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The Talent Search Model:

Past, Present, and Future

Mary Ann Swiatek
Carnegie Mellon Institute for Talented Elementary and Secondary Students

Abstract: Typical standardized achievement tests cannot provide accurate information about gifted students' abilities because they are not challenging enough for such students. Talent searches solve this problem through above-level testing—using tests designed for older students to raise the ceiling for younger, gifted students. Currently, talent search programs serve gifted students from grades 2 through 8 throughout the mainland United States and in several foreign countries. Extensive research demonstrates that above-level test scores differentiate among levels of giftedness and have important implications for educational planning. Students with high scores learn advanced material rapidly and well and thrive in accelerated learning settings. Therefore, talent searches have followed up on testing with educational programs, many of which focus on acceleration. Decades of research have documented both academic and psychosocial benefits to participants. Perhaps the greatest challenge ahead of the talent searches is that of facilitating the appropriate education of gifted students in the school setting.

Putting the Research to Use: The research that has proceeded from various talent search programs clearly has supported the use of above-level testing to determine the extent of a student's ability in a domain and to predict future achievements. Research also has clearly demonstrated that gifted students, identified through talent search methods, are able to learn advanced material quickly and well. Therefore, talent search methods can be used by schools to test gifted students, either through external talent search programs or though the use of existing tests that are designed for students at least two grade levels above that of the gifted student(s) being tested. Results from this testing can be used to identify students for fast-paced programming, which can be implemented either within a school or across a larger area, such as a school district or a particular geographic region. Such programming can use existing materials, curricula, and faculty to provide an inexpensive way to meet the needs of gifted students. When necessary, online programs can provide self-paced classes to qualified students.

Keywords: *talent search; above-level testing; academic acceleration; ceiling effect; DT→PI model*

Traditionally, school students take standardized tests to measure their achievement in various academic subjects. These tests measure knowledge of material that is considered appropriate for a student's grade level and provide a comparison between a given student or school and national norm groups. For students with very high scores, however, such tests do not provide specific information about their academic accomplishments. A very high score indicates that a student answered most or all items on the test correctly. Therefore, it indicates that the student knows the grade-level material that comprised the test items. What it cannot indicate is how much material the student knows that is beyond grade level. On a typical achievement test, a student who knows grade-level material well, but knows little beyond that level, will earn a score equivalent to a student who knows grade-level material well *and also* knows a significant amount of higher level material (see George, 1979; Lupkowski-Shoplik, Benbow, Assouline, & Brody, 2003; Olszewski-Kubilius, 1998b; Stanley, 1976). Approximately 35 years ago, Dr. Julian C. Stanley of Johns Hopkins University first addressed this problem by giving high-scoring students an above-level test—that is, one that was designed for older individuals and therefore, was comprised of higher level items (Stanley, 1976, 1996). From this testing concept grew a model for identifying and

Author's Note: Address correspondence concerning this article to Mary Ann Swiatek, KidsPeace Athlete Center, 5300 KidsPeace Drive, Orefield, PA 18069; e-mail: swiatek@rcn.com.

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educating students with exceptionally strong academic reasoning abilities: the talent search model.

Development of the Talent Search Model

The first administration of an above-level test occurred in 1969 (see Stanley, 1976, 1996, for details). Dr. Stanley, then primarily an expert in statistics and psychological measurement, was asked to assess a 13-year-old boy named Joe who showed extraordinary ability in computer science. Because Joe was taking college-level courses, Dr. Stanley decided to use college-level tests for the assessment—among them, the College Board's Scholastic Aptitude Test (SAT). Joe's high scores prompted his parents and Dr. Stanley to seek high-level academic opportunities for him. When high schools were reluctant to allow such a young child to take their advanced placement (AP) courses, Joe enrolled at Johns Hopkins University as a very young college student. His success there was striking. Another family with an extremely able child heard about him and sought Dr. Stanley's help. Again the SAT was part of the assessment, and again the assessment was accurate: The student was able to enter Johns Hopkins University at a very young age, and again the student's success was remarkable. Long term, both boys established successful technical careers.

In the fall of 1971, with financial support from the Spencer Foundation, Dr. Stanley and his colleagues created the Study of Mathematically Precocious Youth (SMPY) and recruited local students for further testing and research. In March 1972, they conducted the first talent search, administering the mathematics component of the SAT (SAT-M) to 450 gifted seventh and eighth graders from the Baltimore area in what would become an annual event. The following year, they added the verbal portion of the SAT (SAT-V) to the talent search (Stanley, 1996).

The staff of SMPY realized that identification alone was not sufficient to help the students whose high academic ability was identified in a talent search. Therefore, in the spring of 1972, the first SMPY class was held. It was a fast-paced math class for highly able students who had completed the sixth grade (Benbow, Perkins, & Stanley, 1983; Fox, 1974; Stanley, 1996). The class was very successful: "In twelve to fourteen months, eight students completed 4½ years of mathematics, two completed 3½ years, and six completed 2 years" (Benbow et al., 1983, p. 53). In the summer of 1980, the first residential program to offer fast-paced classes to students with high scores on above-level tests was held at Johns Hopkins University, through the Center for Talented Youth (CTY), an offshoot of SMPY established to administer educational programs (Stanley, 1996). The success of students in these classes, combined with the success of the early entrants to Johns Hopkins, provided evidence that academic acceleration is an effective way to meet the educational needs of highly able students; acceleration became and remains a focus of the talent search model.

Since then, university-based, regional talent searches have been developed to provide above-level testing and accelerated classes to students throughout the mainland United States (see Table 1). In 1987, the American College Testing Program (ACT) also began to be used as an above-level test for students in seventh and eighth grades (Sawyer & Brounstein, 1988; Stanley & York, 1988). In addition to the ongoing program at CTY, regional talent search programs currently are administered by the Center for Talent Development (CTD; Northwestern University), the Rocky Mountain Talent Search (University of Denver), and the Talent Identification Program (TIP; Duke University). In addition several state-based programs have been developed (see Lupkowski-Shoplik et al., 2003), and talent search methods are being used outside the United States (e.g., Gilheany, 2001; Tourón, 2001).

In the early 1990s, the talent search concept was extended to elementary students (see Assouline & Lupkowski-Shoplik, 2003; Colangelo, Assouline, & Lu, 1994; Lupkowski-Shoplik & Assouline, 1993; Lupkowski-Shoplik & Swiatek, 1999). In the CTY Talent Search (2007), gifted second through sixth graders take versions of the School and College Ability Test (SCAT) that were written by the Educational Testing Service for students two to three grades higher. The Carnegie Mellon Institute for Talented Elementary and Secondary Students (C-MITES; Carnegie Mellon University), TIP, CTD, and the Belin and Blank International Center for Gifted Education and Talent Development (University of Iowa) offer gifted third through sixth graders the EXPLORE test, a test developed by ACT in 2001 for eighth graders (see Lupkowski-Shoplik et al., 2003). Talent search methods have been shown to be effective at identifying academic talent in elementary students (e.g., Colangelo et al., 1994; Lupkowski-Shoplik & Assouline, 1993; Lupkowski-Shoplik & Swiatek, 1999) and providing them with challenging educational experiences (e.g., Mills, Ablard, & Gustin, 1994).

Table 1
University-Based, Regional Talent Searches in the Mainland United States

Talent Search	University	Region Covered	Contact Information[a]
Center for Talented Youth	Johns Hopkins	Alaska, Arizona, California, Connecticut, Delaware, Hawaii, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, Virginia, Washington, West Virginia, and the District of Columbia	5801 Smith Avenue #400 McAuley Hall Baltimore, MD 21209 http://www.cty.jhu.edu ctyinfo@jhu.edu (410) 735-4100
Center for Talent Development	Northwestern	Indiana, Illinois, Michigan, Minnesota, North Dakota, Ohio, South Dakota, and Wisconsin	617 Dartmouth Place Evanston, IL 60208 http://www.ctd.northwestern.edu ctd@northwestern.edu (847) 491-3782
Rocky Mountain Talent Search	Denver	Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming	College of Education Office of Academic Youth Programs 1981 South University Blvd. Denver, CO 80208 http://www.du.edu/education/ces/rmts.html rmts-info@du.edu (303) 871-2983
Talent Identification Program	Duke	Alabama, Arkansas, Florida, Georgia, Iowa, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Nebraska, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas	1121 West Main Street Durham, NC 27701-2028 http://www.tip.duke.edu (919) 668-9100

a. Contact information includes mailing address, Web site, telephone number, and e-mail address when available.

What Can Be Learned From Above-Level Test Scores?

Various definitions of giftedness have been proposed over the years, ranging from the ability to achieve high scores on traditional intelligence (IQ) tests to achievement in multiple areas that include not only IQ, but also motivation, creativity, and others (see Stephens & Karnes, 2000). Because above-level tests are given when students are too young to have been taught the test content in school, the results are best viewed as indicators of reasoning ability, not retention (George, 1979; Lubinski & Benbow, 1994; Stanley & Benbow, 1986). It is this advanced reasoning ability that is the focus of the talent search conception of giftedness.

One of the greatest misconceptions about talent searches is that they reiterate information about students' abilities that already is available from typical standardized testing (see Swiatek & Lupkowski-Shoplik, 2005). In fact, important information about gifted students' abilities is provided by above-level testing, above and beyond that available through traditional standardized achievement tests typically administered in school. Also, above-level tests are good predictors of future academic accomplishment among gifted students.

Extent of Giftedness

Students who qualify for talent searches are those who earn extremely high scores on in-grade standardized achievement tests (i.e., at or above the 95th or, for some talent searches, the 97th percentile). Scores at this level indicate that students answered all or nearly all of the test items correctly; the test did not contain items difficult enough to challenge these students. Therefore, the results of typical achievement testing can show that a student knows the material expected for his or her grade level, but cannot show what the student might know beyond the grade-level material included in the test. The level at which the test items are written produces a ceiling effect that limits the ability of the test to measure gifted students' abilities accurately (see George, 1979; Lupkowski-Shoplik et al., 2003; Olszewski-Kubilius, 1998b; Stanley, 1976).

The logical solution to this problem is to use more difficult tests for gifted students. Talent searches accomplish this by using standardized tests that were developed for older students with younger, gifted students. This above-level testing enables gifted students to take more challenging tests that can better measure their abilities, and it provides well-researched, secure tests that have solid norms for comparison. All the requirements of a good test are met, and the test content is appropriate to the ability level of the students (e.g., Stanley & Benbow, 1986). As Olszewski-Kubilius (1998b) notes, above-level testing "simply means that the selection of the testing instrument is made on the basis of the students' pre-existing level of knowledge, skill, or capabilities in an area or domain rather than chronological age or grade" (p. 107).

The use of qualifying scores at the 95th percentile on in-grade achievement tests has been supported empirically (Ebmeier & Schmulbach, 1989; Lupkowski-Shoplik & Swiatek, 1999). Despite the fact that all talent search participants have in-grade test scores in the top 3% to 5% of U.S. students in their grade, the scores they earn on above-level tests are normally distributed, with scores covering most or all of the range of the instrument (George, 1979; Lupkowski-Shoplik et al., 2003; Lupkowski-Shoplik & Swiatek, 1999; Olszewski-Kubilius, 1998b). Further, talent search participants earn scores as high as (Lubinski & Benbow, 1994) or higher than (George, 1979) those of the older students for whom the tests were designed. In effect, above-level testing "spreads out" the scores of highly able students, allowing a far more specific understanding of actual ability level than can be gleaned from tests with lower ceilings (i.e., in-grade achievement tests).

Suppose, for example, that two students of the same age have scores at the 98th percentile on in-grade achievement tests in mathematics. These two students appear to have identical ability and, therefore, very similar educational needs in math. In a talent search, these students earn percentile scores based on a comparison with students several years older than them. One student may earn an above-level test score at the 85th percentile in math, whereas the other may score at the 30th percentile. These above-level test scores highlight differences in mathematical reasoning ability that were masked by the ceiling effects of the in-grade test and suggest quite different educational needs for the two students.

Prediction of Future Performance

The predictive validity of above-level tests has been demonstrated through the academic success of high-scoring students. Beginning with the student who first took an above-level test in 1969 (Stanley, 1996), longitudinal case studies by talent searches have documented impressive achievements among seventh and eighth graders who earned high scores on the SAT (e.g., George, 1979; Lubinski & Benbow, 1994; Stanley, 1976, 1977–1978; Stanley & Benbow, 1986). These individuals did well in advanced classes. Many went on to prestigious colleges and graduate schools, often at young ages, earned advanced degrees, won a variety of awards and honors, and became prominent in their career fields.

Although case studies provided evidence that students identified as highly gifted via above-level testing were very successful in their future endeavors, the lack of a comparison group made it difficult to determine whether such success was limited to those with high scores, or the same might be said for individuals with more moderate above-level test scores. Similarly, early group studies, such as the first description of the original SMPY fast-paced math class (Fox, 1974), involved no comparison group. Since then, studies of this class have compared participants to eligible students who did not attend (e.g., Benbow et al., 1983; Swiatek & Benbow, 1991). These comparisons demonstrated that participation in the fast-paced class was associated with a variety of long-term academic benefits, as described below, but they still did not address the question of whether students with lower tested ability could succeed equally well.

In 1981, Bartkovich and Mezynski studied the performance of seventh graders with high SAT scores in a fast-paced, summer precalculus mathematics class, using students from two different years. In 1978, entrance into the program required an above-level SAT-M score of at least 600 and an SAT composite score of at least 1100; in 1979, the requirement was 500 on the SAT-M and 1000 composite. The classes first tested students to determine what material already had been mastered, then provided instruction focused on material not yet mastered. (This DT→PI model, involving diagnostic testing followed by prescriptive instruction, is further described below.) The data showed that all students benefited from the fast-paced math experience, but those who participated in 1978 knew more precalculus mathematics prior to beginning the program, despite having had no formal training in the subject. This finding, along with positive correlations between SAT-M score and prior math knowledge, showed that "students with very high SAT-M scores are more likely to have acquired, on their own, a considerable amount of precalculus mathematics knowledge" (Bartkovich & Mezynski, 1981, p. 77). This study helped to demonstrate that the above-level SAT-M measured meaningful differences among gifted math students that had implications for their learning.

The practical importance of distinctions among students of high ability was particularly clearly demonstrated by Benbow (1992), who used above-level SAT-M scores to identify students whose mathematical ability was in the top 1% of students their age (i.e., seventh or eighth grade), and then to compare the long-term academic achievement of students in the top 0.25% with those of students in the bottom 0.25%. Ten years after the above-level testing, she compared the groups on 37 achievement-related variables, many of which focused on mathematics and science (e.g., course taking, honors and awards, test scores, graduate school attendance, status of graduate programs attended). On 34 of these variables, significant differences favored the group that had higher SAT-M scores at age 12 or 13. These results indicated that it is not valid to assume that all gifted students have the same educational needs or future trajectories. Even among students in the top 1% in ability, the above-level SAT-M can assess meaningful differences.

Applications to Educational Programs and Planning

Academic Acceleration

Since SMPY's first fast-paced mathematics class in 1972, talent searches have focused not only on measuring academic talent, but also on providing for its development. George (1979) noted that one of the greatest benefits of the talent search model is that it "emphasizes the concept of individual differences" (p. 230) and leads to educational recommendations designed to appropriately challenge each individual student. VanTassel-Baska (1996) also noted the need for programming specific to the level of ability of a gifted student: "The more gifted the student, the greater the need for intensification of services . . . [and] extension of services—providing an array of options that are simultaneously accelerated, enriched, and personalized" (p. 240). The talent searches have focused on diagnostic testing, followed by prescriptive instruction (DT→PI), to ensure appropriate educational challenge for gifted youth. In this model, the student first takes an above-level pretest to assess specifically what material he or she knows and what still needs to be learned. Instruction then is focused on what the student does not know, and a posttest is used to check for mastery after instruction (Stanley, 1978; see also Lupkowski-Shoplik et al., 2003).

Such educational accommodations are perhaps best implemented in school, as children spend the vast majority of their academic time in a school setting. There are many potential advantages to implementing talent-search educational methods in schools, including academic benefits to gifted students through appropriately challenging course material, financial benefits to their families (because an appropriate education for their children would be part of the free, public school system), and benefits to schools that result from documented efforts to provide outstanding educational programs (McCarthy, 1998). Above-level test scores can be useful to schools in planning educational interventions for gifted students, which may range from special classes to subject-matter acceleration to grade skipping (VanTassel-Baska, 1984). Talent searches have provided schools with lists of both in-school and out-of-school opportunities for talented students (e.g., C-MITES, 2004b; TIP, 1985) matched with score ranges on above-level tests to yield specific suggestions for adolescents (Olszewski-Kubilius, 1998b; VanTassel-Baska, 1984) and elementary students (C-MITES, 2004a). Such suggestions are provided to families and schools who send participants to the talent searches (e.g., C-MITES, 2004a; TIP, 1985).

Barriers to School-Based Implementation

Unfortunately, schools do not always provide appropriate programming for gifted students (Swiatek & Lupkowski-Shoplik, 2005; VanTassel-Baska, 1998) and rarely use the DT→PI model or other accelerative methods, despite the solid research supporting them (Colangelo, Assouline, & Gross, 2004; Southern & Jones, 1992; Southern, Jones, & Fiscus, 1989; VanTassel-Baska, 1998). A number of reasons for this resistance have been suggested. VanTassel-Baska (1998) noted that staff turnover may result in school positions specific to the gifted being held by individuals who are not familiar with talent search testing or educational methods. Given that teachers and administrators tend to be conservative in educational planning and to resist avenues that differ from the norm, and the fact that many fear acceleration will somehow harm students (Southern & Jones, 1992; Southern et al., 1989), lack of information about the research on talent searches may greatly reduce openness to special educational accommodations for students who show extraordinary ability via above-level testing.

Even when knowledgeable teachers and/or administrators are available to help with planning, the time and effort required to accommodate the educational needs of gifted students—especially those few, highly gifted students who often are identified through talent searches—may appear prohibitive for schools. As VanTassel-Baska (1998) says, "changing policies and procedures for a handful of students each year has never been a popular request" (p. 141). Southern and Jones (1992) add that the logistics of ensuring appropriate credit for work earned and effective planning for the future also can hinder schools' implementation of acceleration. Lack of legislation requiring schools to identify and meet the needs of gifted students also may limit special programming for gifted students, as schools are likely to focus their limited resources on those populations they are required by law to serve. At present, no federal law and few state laws require accommodations for gifted students (Colangelo et al., 2004).

Talent Search Educational Programs

To address the inadequacies of school programming for academically gifted youth, talent search programs offer a variety of extracurricular educational opportunities for students who earn high scores on above-level tests. These opportunities include commuter classes for elementary students (e.g., C-MITES, 2004c), enrichment-based residential programs on university campuses, and accelerative classes offered during the summer (see Mills, Ablard, & Lynch, 1992; Olszewski-Kubilius, 1989; VanTassel-Baska, 1996) or on weekends (see VanTassel-Baska, 1984), which can provide academic credit and/or advanced placement in students' home schools. Such programs have been shown to have both short-term (Fox, 1974) and long-term (Benbow et al., 1983; Swiatek & Benbow, 1991) academic benefits for gifted students (Olszewski-Kubilius, 2003; VanTassel-Baska, Landau, & Olszewski, 1984).

Students in the first SMPY fast-paced math class were evaluated not only at the end of the class (Fox, 1974), but also 8 years (Benbow et al., 1983) and 18 years (Swiatek & Benbow, 1991) after the class ended. These longitudinal studies compared students who completed the fast-paced math class with those who qualified for the class but chose not to attend. They further compared students who worked at a very fast pace to those who were separated out during the class to work at a somewhat slower pace. Results indicated that students who completed the class, especially those who completed the class at the fastest pace, earned higher SAT scores in high school, took more advanced mathematics courses and more college courses while in high school, and were more likely to take AP examinations in calculus, accelerate their education, enter college with advanced standing (Benbow et al., 1983), and enter college young (Benbow et al., 1983; Swiatek & Benbow, 1991). They also attended more highly ranked colleges, and the female participants were more likely to pursue graduate study (Swiatek & Benbow, 1991). Further, very strong performance in mathematics on achievement tests in high school (Benbow et al., 1983) and in educational pursuits through college (Swiatek & Benbow, 1991) showed that learning math quickly in junior high did not create gaps in math knowledge.

Subsequent accelerative math classes have further demonstrated that both elementary students (Mills et al., 1994; Moore & Wood, 1988) and adolescents (e.g., Bartkovich & Mezynski, 1981; Mills et al., 1992; Stocking & Goldstein, 1992) who score well on above-level mathematics tests are able to learn advanced math quickly and well. Some of the academic benefits of these programs, especially those relating to the continuation of math acceleration after program participation, appear to be particularly strong for girls (Olszewski-Kubilius, 1998a). Many talent searches also offer advanced classes in science and the humanities (e.g., Holahan & Sawyer, 1986; Lynch, 1992; Olszewski-Kubilius, Kulieke, Willis, & Krasney, 1989; Stocking & Goldstein, 1992) and above-level testing procedures have been shown to be valid for student selection. Gifted students who take accelerative courses in the humanities may be even more successful than those who take classes in math (Stocking & Goldstein, 1992).

Olszewski-Kubilius et al. (1989) categorized fast-paced classes into two groups based on the method of instruction used—self-paced or teacher-paced. Gifted students in self-paced classes move through the curriculum individually, at their own rates; those in teacher-paced classes work through the curriculum as a group, at an accelerated rate set by the instructor. Technically, teacher-paced classes do not follow the DT→PI model, as they do not involve individual testing and instructional plans that are specific to each student. Although the pacing in such classes is not individualized, the high above-level test scores of participants demonstrate their ability to learn at a fast pace. Research (see Olszewski-Kubilius, 1998a, for a review) supports the validity of above-level test scores to select students for these teacher-paced, accelerated classes (Lynch, 1992; McCarthy, 1998; Olszewski-Kubilius et al., 1989), demonstrates that gifted students who participate in such classes can learn the material well in a short time period (Lunny, 1983; Lynch, 1992; McCarthy, 1998; Olszewski-Kubilius et al., 1989; Stocking & Goldstein, 1992), and supports the use of this type of fast-paced class in subjects other than mathematics (Lynch, 1992; McCarthy, 1998; Olszewski-Kubilius et al., 1989; Stocking & Goldstein, 1992; VanTassel-Baska, 1983). The group orientation of these classes is more similar to the teaching methods used in traditional classrooms than is the individual orientation of self-paced courses, and therefore this method of providing curriculum at a fast pace may lend itself particularly well to use in a school setting. It also may be particularly beneficial in a school setting, where even students who are grade skipped often find the pace of typical classes too slow (Vaille, Ashton, Carlon, & Rankin, 2001).

The effective learning of advanced material is a benefit in itself, as it helps to meet the academic needs of gifted students and to prepare them for competition on the world stage. Beyond this benefit, however, are those deriving from the prevention of academic problems. Rimm (2003) cites research indicating that lack of flexibility in the curriculum and lack of challenge in school are risk factors for underachievement. Programs providing increased challenge to gifted students can help reverse underachievement patterns. Accelerative strategies can be used to provide this challenge (Rimm & Lovance, 1992); enrichment classes that allow gifted students to explore topics in depth also have been shown to promote academic motivation (Enersen, 1993).

Grouping gifted students together for educational programs, as the talent searches do, not only facilitates high-level academic achievement, but also provides crucial social benefits to participants (Olszewski-Kubilius, 1989). Students who have been given the opportunity to interact with true peers—"others who are similar in ability, interests, and age" (Enersen, 1993, p. 170)—report changes in their social relationships and self-perceptions as a result. In Enersen's (1993) study, students noted that the acceptance and sense of being understood they experienced in such programs helped them to recognize and accept themselves and their abilities, to feel powerful and competent, and to develop fulfilling social relationships. Friendships were found to be the number one reason why participants in one summer program wanted to return in subsequent summers (Holahan & Brounstein, as cited in Holahan & Sawyer, 1986). Similarly, VanTassel-Baska et al. (1984) found that parents of students in Northwestern University's summer residential program, surveyed 6 months after program completion, listed social interaction with similar peers most frequently when asked about the benefits of the program for their children. For the small number of students who experience psychosocial difficulties during the course of a special educational program, talent search programs can provide counseling services that give students access to professionals who understand the special needs of gifted individuals (Holahan & Sawyer, 1986).

Future Directions

Despite the great success of talent searches, some problems remain. Perhaps the most pressing is the need to expand student access to talent search methods, either through independent talent search programs or through their schools. Independent talent searches tend to reach primarily middle- and upper-income families (Olszewski-Kubilius, 2004; VanTassel-Baska & Willis, 1987). The talent searches have established scholarship programs to enable children to participate even when families cannot afford to pay fees (see Web sites in Table 1), and some have designed recruitment efforts specifically to reach minority and low-income students (personal communication, C-MITES staff, October 27, 2004), but the need to ensure equity of access remains.

The necessity of more effectively promoting appropriate educational accommodations for high-scoring students in the school setting is effectively expressed by VanTassel-Baska (1998):

> 160,000 students are tested each year through talent searches and receive only written information about their scores and what they mean. Of the 40,000 who do qualify for [educational] programs [sponsored by the talent searches], only 8,000 actually participate directly. If a local program screened and identified students in such a manner and then denied service to such a large number of them, it would cease to exist. For talent searches to do this, without a mechanism to follow up, in schools where services should be provided free of charge is a cause for concern. (p. 140)

When students do complete accelerated work though a talent search educational program, they often do not receive school credit for that work. Even the CTD at Northwestern University, which is accredited by the North Central Association of Colleges and Schools (Olszewski-Kubilius, 1989), has reported that only approximately one half of the students who do outstanding work in accelerative summer program classes receive appropriate placement and/or course credit in their schools (Olszewski-Kubilius, 1989; VanTassel-Baska, 1998). Further, elementary schools are unlikely to consider the implications of high above-level test scores when planning for gifted students (Swiatek & Lupkowski-Shoplik, 2003, 2005).

Van Tassel-Baska (1998) suggested several creative approaches that talent searches can take to facilitate appropriate in-school educational programming, including partnerships with existing programs (e.g., AP, International Baccalaureate), close working relationships with selected schools, distribution of the curricula from talent search summer programs for use in schools, and a greater focus on training educators and administrators in talent search methods. Although such steps by talent searches may help, it is school personnel who are most critical in implementing talent search methods in their schools. For those interested in developing a program based on these methods, several points are important to remember:

- *Students need not be identified as gifted to participate in accelerative educational opportunities based on talent search methods* (see Assouline & Lupkowski-Shoplik, 2003). A student with strong reasoning abilities in one subject area can succeed even if he or she does not meet global criteria employed by the school to identify "giftedness." The purpose of the talent search method is to match the content and pace of a particular course to the needs of students who have strong ability in that subject area.
- *Talent search educational methods need not be expensive to implement* (Stanley, 1976). Schools can obtain above-level testing through external talent search programs, but they can also use tests they already have available, as long as they are designed for students at least two grade levels higher than that of the student being considered for special programming (Assouline & Lupkowski-Shoplik, 2003). Existing resources (e.g., gifted teachers, advanced courses already offered by the school) can be used for instruction; curricula need not be extensively altered, only utilized flexibly enough to meet the needs of gifted students (Benbow & Stanley, 1983; TIP, 1985). Costs can be shared among schools, parents, grants/contributions, and (when relevant) local colleges/universities (McCarthy, 1998).
- *Fast-paced classes can be offered across a school district or in a general geographical area instead of in a specific school* (see, for example, Lunny, 1983; McCarthy, 1998; Moore & Wood, 1988; VanTassel-Baska, 1983). Involving students across schools can distribute the time and effort required to run the course (recruiting, screening, teaching, evaluating) among a larger number of professionals and can yield larger classes that may be seen as better justifying the time and effort so invested. A centralized location that is separate from the school district can help reduce "political problems inherent in a district's association with gifted programs" (McCarthy, 1998, p. 119).
- *If a district cannot provide fast-paced instruction or cannot provide instruction at the level required, online programs are available that allow students to move at their own pace* (see, for example, CTY, n.d.b; Education Program for Gifted Youth, n.d.).
- *Teacher pacing is an effective way to provide a fast pace for a group of qualified students* (Lunny, 1983; Lynch, 1992; McCarthy, 1998; Olszewski-Kubilius et al., 1989; Stocking & Goldstein, 1992; VanTassel-Baska, 1983) and may be easier to implement than individually paced classes (see McCarthy, 1998).
- *Student success can gain support for the talent search model in a cumulative fashion*. McCarthy (1998) reported that the documented success of students in a district-wide program, based on the talent search model, was key in earning "converts" among skeptics and spreading the model to other districts.

The lack of connection between talent search programs and schools does a disservice to both. Over more than three decades, talent searches have spread throughout the United States and several foreign countries, using well-established tests to provide a meaningful assessment of gifted students' knowledge, reasoning ability, and potential for accelerated learning (Gilheany, 2001; Tourón, 2001; see also Lupkowski-Shoplik et al., 2003). Talent search educational programs, often on college campuses, provide appropriate academic challenge and much-needed social interaction with like-minded peers (Benbow et al., 1983; Enersen, 1993; Fox, 1974; Mills et al., 1992; Olszewski-Kubilius, 1989, 2003; Swiatek & Benbow, 1991; VanTassel-Baska, 1996; VanTassel-Baska et al., 1984). Through the DT→PI model, instruction can be tailored to the needs of individuals, either in school or through special programs (Stanley, 1978; see also Lupkowski-Shoplik et al., 2003). Above-level tests also can effectively be used to select students for teacher-paced, accelerative classes that can be offered to a group of students in a more traditional classroom format (Lunny, 1983; Lynch, 1992; Olszewski-Kubilius et al., 1989; Stocking & Goldstein, 1992). Both students and their parents have evaluated the talent search experience positively (Jarosewich & Stocking, 2003; Swiatek & Lupkowski-Shoplik, 2005). The studies on which these conclusions are based are well designed, and the positive conclusions they yield are remarkably consistent. Thus, talent searches are considered by experts to be best practice within the field of gifted education. Use of talent search principles of identification and education in the school setting would enhance the education of even more students than the hundreds of thousands already documented in the impressive record of the regional talent searches.

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Mary Ann Swiatek received her PhD in Counseling Psychology from Iowa State University, where she was a Research Associate with the Study of Mathematically Precocious Youth (SMPY), under the direction of Drs. Camilla Benbow and David Lubinski. She has worked as a Research Specialist with the Carnegie Mellon Institute for Talented Elementary and Secondary Students (C-MITES) and continues to serve as a Research Consultant for that organization. She is a member of the Executive Board of the Pennsylvania Association for Gifted Education (PAGE) and travels throughout Pennsylvania to provide information about the academic and psychosocial needs of gifted students to the parents, teachers, and administrators who are responsible for their education.