a program service model designed to address the unique characteristics and deficits of these children. Simply including these children in an established program through a differentiated identification process will only result in further substantiation of their deficiencies. The level of services provided to each group needs to remain consistent; however, the nature of the service must focus not only on a differentiated approach based on differences in learning styles (Riessman, 1982), but also on the affective issues which facilitate learning. As Clark (1983) suggests, it would be difficult to plan for the "characteristically" gifted child when disadvantaged children are also in the program.

The following identification and program model used in the Rockford Public Schools, District 205, Rockford, Illinois, is but one approach by a large school district and is one which seems to be working. It has several components which address not only identification, but also the issue of service and mainstreaming of the children into the existing program model.

Background

Rockford, Illinois, is a mid-sized (population of over 150,000), middle-income, largely white collar and conservative community with diverse economic and cultural interests. The public school district serves over 27,000 students. As a unit district (K-12), students are divided into thirty-nine elementary schools (K-6), five middle schools (7-8), and five high schools (9-12). The range of socio-economic levels and cultural differences are reflected in the school age population in the Rockford Public Schools. The

Gifted Program operates as one type of alternative setting and presently serves approximately 1400 students within six buildings. Services for students range from kindergarten to grade twelve. The classes are of a centralized, self-contained nature and are designed to serve only those students who meet entrance requirements. Eligibility criteria follow the Illinois State Board of Education guidelines for services to gifted children.

In 1982, the Rockford Board of Education directed the Administration to prepare a long range plan (five years) for Gifted Education and to present the plan to the Board for its consideration.

After acceptance of the Task Force recommendations and implementation began, it became apparent that the recommendations concerning the efforts to identify and better serve minority, disadvantaged and limited English speaking students were neither appropriate nor practical.

In September 1985, a separate recommendation was approved by the Rockford Board of Education which established a differentiated approach to identification and program services for this specific population.

Identification

The gifted program office defined the target population for this project as those youngsters enrolled in the ten most economically disadvantaged schools within the Rockford Public Schools, as indicated by the Federal Guidelines for Chapter I eligibility.

In order to maximize the educational benefits for this non-traditional gifted group, early identification and early programming were recommended. To reach the largest number of students in the initial child search, students needed to already be enrolled in school at the kindergarten level. So that some equality in instruction was assured, it was decided not to begin testing until the end of the first semester of the kindergarten year. Therefore, an appropriate achievement test with empirical midyear norms was needed. The Stanford Early School Achievement Test (SESAT), developed by The Psychological Corporation, fulfilled this requirement. The achievement battery for the SESAT provided both a mathematics and reading section for making comparisons, as well as providing ease of administration, clarity of directions, and a sufficient ceiling without causing undue frustration for the children.

Although the SESAT was administered to all kindergarteners, only the scores of students in the ten targeted schools were rank ordered for identifi-

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cation purposes. An examination of the SESAT results showed reading scores to be lower than math scores in comparison to the national norms; therefore, it was decided that a non-verbal measure of intellectual functioning might better represent the intellectual potential of these youngsters. Consequently, the parents of the top scoring twenty to twenty-five students in either reading or math were then asked to allow additional testing to be conducted with their children. Furthermore, teachers were encouraged to submit the names of students whose scores on the SESAT did not earn them an invitation for further testing, but whom they felt merited further evaluation. These students were subsequently invited for follow-up testing. Staff inservice training regarding the recommendation process was conducted prior to the actual test administration.

In the first year of the project, the Test of Non-Verbal Intelligence (TONI) was used with moderate success. However, since this test did not provide the expected wide range of scores, the Raven Colored Progressive Matrices Test (CPM) was used in the second year of the project. Recent publication of U.S. norms made this a viable instrument.

The final selection of students for the pilot program used a matrix procedure. The matrix was comprised of the child's scores from the reading and math sections of the SESAT, the TONI (or Raven), the teacher questionnaire, and an estimate by the teacher of the likelihood of the child's success in an accelerated/enriched academic program. Matrix scores were rank ordered and the students were invited into the program based upon their rank. These selection procedures resulted in choosing a final group of youngsters who very closely represented the ethnic makeup of the population from which they were drawn.

Program Services

As stated above, the Rockford Gifted Program is centralized and self-contained. Students in the elementary division spend five entire days per week in classrooms for the gifted. Likewise, students who are in the pilot program (open only to identified gifted students from the under-represented populations) in grades 1 through 3 participate in the same type of instructional setting. This program is housed in a building which is relatively close to their home. Transportation is being provided for these students by the District. They are not, however, a part of any magnet school plan designed to build self-esteem within their own environment. This physical setting enhances parental involvement by eliminating socio-economic comparisons, and it elicits greater participation in the parent education program.

The program began in 1986 with only a first and second grade class, and has now added the third grade component. There are many who have or will

object to a separate program; however, once identified, the children in this population require more than enrichment, or acceleration, or a pull-out form of instruction, or to be simply put into the traditional gifted program class. Within the current self-contained setting, it is possible to address the two major thrusts of our efforts which are directed toward serving these students: (1) Specific curricular intervention through intellectual and grade/age level interaction, and (2) an affective support system to facilitate learning. It was the judgement of all involved that this could be accomplished only through a comprehensive, self-contained arrangement which spanned a period of three years.

The curriculum revolves around the basic domains of math, science, social studies, reading and language arts. The basic curriculum was accomplished with relative ease and is supplemented by a problem solving approach to mathematics (Comprehensive School Mathematics Program), a specific children's literature program, and thinking skills -- logic, creative thinking, hands on science units, and frequent field trips. All of these areas of learning are directly parallel to the curriculum of the gifted program.

As the current term draws to a close, the issue of future program services for students in this first class is yet to be fully resolved. However, the current options within the District will provide a wide range of available services. The nature of the services provided will be related to the action of a placement committee which will review the information available for each child, and recommend placement in either the traditional gifted program, the artistically talented program or in a more limited gifted enrichment setting.>>

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- RAVEN (Raven Colored Progressive Matrices Test--CPM) The Psychological Corporation and Harcourt Brace Jovanovich, Inc. San Antonio, TX.
- SESAT (Stanford Early School Achievement Test) The Psychological Corporation.
- TONI (Test of Non-Verbal Intelligence) Pro-Ed. Austin, TX.

GIFTED EDUCATION IN THE PITTSBURGH PUBLIC SCHOOLS

BY PATRICIA O. TIERNEY, PH.D., COORDINATOR,
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Dr. Virgil Ward's Call to Arms (October-December 1987 issue, GEP Newsletter) to save gifted education from falling into a random assortment of frivolous and politically motivated programs is both timely and provocative. Since the halcyon post-Sputnik days, many of attempts to educate the gifted have indeed fallen into "fun and games" or make-work programs designed to quiet parents' demands and keep state auditors at bay.

If theory is essential to sound practice, as Ward so strongly reminds us, then, children with extraordinary potential deserve an extraordinary and differentiated education (Ward, 1987). Since Terman's early work, the gifted have been identified as persons who learn more, faster and in greater depth. They are capable of high performance and "require differentiated education programs and services beyond those provided by the regular school program" (Marland, 1971).

Today, although more children are in gifted programs than ever before, most programs across the country consist of pull-out experiences -- a few hours of enrichment per week at best. Unfortunately, these programs lack academic rigor. The stated enrichment goals of divergent thinking, fluency, novelty and elaboration often disguise what is really an entertainment period -- or worse -- a time to do more of the same work assigned in the regular classroom.

According to sound theory, opportunities to think critically and respond creatively should be integrated into the study of the academic and artistic disciplines. The lock-step basal reading programs, for example, provide no real academic challenge. In fact, these basic skills programs are damaging to both ends of the student population: the movement from one level to another is too fast for handicapped children, and too slow and shallow for the gifted. All children need real literature, but those who are gifted students who are reading at least two years beyond grade level suffer a greater deprivation. There are many great books for children that will challenge them to enlarge their vocabulary, interpret and evaluate characters, themes and issues, and -- most important of all -- provide models for good writing. The dismal results of the National Writing Assessment and the 70% decline in SAT scores over 1350 since 1972 (Hirsch, 1987) may be caused as much by basal reading programs as by mindless hours of TV viewing. The lack of accelerated and differentiated education programs is clearly most damaging to gifted children.

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Exceptional ability in mathematics may also manifest itself at an early age. Yet these exceptional children too often spend years doing repetitive computation exercises in their regular math classes. If they are fortunate, they may be given some problem-solving opportunities once a week in a gifted pull-out program -- provided the enrichment includes mathematics.

If children must wait until grades 11 and 12 to be challenged in Advanced Placement classes, they have waited too long. Many have already turned-off and dropped-out; others have faded into the mainstream where they become chronic underachievers.

There are some encouraging developments in gifted education. The rash of criticism beginning with A Nation at Risk has moved education to the top of the national agenda. The U.S. Office of Gifted and Talented, eliminated by President Reagan in 1981, may be re-established by this Congress and more states are mandating gifted education (Richardson, 1985). Models of the Bronx High School of Science are spreading, and new International Baccalaureate Programs are also cropping up across the country. Many large urban areas are opening high schools for the Creative and Performing Arts.

In 1977, Pennsylvania issued revised standards for Special Education which extended the right of the handicapped to a free, appropriate, public education to gifted children as well. The Pittsburgh Public Schools, however, have a history of pioneer programs for the gifted that pre-date the 1977 mandate. Back in the thirties, Dr. Hedwig Pregler developed an experimental workshop for gifted elementary level children. In the sixties, the Pittsburgh Scholars Program, provided a national model of a full-time academic curriculum for gifted and talented students in grades 8-12.

Currently in Pittsburgh, gifted elementary and middle-school education consists of a one-day a week enrichment program at two special schools. Although these are pull-out programs, the gifted centers do offer a rigorous curriculum which incorporates higher level thinking skills within content areas. The Centers are equipped with computer and science laboratories, television studios, dark rooms and other facilities to meet the individual needs of the students. Although the children are limited to one-day at these Centers, at least they have the opportunity to interact with their peers in a challenging differentiated program. Often the gifted feel "weird" or "nerdy" in the mainstream environment. It helps their self-esteem as well as their intellectual development to know there are other children like themselves.

The secondary level gifted program offers pupils a full-time accelerated four year curriculum in all academic disciplines: English, social studies, science, mathematics and foreign language. Enrichment consists of seminars,

field trips and independent study projects which are related to the curriculum. Exceptional students also have the option of pursuing special interests with a teacher mentor or a professional in the community, such as a researcher at one of the local universities.

These are bright spots, but they are too few to meet the needs of some two and one-half million gifted children in this country. Ward's message -- return to sound theory as a basis for appropriate, differentiated education -- is urgently needed. Our nation cannot afford to squander its most precious resource: the extraordinary potential of its gifted children.>>

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LETTERS

From Dr. Mary M. Frazier, Director, Torrance Center for Creative Studies and President of the National Association for Gifted Children -- I am writing to thank you for sending me copies of your newsletter. I find it to be stimulating and thought provoking. It was interesting to read the remarks to Virgil Ward's article on "Differential Education for the Gifted 1987: A Descriptive Analysis and Call to Arms."...I will continue to read your newsletter with great care. Thank you again for sharing it with me.

From the Honorable Bill Bradley, United States Senator, New Jersey -- Thank you very much for sending me a copy of the January issue of the Gifted Education Press Newsletter. I value your thoughts and appreciated your taking the time to provide me with this information. The information provided by organizations such as yours is helpful in my consideration of legislative proposals in this area.>>

"Some people may have greatness thrust upon them. Very few have excellence thrust upon them. They achieve it....All excellence involves discipline and tenacity of purpose." John W. Gardner, Excellence, 1987