



Advocacy for Gifted and Talented in New York

Talent Search: Purposes, Rationale and Role in Gifted Education

By: Paula Olszewski-Kubilius, Ph.D.

In this paper the purpose and rationale of talent search is presented. Then the phenomenon of talent search is discussed.

Talent search includes three important components: diagnosis and evaluation of domains and levels of talent, educational placement and guidance, and talent development opportunities including summer programs, distance learning programs, contests and competitions, etc. There is a solid research base that supports the validity of the talent search identification protocol, the success of students in accelerative programs and the benefits of participation. Talent search has had an effect on general education particularly influencing ideas about students' readiness for learning and the timing and pace of instruction. Talent search programs need to take steps to insure greater access particularly to economically disadvantaged students.

The Beginnings of Talent Search

The first talent search was instituted by Dr. Julian Stanley at Johns Hopkins University with the support of the Spencer Foundation of Chicago in January of 1972. Stanley was interested in children who reasoned extremely well mathematically and he founded the Study of Mathematically Precocious Youth (SMPY) to study them. In an effort to measure and identify mathematical aptitude, Stanley began to use the Scholastic Aptitude Test with students of pre high school age who appeared to be precocious in mathematics. He found that the test had value in measuring mathematical reasoning ability. In fact, the SAT was so valuable in this regard that Stanley and his colleagues extended their use of it from individual students to groups of students, thus beginning the "talent search" concept (Stanley, Keating and Fox, 1974). The first talent searches were a deliberate effort to find youths of middle school age who reasoned exceptionally well in the area of mathematics within circumscribed geographical areas. Later, the talent search was broadened to include assessment of verbal as well as mathematical talent and enlarged to the entire United States.

These early talent searches identified so many academically advanced students whose highly specialized needs were not being met and provided such a successful method of identifying such students that the talent search idea grew enormously over the next two and a half decades. Currently talent searches exist nationwide to serve children in every state and the services have been amplified to include educational programs, newsletters, analogous talent searches for younger students, and services for parents. There are four university based centers that conduct annual, talent searches -- the Center for Talent Development at Northwestern University, the Talent Identification Program at Duke University, The Institute for the Academic Advancement of Youth at Johns Hopkins University, and the Rocky Mountain Talent Search at Denver University. Of these, Northwestern's Center for Talent Development is the only school that is accredited. The Center for Talent Development is accredited as a Special Function School, through which students may earn credit for the courses they complete. In addition to these, several other centers across the United States conduct identical or analogous talent searches and several state level talent searches.

The Rationale Behind the Talent Search

The rationale behind the talent search is really very simple. The talent search is built upon the idea of "off-level" testing. In other words, we believe that because different children develop at different rates, they should be allowed to take tests at the level of their abilities not at the level that school officials or testing companies deem appropriate for their age. Students who are scoring very well on typical school standardized achievement tests, above the 95th or 97th percentile, are eligible for the talent search. For these students, in-grade achievement tests indicate a high level of knowledge in the content area with which most parents and educators would be satisfied. These tests, however, cannot give a complete picture of these students' abilities. The in-grade achievement test can only serve as a screening device for high achieving students, identifying those students about whom we need to gather more information. The reason that standardized achievement tests are not able to accurately assess some students' capabilities is because they are designed for groups of students that differ widely in their knowledge of particular subjects. The tests contain a range of items that vary in difficulty level, but typically have too few difficult items which would make them a more accurate and therefore appropriate measuring device of gifted students' capabilities. In educational terms, these tests do not have an adequate "ceiling" to give a fine grained picture of gifted students abilities, a picture that would be useful for making decisions about educational placement.

The talent search concept involves giving younger students tests typically designed for older ones-- or, in other words, giving the test "off-level". Tests, such as the Scholastic Aptitude Test or the American College Testing Program (ACT), have adequate ceilings to provide better measurement because they are designed to be used with older students. These tests are typically taken by high school students who are preparing to go to college. Historically, the tests were developed to predict college performance and to place students appropriately within the college curriculum.

The principle of off-level testing is a general one and can be used with different grade-level forms of a standardized achievement test as well, e.g. 4th graders given the test usually given to 6th graders. Off-level testing simply means that the selection of the testing instrument is made on the basis of the student's pre-existing level of knowledge, skill, or capabilities in an area or domain rather than chronological age or grade. In-grade achievement tests are useful in determining how the overall achievement level of a school compares to others from the nation or what percentage of the student body is achieving at certain levels. But, it is not helpful in determining educational placement for the group of students who score very well on the test; There is a great deal of variability among this group of students.

The concept behind off-level testing is not new and has been used successfully in other fields too. For example, if a music teacher has a new student beginning instruction, the teacher may have the student play several pieces to ascertain the level of skill development already achieved. The teacher may select pieces that are increasingly difficult in order to determine where to begin instruction. This is analogous to talent search testing. The talent search students have already taken a test designed for their age group and performed almost perfectly. The SAT and ACT tests are like the more difficult musical pieces that provide better information on which to make educational decisions, particularly placement and rate of instruction.

The Phenomenon of Talent Search

Nowadays, when one uses the term "talent search", it means much more than the testing described above. It is more properly viewed with three different "lenses"; as a tool for diagnosis/evaluation, as a guide for educational placement, and as a structure to provide talent development opportunities. Julian Stanley described SMPY as a "vast, far-flung set of educationally facilitative special

opportunities for young students who reason exceptionally well mathematically or verbally" (Stanley, pg 1, 1983). I think this description applies to talent search also.

Diagnosis/Evaluation

When first conceived, talent search was viewed as primarily an identification and selection device. That is, the testing identified those students who were very talented in math and verbal areas and selected them for special programs. However, the talent search has slowly been re-conceptualized as a diagnostic tool, one that discovers areas (math or verbal) and levels of ability within a population already considered academically gifted and matches students to programs that are appropriate in pace of learning and content.

Take, for example, two seventh grade students who both score at the 97th percentile on the mathematics composite of their in-grade achievement test. When they take the SAT-Math, however, one student scores a 550 and the other a 350 (see Figure 2). These students look very similar to one another on the basis of the in-grade achievement test and would be treated similarly educationally by schools and teachers. In reality, they are quite different and need different educational placements and programs. Despite those differences, one would be reluctant to conclude that one child is gifted and the other is not.

The child who scores a 350 on SAT-Math has achieved a high level of mastery of his/her grade level mathematics and probably is functioning in this area like a child in an advanced grade. This child would benefit from enrichment in mathematics and might need to be moved to the next grade for mathematics instruction. The child who scores a 550 on SAT-Math is functioning mathematically like a child four to five years older--like an average 12th grader. For this student, an individualized mathematics program which allows the student to move at a much more rapid pace is appropriate. For both of these children, however, the typical curriculum is probably insufficient--insufficient in scope, or pace, or both.

The talent search provides assessment to students during the mid to late elementary school years. This time period is one in which differentiation of abilities across different areas, verbal, mathematical, scientific begins to emerge. In addition to discerning areas and levels of ability within areas, the talent search gives educators a rough yet useful estimate of learning rate or the extent to which typical school instruction will be inappropriately slow paced and /or conversely the rate at which instruction should proceed to be appropriately challenging for a particular student.

Educational Placement and Guidance

The information yielded from talent search testing is useful for educational placement and guidance. Northwestern University's Center for Talent Development has developed recommended course sequences within each of the content areas (See Figure 3 for an example) and program recommendations depending upon a student's talent search scores (see Figure 4). The basis for these recommendations are differences in students' reasoning capabilities and the belief that these differences should be matched to educational programs that are appropriate in scope and pace. The recommended course sequences are an attempt to provide a sequential set of educational experiences that develop the student's talent and interest over time.

Some students, on the basis of their talent search scores may be candidates for grade acceleration and others for subject area acceleration as illustrated above. Some students may be able to be accommodated within the typical school organizations by being advanced one or more grades for instruction or by early access to high school or college classes. Schools may need to institute special kinds of classes such as those that compress two years of mathematics instruction into one to

accommodate some students. A small group of students may need programs that depart radically from schools' typical array of opportunities, e.g. early college entrance.

Accelerating children through the curriculum or making accommodations that allow gifted students to proceed at a more rapid pace of learning are ways to serve academically gifted children that are not widely used or accepted by schools. Within schools, age or grade is still the main determiner of placement and readiness for the study of certain subjects or courses despite the fact that this is not true of other talent domains. Children talented in some sports or music are allowed to proceed with advanced training once they have developed the appropriate skills or techniques. Further, it is widely accepted and not considered problematic that individual children will have their own rates of development within these talent domains. The most extreme example of this is children who are defined as prodigies and who are so advanced within a domain that they reach adult levels of performance while still chronologically children. Talent development within academic content areas has some analogs to talent development in other non-academic areas and, so, the needs of these academically advanced students should be considered. Talent search is consistent with current understandings of the process of talent development, especially given its emphasis on educational accommodation to individual trajectories of development.

Talent Development Opportunities

When children participate in a talent search program, they are able to access a whole host of outside-of school opportunities including award ceremonies, summer programs, after school or Saturday programs, correspondence programs, weekend workshops and seminars, and chat groups and other on-line programs. In addition, they receive information in the form of newsletters and magazines on other opportunities such as contests and competitions, scholarships, programs of study abroad, research fellowships and opportunities, etc. Newsletters and magazines also include expert advice on issues such as acceleration, college programs for academically talented students, early college entrance, social-emotional aspects of giftedness, etc. Opportunities and information are geared for students and parents.

When students participate in a talent search they become part of a network of support that includes direct services from the talent search universities themselves such as educational programs, advice and information from expert professionals, information about and access to programs from other universities or organizations, and contact with other families and other students with similar interests and capabilities. Typically students who participate in talent search as seventh or eighth graders continue to be notified about opportunities and receive information from the talent search institution until the completion of high school. The effect on talent development for an individual talent search participant can be pervasive and long lasting. Talent search is more properly viewed as the gateway to many other important, educationally advantageous opportunities.

Over 135,000 students registered to take the SAT with a talent search organization during 1995-1996 and 110,000 actually took the test (S. Graff, personal communication, Oct 2, 1996). Another 31,000 students took the ACT, most of these with a talent search organization (P. Dana, personal communication, October 21st, 1996). Another 11,498 students in grades 3 through 6 took the Explore test through ACT (P. Dana, personal communication, October 21st, 1996) and over 19,000 5th and 6th graders took the PLUS test (D. Freeman, personal communication, September 23, 1996). While these figures represent a substantial number of children, many more are qualified to participate and are not aware of the opportunities that talent search can bring them.

Research on the Talent Search Model

There is an ample research base to support the premises underlying the talent search model. First, the validity of the two-tiered identification process has been established. Ebmeier and Schmulbach (1989) found that using the 95th percentile on in-grade, standardized achievement tests as a criterion to choose students who need further assessment is appropriate. Using this percentile does not eliminate many students who would score well on the test nor does it subject many students to the testing who would perform poorly. Second, research has shown that the tests are not too difficult for the middle school students who take them. The percentages of students who scores at the low end of these tests are about the same for the talent search and high school populations (Wilder & Casserly, 1988; Participating in the Midwest Talent Search: A Student Guide, 1966) indicating that the younger students are not overwhelmed by the test. Additional evidence that the test is not too difficult is the fact that most talent search student score above chance level on the SAT, the score they would get from purely guessing (Burton, 1988).

Third, research has shown that the talent search has predictive validity as well. Students who participate in talent search continue to achieve at higher levels compared to other students (Burton, 1988). Specifically, talent search students score better than average college bound seniors on the SAT when they take it in high school, take more accelerated and advanced courses, earn more awards and honors and continue to have very high educational aspirations (Burton, 1988). Benbow (1992) found that scores on the SAT are predictive of achievement ten years after talent search participation and that differences in scoring levels relate to measurable and, in some cases, significant differences in academic achievement.

Finally, research has also shown that the recommendations for students based on their talent search scores have validity. The SAT scores used for entrance into fast-paced, accelerative courses are valid and select students who succeed academically (Olszewski-Kubilius, Kulieke, Willis & Krasney, 1989). Student achievement in classes that are matched in rate and pace with students learning capabilities as assessed by talent search scores is consistently high (Bartkovich & Mezynski, 1981; Lynch, 1992; Olszewski-Kubilius, et al, 1989). Students who participate in talent search sponsored summer programs tend to pursue more rigorous courses of study, participate in extra-curricular educational opportunities more, and accelerate their education more than students who do not participate (Barnett & Durden, 1993; Olszewski-Kubilius & Grant, 1996). The effects of such programs can be especially beneficial for mathematically talented females, helping them to match the achievement levels of males and maintain high educational aspirations (Brody & Fox, 1980; Fox, Brody and Tobin 1985; Olszewski-Kubilius & Grant, 1996). Talent search and subsequent summer programs can increase motivations, create academic challenge and provide social support that help girls, who for complex social reasons do not achieve at levels commensurate with their abilities.

The Effects of Talent Search on Education

Talent search has had an effect on general education in the following areas:

Timing and Pace of Instruction

Talent search and the educational programs that have developed from it challenge firmly held notions about the timing and pace of instruction. Most schools adhere to the model of 120 hours of minimum instruction for a single course. But talent search programs have demonstrated that some students can accomplish as much as two high school mathematics courses within only 50 hours of instruction (Bartkovich & Mezynski, 1981) and many can master an entire year's worth of material within 75 hours of instruction (Olszewski-Kubilius, et al, 1989). Talent search summer programs have shown that some students can learn at a much faster rate and instruction can proceed at a much faster pace than heretofore believed without sacrificing level of subject mastery or preparation for future courses and with higher student satisfaction. These findings and other program models which compress

learning into shorter time periods for gifted students challenge the current structure of schools. How much more could students learn if they were allowed to study at a more appropriate, challenging pace?

Mastery of Subject Material

Talent search programs challenge traditionally held ideas about subject mastery. In most high schools, mastery is determined by both the performance of a student in a course or subject but also by the amount of time spent on the subject. Students who attend talent search summer programs and successfully complete courses often have difficulty getting credit for those courses because they spent less than 120 hours of instruction in the subject area. Mastery is too dependent upon time spent on a subject rather than knowledge of the subject or level of skill development in an area.

Readiness for Learning

Talent search educational programs allow students of junior high age to study subjects and take courses typically reserved for high school or college aged students. However, in most schools, the primary criteria for students to study particular subjects is chronological age. Talent search programs have shown that chronological age is not a good indication of readiness and in fact younger students often possess the mastery of prerequisite subjects, maturity, and motivation needed to succeed in advanced courses.

Focused Intense Study

In most talent search educational programs, students study one subject at a time in a very focused, intense manner. They pursue this subject to mastery and then proceed on to another. Many students report a strong preference for this type of study rather than the smorgasbord/sampling approach of a "bit of time on many subjects" typical of most high schools. School officials are very committed to this "small dose" approach to learning believing that it allows students to fully digest new materials and gives ample opportunity for repeated exposure to it. Contrary to concerns that the reduced instructional time of most talent search summer programs results in superficial learning, the model of intense study of a single subject at a time promotes in-depth learning of subjects.

Grouping of Students

The talent search educational programs add to the already existing literature about the value of homogeneous grouping for academically talented learners. The grouping allows students to interact with others with similar intellectual and academic interests and proclivities. Also, most programs group students into courses on the basis of readiness for learning the course material and previous achievement in the subject area and thus involve students who differ widely in grade-level and chronological age. The success of the students in the program attests to the validity and benefits of such grouping arrangements both for instruction and social development and interaction.

The talent search programs have raised some important issues that strike at the very heart of current organizational structures and basic policies for schools. At fundamental issue here is the belief that all learners need the same amount of time and structure or need to be the same age to take a course or study a subject. Talent search programs have demonstrated that this is simply not true.

Many schools and districts have policies that are inimical to gifted students. These include not allowing credit for high school classes taken during the middle school or any high school classes taken outside of one's local high school, not allowing credit for courses that involve less than 120 hours of instruction, or severely limiting the number of college courses a student can take while still in

high school even within a sanctioned dual enrollment program. Fundamentally, these problems stem from the belief that the current school structure fits all students. The talent search programs have clearly demonstrated a viable and preferable alternative for students.

A Need for Greater Access

A major problem with talent search is access to the program. Access is troublesome at several levels:

* Talent search is a program operated by universities not by local schools. However, personnel within schools identify students who are qualified for talent search and make the decision to be a part of the program. Only a small percentage of the schools who could send students to the talent search actually do so. Because the schools act as a gate-keeper, many students are not afforded the opportunity to be a part of a talent search program.

* Participation in the talent search involves a fee. While it is reasonable, around \$50, it may prohibit students from participating. Similarly, most of the educational programs offered by the talent searches also involve tuition and are too expensive for many students who could benefit from them. While the talent search programs have scholarship money to support students, there are still many more who never even apply because of the fees involved.

* Talent search does a good job of assessing the abilities of children who are already achieving in school. It does not help to identify children who are underachieving or who cannot demonstrate their abilities on the off-level tests because of a language difference. Also, it does not identify children who, because of economic disadvantage or other factors have not had an environment supportive enough to develop their abilities--children who have the potential to achieve but who do not yet have a high level of developed talent. These groups of children are often most in need of the services that talent search has to offer.

Talent search has been and continues to be a phenomenon within education and within the field of the gifted and talented. Of all the identification and program models promoted within the field of the education of the gifted, it is the most sound and has a solid basis of research support behind it. It also has led to a flowering of programs for students and a wider recognition of these students special needs.

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