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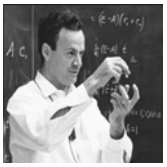

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Rules, regulations and incentives dominate the operation of schools, government agencies, banks, political organizations, and the media. None of these entities could function effectively without rules for performing their services and reinforcements for rewarding or punishing employees' behaviors. But where do ethical practices fit into their daily operation? Where were the ethical decision makers who might have guided the banking industry and Wall Street away from disastrous business practices? What ethical concepts should be used to analyze the high-stakes testing mania currently dominating American education?

Professors Barry Schwartz and Kenneth Sharpe of Swarthmore College have written an excellent book that addresses the need for more ethical thinking and practices in all areas of society – ***Practical Wisdom: The Right Way to Do the Right Thing*** (Riverhead Books, 2010). Teachers and parents should read this book to decide how they can use practical wisdom in identifying their gifted students. Schwartz and Sharpe argue that institutions are overwhelmed with many rules and incentives that destroy initiative and creativity. The authors base their ideas on the book, ***Nicomachean Ethics*** by Aristotle (c. 384-322 BC). The following statement emphasizes the importance of practical wisdom: "We need to see how the current reliance on strict rules and regulations and clever incentives to improve practices like medicine, education, and law risks undermining the very wisdom of practitioners that is needed to make these practices better. Well-meaning reformers are often engaged in a kind of unintended stealth war on wisdom" (***Practical Wisdom***, p. 10).

Schwartz and Sharpe have a good name for professionals who are willing to take a chance by using their practical wisdom – "canny outlaws." We need more of these individuals in the gifted education field. Read the book and see!

The first article is Chapter 1 from an excellent book by Susan G. Assouline and Ann Lupkowski Shoplik entitled, ***Developing Math Talent: A Comprehensive Guide to Math Education for Gifted Students in Elementary and Middle School*** (2nd ed., 2011, Prufrock Press). This chapter refutes the myths and excuses for not developing special programs for mathematically talented youth. Dr. Assouline is a Professor of School Psychology at the University of Iowa and the associate director for the UI Belin-Blank Center for Gifted Education and Talent Development. She conducts research in twice-exceptionality, i.e., gifted students who also have a specific learning disability (SLD) or an autism spectrum disorder (ASD). Dr. Shoplik is the director of the Carnegie Mellon Institute for Talented Elementary and Secondary Students (C-MITES). She oversees summer programs and weekend workshops for academically talented students in 9th grade and younger, and conducts professional development programs for teachers. The second article in this issue is written by two former teachers of the gifted who have unfortunately been transferred to other teaching assignments. Nanci Mart and Judy Micheletti present a strong argument for rigorous training of teachers of the gifted. Mrs. Mart has been teaching for twenty years. She was hired by Conewago Valley School District, PA to develop and expand the high school gifted program. In 2004 she passed the Praxis Tests in Gifted Education from ETS. In December of 2009 she earned a Masters in Gifted Education from Millersville University, her second post-bachelor's degree. At the end of the 2009-2010 school year, she was transferred to an eighth grade English position in her district, where she is currently helping to align the curriculum and common core standards within the Learning Focused Schools framework. Judy Micheletti has an MS in Gifted Education from Millersville University. She was the Gifted Facilitator in grades 1-8 for ten years in the Berwick Area School District, PA, and is currently teaching mathematics in Berwick Middle School. She is the author of ***SNIBBLES*** (2005) and ***MORE SNIBBLES*** (2008). Dr. Alexis I. du Pont de Bie comments on the current state of teachers of the gifted, and Dr. Michael Walters concludes this issue with an essay on the literary genius, William Faulkner.

Maurice D. Fisher, Ph.D. Publisher

Chapter 1

Excuses for Not Developing Mathematical Talent*

Susan G. Assouline Professor of School Psychology University of Iowa

Ann Lupkowski Shoplik Director Carnegie Mellon Institute for Talented Elementary and Secondary Students (C-MITES)

*An **excuse** is a reason which you give in order to explain why something has been done or has not been done, or in order to avoid doing something.* —Retrieved from Google Dictionary

In the late 1980s, when we first started working with mathematically talented students, there was limited material available for educators or parents that would assist them in understanding the need to provide academically talented students with appropriate challenges. Over the years, teachers, professors, administrators, and policy-makers have become more concerned about the status of both curriculum and programs for mathematically talented students. Simultaneously, new products and advanced technology have been introduced. New research and reports that have compiled old research (e.g., *A Nation Deceived* [Colangelo, Assouline, & Gross, 2004a, 2004b] and *Foundations for Success* [National Mathematics Advisory Panel, 2008]) have made salient the issues that now must be addressed. In this chapter, we take on these issues and, in some cases, the excuses that they have become to explain why some students are kept from progressing through an appropriate curriculum at a pace for which they are ready.

Excuses . . . Excuses

Excuse us. In the previous sentence, we are using *excuse* as a transitive verb and a pretext for our examination of the variety of excuses or justifications that often are presented as reasons for not doing a certain kind of assessment or for not using specialized curriculum and programming for mathematically talented students. In this chapter, we present some common excuses that we have heard over the years that negatively impact the development of math talent (see Table 1.1, pp. 8-9). You will see that some of the excuses are diametrically opposed to each other. This inconsistency in reasoning about mathematically talented students is one reason why having a rational response for each excuse is so important. Our goal is to provide the information and research to back up well-informed, balanced responses to any one of these "excuses" for not implementing appropriate programming for mathematically talented students. The responses to these excuses set the stage for the subsequent chapters.

Excuse 1: At the elementary level, the school's gifted program already meets the needs of *all* mathematically talented students.

Response: The names of many elementary gifted programs (e.g., ELP, or Extended Learning Programs) reveal their emphasis, which generally is on gifted behaviors and higher order thinking skills. These programs tend to be referred to as pull-out or resource programs because students will leave their regular classroom a couple of times a week for a period of time (45 to 60 minutes is typical) to participate in a preestablished enrichment curriculum. This enrichment can take a variety of forms, including activities unrelated to mathematics, problem-solving activities, or mathematically oriented enrichment activities (Lupkowski & Assouline, 1992). Unfortunately, it is a frequent practice in this country for gifted students to participate in pull-out programs where the topics they study are explicitly designed to be unrelated to the regular curriculum. For example, a mathematically talented student in a gifted program might be studying Shakespeare, growing plants for a science project, or participating in a community service activity. Although these are all valuable enrichment activities, they do not advance the student's understanding of mathematics.

Sometimes, there are opportunities for math extensions through these enrichment programs, but these are offered in addition to, rather than in place of, the grade-level math curriculum. Although gifted programming provides many opportunities, by its very nature it cannot provide the one thing that is needed to develop the talents of mathematically able students: systematic progression through challenging curriculum, which is part of a predetermined scope and sequence. Few gifted programs provide this type of structured progression through mathematics.

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*From *Developing Math Talent: A Comprehensive Guide to Math Education for Gifted Students in Elementary and Middle School* (2nd ed., pp. 1-17), by S. G. Assouline and A. Lupkowski-Shoplik, 2011, Waco, TX: Prufrock Press. Copyright 2011 by Prufrock Press Inc. (http://www.prufrock.com). Reprinted with permission.

Additionally, the selection criteria for enrichment-based gifted programs are typically intended to identify students based upon their general ability. For example—and despite the recommendations against using composite cut-off scores (Lohman, Gambrell, & Lakin, 2008)—many programs have a set cut-off of 130. Thus, a student with a verbal score of 125, a quantitative score of 129, and a nonverbal score of 120 would *never* make the cut-off for gifted programming. Nevertheless, students with quantitative scores such as the student in the example above need to have further assessment to determine their readiness for advanced mathematics.

Excuse 2: We already have a program for mathematically talented students.

Response: Mathematically gifted students are a varied group with respect to their interests (Lupkowski-Shoplik & Assouline, 2001) and abilities (Colangelo, Assouline, & Lu, 1994; Lupkowski-Shoplik & Swiatek, 1999). The curriculum for these students should reflect that diversity of talent (Sheffield, 1999a), which is why we do not recommend just one curriculum or one program for all mathematically talented students.

For mathematically talented students, we advocate using resources that are readily available by adapting the school's mathematics curriculum. For example, we might use the curriculum from a higher grade level with younger talented students. Chapters 6 and 7 provide a range of ideas that will help school personnel devise the right level and pace of curriculum for talented students.

Excuse 3: Specialized programming is not necessary because enrichment is the "safest" way to challenge mathematically talented students and every math class has extension opportunities for students who finish their assignments early.

Response: When using this excuse, "safe" is typically a synonym for "effective." Fortunately, there is extensive research to dismiss this excuse. The most effective intervention for highly able students is acceleration (Rogers, 2004, 2007). On a broader note, it's more appropriate to recognize that not all mathematically talented students are alike and demonstrate a variety of needs based upon abilities. Thus, programming should be similarly varied, which would include both enrichment and accelerative opportunities.

A student may have the good fortune to be placed with a teacher who is capable of appropriately enriching the math curriculum. The teacher would assign material that is at a greater depth than what is presented to students in the regular mathematics education program and also would bring in new topics that are not a part of the regular curriculum. The difficulty with this approach is that it depends heavily on having a teacher who is well prepared in mathematics and has the time and inclination to differentiate to a radical degree for the mathematically talented student. Also there is the concern that the student will no longer have the same type of mathematically enriched curriculum once he or she moves to the next grade level.

For mathematics, good acceleration includes much enrichment, and good enrichment is accelerative (J. C. Stanley, personal communication, May 1998). Mathematics builds upon itself so that, in reality, it is extremely difficult to "enrich" a student without actually accelerating his or her study of mathematics. All of these issues are discussed thoroughly in this book, especially in Chapters 4, 6, and 7.

Excuse 4: Teachers in our school are trained in differentiating the curriculum and can make adjustments for mathematically talented students within the regular classroom.

Response: Differentiation of curriculum is synonymous with Vygotsky's *zone of proximal development*, which is described by McGrew and Flanagan (1998) as the zone where there is an "optimal match." An optimal match is that ideal situation where learning opportunities are matched to a learner's needs and readiness. As a model, differentiation is rich and robust because it recognizes the individual differences inherent in classrooms and focuses on a systematic approach to tailor the curriculum and instruction to meeting the needs of the learner (Tomlinson & Jarvis, 2009). Therefore, it is logical to assume that educators who have received in-service training about differentiation would be able to handily meet the needs of gifted learners. There are two considerations about this assumption. First, "differentiation is just hard work. It requires more preparation, formal and informal assessment, and well-developed classroom-management skills. It cannot become a reality in a school or school district all at once by administrative fiat" (Borland, 2009, p. 115). The second point is aptly made by Hertberg-Davis (2009), "differentiation of instruction . . . like any approach to educating gifted students . . . functions best as a critical component within a spectrum of services provided for high-ability learners" (p. 253).

Excuse 5: The National Council of Teachers of Mathematics (NCTM) standards recommend that prealgebra, algebra, and geometry be woven throughout the school years beginning in prekindergarten. This guarantees that mathematically talented students will have a differentiated curriculum and that prealgebra and algebra, in particular, should not be provided as separate courses for middle school students.

Response: This interpretation of the position of the National Council of Teachers of Mathematics (NCTM) is just that—an interpretation. In fact, in the NCTM *Principles and Standards* (2000), we found the following statement: "In recent years, the possibility and necessity of students' gaining facility in algebraic thinking have been widely recognized. Accordingly, these Standards propose a significant amount of algebra for the middle grades" (p. 211). It is also important to remember that NCTM's recommendations are generally intended for all students. Therefore, it is up to the educator and parent to work together to consider the ways in which the curriculum standards can be used to assist them in addressing the needs of their mathematically talented students.

Advocating that algebra and geometry be introduced to all students beginning with the primary grades is a positive shift. However, there are many students who are ready for actual coursework in algebra and geometry prior to 8th, 9th, or 10th grades when this coursework is typically introduced. Mathematically talented students still need a differentiated curriculum that allows them to move forward within the traditional sequence of courses. Because they are very able in math, they will be ready for an algebra class before eighth grade.

Excuse 6: Mathematically talented students who are allowed to move through the curriculum quickly will run out of classes to take before they finish high school.

Response: This pretext for not implementing advanced programming is usually mentioned when considering the possibility of acceleration, even at a young age. Of course, it is important to think about the long-term impact of acceleration, even when a student is in the early grades. It is true that if students skip one or more years of mathematics they might not have any more courses to take in their high school building when they reach 11th or 12th grade. However, there is always more mathematics to study (ask any high school math teacher or college mathematics professor!). It's just a matter of figuring out how to get the right course to the student. Students, educators, and parents might need to be flexible and creative to solve this problem. For example, a student might study math with a mentor in 4th grade, study geometry with high school students while in 6th grade, and take a calculus course on a college campus while in 11th grade. With the increasing availability of computers and Internet-based courses, students in rural areas no longer have to be left out of these opportunities, and parents and educators do not have to be as concerned about the problems of transportation and scheduling. Chapters 5 and 7 provide information about the many options available for students.

Excuse 7: Mathematically talented students aren't ready to study algebra until eighth or ninth grade.

Response: This single statement implies multiple excuses, and we respond accordingly. First, in a traditional mathematics sequence, algebra is not formally introduced until ninth grade or, at best, eighth grade. In some school settings, educators react strongly to exceptions to the long-accepted sequence. In addition to the historical component to this excuse, there also has been a concern that students younger than grade 8 may not be developmentally ready for the formal, abstract reasoning required by algebraic principles. However, we have evidence that many fifth and sixth graders have successfully completed algebra or geometry and have moved into higher level math classes and have been very successful.

Furthermore, the work of Julian Stanley and his colleagues have discounted the developmental aspects of this excuse. For more than 40 years, Stanley and his colleagues (Lupkowski-Shoplik, Benbow, Assouline, & Brody, 2003) have been discovering students who are ready for algebra well before grade 9 and many who are ready as early as grades 5 or 6 (and a few who are ready well before grade 5!). Benbow and Lubinski's (1996) longitudinal research with the Study of Mathematically Precocious Youth (SMPY) at Vanderbilt University has had a far-reaching effect and, as a result, many students have been accelerated into algebra.

The report *Foundations for Success* (National Mathematics Advisory Panel, 2008) explicitly states that "all school districts should ensure that all prepared students have access to an authentic algebra course—and should prepare more students than present to enroll in such a course by Grade 8" (p. xviii). Logically, mathematically gifted students will need to have access to algebra earlier than their same-aged peers.

Excuse 8: We shouldn't allow accelerated programming because students who are accelerated in mathematics will burn out before they reach college.

Response: The issue of "burnout" seems to come up often, but our experience and research indicate that this is not the real problem. Rather, the real problem is the nondiscovery of students who are ready for a challenging curriculum and the fizzling out of their talent development. Mathematically talented students who are discovered at a young age and receive appropriate opportunities to develop their mathematical talent continue to excel in mathematics throughout their school careers and beyond. Waxman, Robinson, and Mukhopadhayay (1996a) found that talented students maintained their advantage: Children in their research group tested at the ages of 3–5 were retested at the end of first grade and again after second grade. As a group, they continued to score above their peers, and they made impressive gains over those years.

Julian Stanley, Camilla Benbow, and their colleagues have conducted a fascinating longitudinal study of exceptionally talented students whose academic talents were discovered at the age of 12 or 13 (Benbow & Lubinski, 1996; Benbow & Stanley, 1983; Lubinski, 2004). These students have been studied into graduate school and beyond. The results clearly show that not only can students be identified at a young age, but also their abilities and achievements continue at high levels into adulthood. For example, in one cohort of high-achieving graduate students participating in the most selective graduate programs in the sciences, many of them had been identified early, enrolled in special programs in elementary school and junior high, participated in accelerative opportunities through high school, maintained stellar academic records, and gained admittance into the most select undergraduate colleges and universities. Most of them had taken advantage of research opportunities during their undergraduate years.

Clearly, we have here a pattern of excellence begetting excellence. . . . They took advantage of educational opportunities presented to them and this began early. It appeared to have a snowball effect on their achievements. With each stage their academic credentials stood out more and more. (Benbow, Lubinski, & Sanjani, 1999, p. 66)

Exceptional talents that manifest themselves early do not disappear; when nurtured, they continue to develop.

Excuse 9: Accelerated math programs lead to gaps in students' mathematical foundation.

Response: Educators often are concerned that if students skip a grade or a section of mathematics they will never have an opportunity to study the material and will have gaps in their mathematics background. There is a simple solution to this problem: Students can be pretested to determine what they do not know. Then, they can work with a tutor or mentor on the topics they do not yet understand so they can "fill in" those gaps. This pretesting and follow-up instruction also prevent the unfortunate situation where mathematically talented students who have already learned the majority of the material to be presented in a course are still required to sit through an entire year of that mathematics course. An in-depth explanation of this Diagnostic Testing→Prescriptive Instruction (DT→PI) model is provided in Chapter 4.

Excuse 10: On the pretest, the student didn't earn 100%, so he or she doesn't qualify for advanced programming.

Response: Implicit in this excuse is the idea that mathematically talented students do not make errors—or if they do, then they are not truly mathematically talented. The student version of this "mastery = 100% correct" mindset is known as *perfectionism*. In fact, it is unreasonable to expect perfection from anyone!

Students can demonstrate excellent understanding of a topic or concept, yet still make simple mistakes. However, this begs the question: If we do not require 100% correct on a test to demonstrate mastery, what is the appropriate indicator for mastery?

According to Nitko (1996):

A frequently used passing score is 80% (or as near as you can come to this with the number of items you have for assessing a learning target). There is no educational justification for 80%, however. The important point is not the exact value of the passing score or passing percentage. Rather, it is the *minimum level of knowledge* [emphasis added] a student needs to demonstrate with respect to each learning target to benefit from further instruction. This may vary from one learning target to the next. Use your own judgment, remembering that setting a standard too low or too high results in misclassifying students as masters or non-masters. (p. 291)

Generally, setting a pretest mastery level at 85% or 90% correct ensures the student has indeed mastered the material, yet some room has been allowed for minor errors. The purpose of pretesting should always be diagnostic in nature. A pretest should help educators

determine where instruction should begin. If a student earns 100% on a pretest, the educator needs to move on rapidly to a new topic. Pretesting should continue until the student has missed enough problems to have further instruction, but is not frustrated by the difficulty level of the assessment. For problems missed on the pretest, it is helpful if the teacher asks the student to rework the problem, showing all of his or her work. In this way, the teacher can determine if the student answered the question incorrectly because he or she did not understand the concept or because of a careless error.

Excuse 11: A student who makes mistakes in computation doesn't need advanced programming.

Response: Research has shown that many mathematically talented students have an excellent understanding of advanced mathematical concepts while simultaneously having relatively less developed computational skills (Lupkowski-Shoplik, Sayler, & Assouline, 1994; Rotigel, 2000). This means that their computation skills may lag significantly behind their understanding of mathematics, resulting in a student who understands abstract mathematical ideas (such as algebraic variables), yet often gets the wrong answer when multiplying fractions. Rotigel and Lupkowski-Shoplik (1999) suggested that students show this weakness because:

- they have demonstrated competence with a computational skill, but are not allowed to move on to another topic, so they make careless mistakes;
- they may prefer to do computations in their heads as a way to stimulate themselves intellectually, because the material they study in school is not interesting or challenging;
- some underlying cognitive construct may cause the difference;
- direct instruction is generally required for students to learn computational skills, while students may develop a conceptual understanding on their own; or
- teachers are impressed by these students' exceptional abilities and may assume that drill or practice on routine computation tasks is unnecessary.

Unfortunately, the typical elementary school math curriculum doesn't allow these talented youngsters to demonstrate their reasoning skills. Nobody knows how good their conceptual skills are because so much time in the elementary curriculum is devoted to practicing rote tasks.

Excuse 12: Too much time is devoted to standardized testing in our schools, so parents or teachers shouldn't ask for additional testing.

Response: School personnel are sensitive to taking too much instructional time away for testing. Many schools have eliminated testing students with nationally standardized tests and instead test students only with the state-level assessments required by the No Child Left Behind (NCLB, 2001) legislation. Many parents have expressed frustration because the only information they have from their school about their mathematically talented child is the basic state-level assessment, which measures whether or not students are making "adequate yearly progress" (AYP). These state assessments are designed to help schools determine if the school population is attaining the academic standards established for that grade level. The state assessments are not designed to measure whether or not an individual student has learned something new that school year or what that student has yet to learn. Therefore, the state assessments do not provide enough information to develop a challenging program for a mathematically talented student. What is needed is specific testing that measures mathematics ability and achievement.

In the short term, there is the perception that testing takes away time from instruction. Let's do the math: If there are 1,080 hours in an academic year and the amount of standardized testing is 10 hours, we're talking about less than 1% of the total academic year being used in testing. With this modest investment of a few hours of time, in the long-term, appropriate assessment actually helps us to be more efficient and effective in programming.

Excuse 13: Our district doesn't accept any outside results; our district uses only nationally standardized grade-level tests to identify students for the gifted program.

Response: Although grade-level testing information may be a useful component of the screening process, the results are not sufficiently informative to be used to create a program that addresses the needs of the student(s). Using only grade-level tests to assess

exceptionally talented students provides very limited information. For example, two students might earn identical scores on a grade-level test (such as a 99th percentile on the mathematics total section of a basic skills battery), but in reality demonstrate very different abilities in mathematics; their classroom teacher might notice that one student still seems much more capable than the other, in spite of test scores that look the same. If the students were given an above-level test (one designed for older students), they might earn very different scores, thus demonstrating different abilities. An above-level test measures the students' abilities more accurately and allows them to showcase their abilities. The more specific information we have now obtained is much more helpful in making programming decisions (see Benbow, 1992a, for a discussion of how individual differences in above-level test scores in seventh and eighth grades predicted achievements 10 years later). The concept of above-level testing is the foundation upon which the talent search model was built (Chapters 3 and 5 provide more detailed information about above-level testing and talent searches). Additionally, much of the research used to dispel the excuses presented in this chapter derives from talent search data.

Excuse 14: Our district has stopped administering nationally standardized tests and uses only tests developed by the local district or building.

Response: Curriculum specialists often have developed tests that are based upon the curriculum used by the district. Information from this type of test can be very helpful in the actual determination of a proper sequence of curriculum. However, these data cannot replace the information from the comparisons of normative groups that are provided by scores from standardized tests, especially when it comes to understanding the need for an accelerated pace. Therefore, locally developed assessments are necessary but not sufficient.

Excuse 15: Acceleration in math means taking math with students in the next higher grade and we have a policy against that.

Response: There are two parts to this excuse. The first part implies that acceleration is the *only* option available. Of course, that is not necessarily the case. In fact, the drawback of taking math with older students, aside from the scheduling problems that might occur, is that the math is still being taught for the average students in the class. Although accelerated students may at first enjoy the higher level of mathematics, soon they will notice that the math is still being taught at the same slow pace as before, and they might again begin asking for more challenges in math.

The second part of this excuse moves the issue from the individual level to the larger policy level. According to the 2008–2009 *State of the States in Gifted Education* (National Association for Gifted Children [NAGC], 2009), only eight states had a policy regarding acceleration. In 2009, a work group comprised of the Belin-Blank Center's Institute for Research and Policy on Acceleration, the National Association for Gifted Children, and the Council of State Directors of Programs for the Gifted developed *Guidelines for Developing an Academic Acceleration Policy.* This helpful document is available online at no cost at: http://www.nagc.org or http://www.accelerationinstitute.org. In addition, more than 50 years of research regarding acceleration was summarized in *A Nation Deceived: How Schools Hold Back America's Brightest Students* (Colangelo et al., 2004a, 2004b).

Excuse 16: The student has already skipped a grade in mathematics. That is sufficient acceleration, and no additional changes are needed in the student's mathematics program.

Response: We have long known the benefits of academic acceleration and *A Nation Deceived* (Colangelo et al., 2004a, 2004b) has made this information accessible to every educator. In that report, 18 forms of acceleration were identified (Southern & Jones, 2004) and most of them are *not mutually exclusive*. Thus, a grade-skip may be an important step to ensuring challenge, but as the student progresses, and as other interests emerge, it may be necessary to accelerate the student again, or to provide for additional challenge such as a locating a mentor.

Excuse 17: There is no reason to do anything at the elementary or middle school level because mathematically talented students cannot be identified until high school.

Response: The general nature of the elementary mathematics curriculum might lead one to believe that it is only when students are at the secondary level that they are ready to be recognized as mathematically talented. However, it is necessary to identify mathematically talented students well before high school so that adjustments can be made in their educational programs.

Using above-level standardized tests, students as young as third grade have been identified successfully for challenging programs in mathematics that are offered on university campuses such as Carnegie Mellon University and The University of Iowa. These students were identified through the Elementary Student Talent Search testing program described in Chapter 5. An above-level testing program has been effective in selecting students who will perform well in fast-paced, high-level summer classes for academically talented students (Swiatek & Lupkowski-Shoplik, 2000b). In many cases, the test results confirm what the parents have long suspected: that their child has a talent in mathematics. Much anecdotal evidence also is available concerning mathematically talented children younger than age 8. Information provided by parents in these cases is especially helpful. Nancy Robinson and her colleagues (Waxman et al., 1996b) have systematically identified preschoolers and kindergartners for special programs in mathematics at the University of Washington. Students in the Waxman et al. (1996b) study were first identified by their parents, and individual achievement tests confirmed the parent nominations.

Excuse 18: We aren't really sure what to do, so we think the best approach is to do nothing.

Response: Doing nothing is still an intervention. Some educators are concerned about the social-emotional effects of alternative programming for talented students. For that reason, they have made the decision that "safe is better than sorry." What is missing from this reasoning is the fact that choosing to not implement a program is still an intervention and the research demonstrates that when there is no programming, there is no growth.

Conclusion: What Should Be Done?

In this chapter, we have briefly addressed the major excuses that we hear most often as reasons not to provide specialized assessment, curriculum, and/or programming for mathematically talented youth. Broadly speaking, these excuses reflect a naïve perspective that ignores individual differences among students. We offered responses to these excuses and introduced facts to refute the excuses. The remaining chapters of this book will elaborate on these topics.

The one overarching excuse that we find most disturbing is the last one: It is best not to do anything different from the regular programming already offered in school. For parents of mathematically talented students, this can be a particularly frustrating situation that poses a dilemma for them regarding whether or not they should advocate for their child. Therefore, advocacy is the subject of the following chapter.

Table 1.1

Common Excuses That Negatively Impact the Development of Math Talent

1. At the elementary level, the school's gifted program already meets the needs of all mathematically talented students.
2. We already have a program for mathematically talented students.
3. Specialized programming is not necessary because enrichment is the "safest" way to challenge mathematically talented students and every math class has extension opportunities for students who finish their assignments early.
4. Teachers in our school are trained in differentiating the curriculum and can make adjustments for mathematically talented students within the regular classroom.
5. The National Council of Teachers of Mathematics (NCTM) standards recommend that prealgebra, algebra, and geometry be woven throughout the school years beginning in prekindergarten. This guarantees that mathematically talented students will have a differentiated curriculum and that prealgebra and algebra, in particular, should not be provided as separate courses for middle school students.
6. Mathematically talented students who are allowed to move through the curriculum quickly will run out of classes before they finish high school.
7. Mathematically talented students aren't ready to study algebra until eighth or ninth grade.
8. We shouldn't allow accelerated programming because students who are accelerated in mathematics will burn out before they reach college.
9. Accelerated math programs lead to gaps in students' mathematical foundation.
10. On the pretest, the student didn't earn 100%, so he or she doesn't qualify for advanced programming.
11. A student who makes mistakes in computation doesn't need advanced programming.
12. Too much time is devoted to standardized testing in our schools, so parents or teachers shouldn't ask for additional testing.
13. Our district doesn't accept any outside results; our district uses only nationally standardized grade-level tests to identify students for the gifted program.
14. Our district has stopped administering nationally standardized tests and uses only tests developed by the local district or building.

15. Acceleration in math means taking math with students in the next higher grade and we have a policy against that.
16. The student has already skipped a grade in mathematics. That is sufficient acceleration and no additional changes are needed in the student's mathematics program.
17. There is no reason to do anything at the elementary or middle school level because mathematically talented students cannot be identified until high school.
18. We aren't really sure what to do, so we think the best approach is to do nothing.

Why Gifted Students Need Trained Gifted Teachers

Nanci Mart Conewago Valley Pennsylvania School District

Judy Micheletti Berwick Pennsylvania Area School District

U.S. Secretary of Education Arne Duncan, in a speech at the September, 2009 Monthly Stakeholder's Meeting to discuss the next reauthorization of No Child Left Behind, said:

> "But the biggest problem with NCLB is that it doesn't encourage high learning standards. In fact, it inadvertently encourages states to lower them. The net effect is that we are lying to children and parents by telling kids they are succeeding when, in fact, they are not.
>
> "We have to tell the truth, and we have to raise the bar. Our failure to do that is one reason our schools produce millions of young people who aren't completing college. They are simply not ready for college-level work when they leave high school" (Duncan, 2009).

While the language of the federal measures that have governed public education since the 1950s hasn't changed much, the focus has shifted between creating a rigorous program of study to a more egalitarian approach of making sure every student has the same opportunities to achieve. However, the country's relentless focus on mid-level achievement, rather than the unusual mental processing that constitutes giftedness, has limited the opportunities for our most capable students. Dr. James Gallagher noted that more resources are poured into programs for students who are behind or have fallen behind, than are allocated to bright students who are bored and need intellectual challenge:

> "Funds are available to prepare teachers to work with students with disabilities (equity) but not for the gifted (excellence). This is a short sighted approach for long-range societal future since the U.S. will need all of its intellectual resources to remain a leader in the twenty-first century. Unfortunately, much of our funding goes toward solving immediate problems such as failing students rather than toward long-range benefits to our society. It takes politicians and leaders with foresight to see that we need both equity and excellence to flourish; it takes wise citizens to help leaders attend to the long range needs of creating excellence for the society" (2007).

There are many local, state, and national organizations whose purpose is to advocate for the rights of gifted students. The National Association for Gifted Children (NAGC), and the National Research Center on the Gifted and Talented (NRC/GT) are two groups that continually research, develop, and disseminate information regarding best practices in gifted education. Despite their efforts, the most pervasive impediment to quality gifted education practices across the United States is legislative: the Education Amendments of 1969 established a national definition of giftedness, but despite changes and updates, including the Jacob K. Javits Gifted and Talented Students Education Act of 1988, the legislation and definition neither mandates gifted education nor sanctions those states that do not provide gifted services.

The reality of an unfunded, non-mandated program is that in times of economic strain, gifted services are easy to put on the chopping block. Even worse, in times of high-stakes testing and test-driven curriculum, it is easy for school boards to adopt the common, but incorrect policy of not serving the needs of gifted students, as "they'll be fine without it." In the same vein that society recognizes and accepts that students with learning disabilities deserve and need access to "highly qualified" teachers and appropriate services, educators – including school board members, district and building administrative personnel, and classroom teachers – need to embrace the needs of gifted students as crucial to the future.

Teachers of the Gifted

A Gifted Specialist, above all else, must possess a true passion for the understanding of, servicing of, and advocating for gifted children. In The Survival Guide for Teachers of Gifted Kids, Jim Delisle and Barbara A. Lewis (2003) wrote that the job of a gifted teacher is the most difficult of all, because "gifted education is one of the few fields for which some people, professionals included, question the need for the position at all" (p. 1).

In order to adequately address the needs of gifted student, school districts should search for and fully support a highly qualified Gifted Specialist who exhibits, and ideally surpasses, the criteria established by the NAGC standards. Under the category of Professional Development, the NAGC standard is: "Gifted learners are entitled to be served by professionals who have specialized preparation in gifted education, expertise in appropriate differentiated content and instructional methods, involvement in ongoing professional development, and who possess exemplary personal and professional traits" (Pre-K, 2008).

While this definition does not exclude regular education teachers from its expectations, it is understood that it is the teacher of the gifted who is most often responsible for the education and care of his/her school's gifted students and as such, it befalls the gifted teacher to add "in-service provider" to his/her bag of tricks. With that said, the list compiled by Delisle and Lewis of qualifications for teachers of gifted is accurate to the daily experience of many Gifted Specialists:

- Completion of graduate coursework in gifted education.
- Experience teaching gifted children in a school setting.
- Ability to work well with parents and professionals.
- Knowledge of curriculum models and differentiation strategies for varying grade levels.
- Capability to conduct staff development sessions within the school district.
- Skills in persuasiveness and finding common ground among disparate voices.
- Capacity to tirelessly and creatively advocate, troubleshoot, solve problems, and apply for funding.
- Possession of a very thick skin (2003, p 1).

Unlike content area teachers, Gifted Specialists don't master one subject and pass on their knowledge in that area to students; a Gifted Specialist must be a jack-of-all-trades, at any moment shifting gears between a discussion of moral issues and a word by word performance of a Monty Python skit, while being able to defend whatever mode he/she is in should an administrator walk in the room. Too often, teachers of the gifted are "accused" of having the easiest job in the building, simply because their colleagues do not understand what they do. When regular education teachers don't have a core understanding of what it means to be gifted and how to meet the needs of gifted students, suspicions and mistrust will arise.

Typically, classroom teachers have no formal training in gifted education. According to the NAGC's statistics regarding state policies for gifted education, thirty-four states require that gifted students be identified and twenty-nine require that services be provided, yet only six—Alabama, Connecticut, Kentucky, New York, Oregon, and Washington—mandate at the state level that regular classroom teachers receive training in gifted education. Of the six states that mandate services, most require that professionals working with gifted students, either as gifted resource teachers or gifted education administrative specialists, have specific college-level studies or degrees or appropriate professional development courses, and some states require master's degrees in gifted education. Currently, eighteen states mandate that teachers of gifted children receive specific training, though the number of hours needed for certification varies widely from state to state (Boone 2008).

Unfortunately, it is not surprising that many of our nation's teachers lack an understanding of what it means to be gifted and how to meet the needs of gifted students. The NAGC created a list entitled "Universities and Colleges Offering Coursework or Degree Programs in Gifted Education and/or Services to K-12 Students" (2009). Of the many institutions of higher learning in America, only 81 met the NAGC's criteria to be included. That means that for most teachers, any information they have about gifted students was learned on their own, or perhaps included as part of a class on special education.

Observations made in third and fourth grade classrooms by Reis and Westberg (1994) illustrated the lack of modifications for gifted students: 84% of the instructional activities in which gifted students were involved had no discernible difference in delivery or expectation for gifted and regular students. The results of a survey administered in the early 1990s to over 7,000 third and fourth grade classrooms throughout the country revealed that 61% of classroom teachers had no staff development in gifted education and that classroom teachers make only minor modifications in the regular classroom to meet the needs of gifted students. Results also revealed that only an extremely small number of teachers who did make modifications attempted to eliminate materials that students had already mastered, provide opportunities for students to do more advanced work, or expose students to higher level thinking activities (Archambault, Westberg, Brown, Hallmark, Emmons, & Zhang, 1993). In a similar survey completed more than ten years later, the results were disappointingly similar: 65% of classroom teachers indicated they had received little to no training in meeting the needs of advanced students (Farkas & Duffet, 2008). Research conducted by the NRC/GT indicated that the instructional and curricular practices provided to gifted students in the regular classroom are almost identical to those provided to average-ability students.

Administration

In order to insure that the gifted students' uniqueness is not only recognized but understood, school administrators themselves must have a working knowledge of giftedness and current best practices in gifted education. It is imperative to have the support of administrators to have an effective gifted program; the principal must be an advocate and enthusiastic supporter of the gifted program to help endorse the program to the community, district-level administration, and the school board.

A supportive administrator should work with the Gifted Specialist in his/her building to plan an appropriate in-service schedule for all classroom teachers. Regularly scheduled workshops, conferences, or even mini-sessions can be valuable training. Ideally, at the beginning of each school year, all teachers will be given a basic overview of giftedness: the intellectual, social/emotional, and behavioral traits and characteristics they may see in their gifted students. Additionally, at least two more in-service opportunities throughout the year should be held to reinforce concepts, address new concerns, and share the latest in research and best practices.

To maintain professional standards and credibility, Gifted Specialists and their administrators need to remain current regarding the best practices in gifted education. To this end, attendance at and participation in seminars, workshops, and conferences where nationally recognized authorities in the gifted education field are present is an excellent option to continually update skills and knowledge for any professional. Memberships in local, state, and national professional associations, such as PAGE and NAGC, are vital to establishing networks of practicing Gifted Specialists from neighboring districts or regional areas, and state or nationwide cohorts can be very helpful to a program. Sharing ideas and theories with colleagues from similar teaching settings is truly an asset to everyone involved. School districts need to support not only their Gifted Specialists' participation in these professional development opportunities, but they should send all teachers or administrators directly involved in the education of gifted students.

Working with a supportive administrator makes the gifted program's formal evaluation process a positive opportunity for growth. According to Carolyn Callahan (2004), teachers and administrators must evaluate all aspects of the services offered to gifted children. It should be the objective of the administrators to evaluate the success of the program's long-term goals and then work with classroom and gifted teachers to modify the program as needed to enhance the program's success.

According to the NAGC, nearly all experts in the field of gifted and talented education today agree that: intelligence is multi-faceted; it is displayed in many different ways; the assessment and identification of gifted students should focus on diverse talent or ability areas and include information from multiple sources; and educational programming should be based directly on the specific talents and needs that are defined and identified (Callahan & Eichner, 2008).

Establishing and maintaining quality gifted programming is an ongoing process that involves highly qualified Gifted Specialists, supportive administration, and gifted-friendly regular education teachers working collaboratively to create a constantly evolving program that meets the needs of the gifted students. In the fast-paced, global world in which we live, to do anything less would be tantamount to throwing away our future.

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Comments from a Friend of Gifted Education

Alexis I. du Pont de Bie, Ph.D. Center for the Analysis of Gifted Education

Dear Editors:

I thought your Volume 24, No. 3 edition (Summer 2010) of ***Gifted Education Press Quarterly*** was excellent as usual, and always commendable for your high level of authorship and editorship. This edition contained the following comments and articles:

1. ***Editorial Comments*** by Maurice Fisher – Some Useful Resources for Gifted Child Advocacy

2. ***Under-Representation of African American Students in Gifted Education: Nine Theories and Frameworks for Information, Understanding, and Change***
Donna Y. Ford, Ph.D. Peabody College of Education Vanderbilt University
Michelle Trotman Scott, Ph.D. College of Education University of West Georgia

3. ***An Interview with Dr. Margie Kitano*** San Diego State University
Interviewers:
Teresa Rowlison, Ph.D. Southwest Regional Education Center
Michael F. Shaughnessy, Ph.D. Eastern New Mexico University

4. ***Inside Specialized High Schools for the Gifted: A Comparison of Two Major Studies***
Jill Olthouse The University of Toledo

5. ***George Santayana (1863-1952): Nurturer of the Gifted Sensibility***
Michael E. Walters, Ed.D. Center for the Study of the Humanities in the Schools

There is something, however, that bothers me: I do not see much literature devoted to the current group of practicing teachers of the gifted. How do they feel? How did they get where they are today? What is their emotional/psychological health like? What professional factors keep them driven every day? The list could and does go on but my point is clear. Their answers are critical to the assessment of those candidates who have tentatively decided to go into Teaching the Gifted at whatever level (preschool – college).

Due to my personal circumstances, I have been somewhat on the sidelines for these past few years. However, those who know me from previous articles know my passion for the Craft of Gifted Education and those who work so diligently within it. (The editors of ***GEPQ*** and its National Advisory Panel are prime exemplars.)

I know we have the current problems existent in our field as Volume 24, No. 3 points out. Nevertheless, there is my continuing nag about one essential ingredient! If we do not challenge (without hostile or "holier than thou" intentions) our incoming teacher candidates who are looking at our particular field of education, we risk the strong possibility of admitting disingenuous candidates with no real "fire in their bellies" for the rigorous profession which lies ahead! And we only too sadly know what that has led to in

other general fields of education – of which our public schools are a prime example. In other words, we cannot bake an excellent cake with poor ingredients, cover it with slathers of icing and sprinkles, and say Voila!

The analogy is obvious. We cannot (and should not) allow any whiff of mediocrity or masked interest by teacher candidates to go unnoticed, for the end product will cause gifted children to suffer, make parents furious, and the profession will be deservedly criticized.

I would appreciate hearing from interested readers of ***GEPQ*** regarding their thoughts and how we can make course corrections before it is too late. Let us pray that the education bureaucracies will be courageous enough to seriously listen to the urgent needs of the Gifted, Talented and Creative in our society.

Decoding William Faulkner and the Gifted

Michael E. Walters Center for the Study of the Humanities in the Schools

"The most radical modern novelist is Faulkner. He does something extraordinary — gives you a novel [***Absalom, Absalom!***] that's narrated and told in parts, with no linear sequence. Faulkner forces you, the reader, to become part of the creative process. I learned so much from him!" Carlos Fuentes (New York Post, Jan. 23, 2011, p. 30)

William Faulkner (1897-1962), the 1949 Nobel Prize Winner in Literature, was one of the greatest story tellers in the English language. He has influenced gifted writers worldwide. Carlos Fuentes is an important contemporary Mexican writer and one of the greatest authors in the Spanish language. Gabriel Garcia Márquez, the 1982 Nobel Prize winner in Literature, was so influenced by Faulkner that he took a journey through the areas Faulkner wrote about in Mississippi and Louisiana. Other great authors Faulkner influenced were André Gide, Albert Camus and Jean-Paul Sartre – all Nobel Prize winners in Literature from France.

To appreciate Faulkner, one has to decode him. The first decoding method is to read him aloud to oneself. By doing this, his sentences become a viable narrative. Another decoding method is to study his sense of kinship, which was not only genetic but also psychological, moral and spiritual. The third method is to analyze Faulkner's humanism. In all of his works he expresses how human beings are one family. His explorations of the human condition are an antidote to totalitarianism, religious fanaticism and racism.

In the 1940s Faulkner wrote a series of interrelated short stories that became the novel, ***Go Down, Moses*** (1942). One of the stories, The Bear, is actually a novella. When you read this story out loud to yourself, you can achieve a sense of the greatness of this work. The prose becomes verbal music as if you were listening to a symphonic narrative in the vein of Beethoven. The kinship issue is described in this story in a unique manner. The protagonist, Isaac McCaslin, is a young adolescent boy whose initiation into adulthood would be accomplished by learning skills of the hunt from relatives and people in the community. His mentor, Sam Fathers, has a mixed racial and cultural background, i.e., Black and Native American. Faulkner was being multicultural at a time of Nazism. The bear named Old Ben is killed; the hunters perceived him as a nature symbol. One of the major statements in this novella is when the boy's mentor tells him it's alright to be scared but not a coward.

Decades after Faulkner wrote the Bear, he returned to some of the characters contained in this novella. ***The Reivers*** (1962) was his last novel, and has a resemblance to Mark Twain's the ***Adventures of Huckleberry Finn*** (1885). The young boy, Lucius Priest, and his White friend Boon and Black friend Ned, confiscate Grandfather Priest's shiny new automobile and travel to Memphis. Their journey has many similarities to Huck and Jim going down the Mississippi River. Both in Twain and Faulkner, the young boy loses his innocence while learning a great deal about humanity.

One of Faulkner's earliest novels was ***Pylon*** (1935). During World War I, he went to Canada and joined the British Royal Air Force. However, the war ended before he finished training. This story describes rootless individuals who worked in air shows during the late 1920s and early 1930s. They performed dangerous aerial and parachute stunts. The book's ending is especially moving. A pilot dies flying a poorly constructed plane in a race, and he leaves behind a son whose kinship is in doubt. Yet the pilot insisted on raising the boy as if he was his natural son. The scene of this novel is New Orleans where Faulkner wrote about its multicultural aspects by describing Southern Whites, African Americans, Italians, Jews and Frenchmen.

Gifted students will be stimulated and inspired by Faulkner in the same manner as the previously mentioned Latin American and French writers. He also influenced many American writers such as Ralph Ellison (***Invisible Man***, 1952) and Robert Penn Warren (***All the King's Men***, 1946). It is a worthwhile task learning to decode William Faulkner.

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