
The National Research Center on the Gifted and Talented

NRC/GT's Suggestions: Evaluating Your Programs and Services

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

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

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

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

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

Focus on Students

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

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

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

Focus on Curriculum

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

Focus on Program Implementation

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

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

Focus on Service Delivery Models

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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The National Research Center on the Gifted and Talented
welcomes the following new Collaborative School Districts:
Los Angeles Unified School District, Los Angeles, CA
Westerley School District, Westerley, RI

Reaching to the Choir: TV Advisory Ratings and Gifted Children

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

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

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

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

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

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

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

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

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

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

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

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

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Gifted and Learning Disabled: Twice Exceptional Students



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

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

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

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

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

Student Characteristics

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

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

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

Identification

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

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

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

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

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

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

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

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

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

Curricular Needs

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

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

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

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

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

Conclusions

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

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

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

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

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

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

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

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Differentiation: Definition and Description for Gifted and Talented

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

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

Differentiation Defined . . .

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

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

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

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

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

enthusiasm about issues surrounding content area.

Differentiation Described . . .

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

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

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

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

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

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

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

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

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

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

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

Underachieving Gifted Students: A Mother's Perspective

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

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

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

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

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

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

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

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

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

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

Whitmore also states that:

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

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

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

Self-Perception

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

Goal Orientation

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

Peer Relations

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

Authority Relationships

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

Locus of Control

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

Emotional Expression

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

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

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

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

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

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

She goes on to say that she has

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

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

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

(continued on page 14)

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

(continued from page 13)

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

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

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

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

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

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An Independent Study Model for Secondary Students

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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