



Excellence. For each and every student.

BOARD OF EDUCATION

Regular Meeting - Monday, August 27, 2018 - 4:05 PM
Wayzata City Hall
210 County Road 101 North
Plymouth, Minnesota 55447

Minutes of Work Session Meeting

A Work Session Meeting of the Board of Education of Wayzata Public Schools was held Monday, August 27, 2018, beginning at 4:05 PM in the Wayzata City Hall 210 County Road 101 North Plymouth, Minnesota 55447.

1. ADMINISTRATIVE

A. Introduction of New Leadership Council Members *10 Minutes*

2. TEACHING AND LEARNING

A. Grading for Learning Discussion *J. Johnson 30 minutes*

2

B. State Accountability Plan (ESSA) *S. Lackner and A. Parnell 30 minutes*

11

C. Vision 21 Update *B. Anderson & J. Johnson 30 minutes*

26

3. HUMAN RESOURCES

4. BOARD REPORTS

5. FINANCE AND BUSINESS

A. Facilities Update *J. Westrum & J. Deutsch 30 Minutes*

6. SCHOOL BOARD

A. Metro ECSU Membership *A. Cuene and J. Johnson 5 Minutes*

B. Strategic Direction Review Discussion *S. Johansen 5 minutes*

7. ADJOURN

Middle School Report Assessment, Evaluation and Reporting

School Board Work Session

August 27, 2018

Clark Doten, CMS Principal

Paul Paetzel, EMS Principal

Dave Lutz, WMS Principal





Wayzata Public Schools Strategic Road Map

“Excellence. For Each and Every Student.”

<p>Mission</p> <p style="text-align: center;">Our Core Purpose</p> <p>The Mission of Wayzata Public Schools is to ensure a world-class education that prepares each and every student to thrive today and excel tomorrow in an ever-changing global society.</p>	<p>Core Values</p> <p>Achievement: Challenging oneself and others for excellence in all we do</p> <p>Collaboration: Working together to maximize opportunities and eliminate barriers to learning for all</p> <p>Community: Maintaining a sense of belonging to and responsibility for the broader community</p> <p>Equity: Meeting the specific needs of all students</p> <p>Integrity: Doing the right thing in the right way at the right time, even when no one is aware</p> <p>Respect: Valuing others for their diverse talents, backgrounds, cultures and viewpoints</p>	<p style="text-align: center;">Drivers of Our Words and Actions</p>
<p>Vision</p> <p style="text-align: center;">What We Intend to Create and Experience</p> <p style="text-align: center;"><u>By Realizing our Vision, We Achieve Our Mission</u></p> <p>The Vision of Wayzata Public Schools is to be a model of excellence where students of all ages discover their unique talents, develop a love and tenacity for learning and demonstrate confidence and capacity for success through:</p> <div style="border: 2px solid green; padding: 5px; margin: 10px 0;"> <p>Exceptional Student Learning, Experiences and Relationships:</p> <ul style="list-style-type: none"> High achievement by each and every student – no exceptions, no excuses; Content-rich, rigorous and personalized education; Meaningful relationships with teachers, staff, mentors and peers in a welcoming, nurturing and safe environment where all are valued for who they are and the contributions they make. </div> <p>Community Trust, Confidence and Partnership:</p> <ul style="list-style-type: none"> Comprehensive learning opportunities meeting diverse learner needs and community aspirations; Committed to being the first choice for students and families; Maintaining the highest levels of satisfaction and pride by staff, parents and community. <p>Operational Excellence:</p> <ul style="list-style-type: none"> Attraction, development and retention of exemplary, creative and engaged employees; Accountability by all staff for individual and collective performance; Effective and efficient use of time and human, financial and physical resources; Culture of continuous improvement and responsive innovation; High performing district governance, management and partnerships. 	<p>Strategic Directions</p> <p style="text-align: center;">(2015-2018)</p> <p style="text-align: center;"><u>Through Focus on Priorities and Strategy Execution, We Achieve Excellence and Realize Our Vision</u></p> <ol style="list-style-type: none"> 1. Achievement: By the end of third grade, all students will achieve at or beyond grade level expectations for reading, writing, speaking, and mathematics. 2. Each and Every: Student achievement will not be predictable by any demographic classification, i.e. race, socioeconomic status, gender, or disability. 3. Personalization: All students will know and understand their unique talents, have a voice in their educational experiences, and take ownership for their learning, career aspirations, and future success. 4. Health and Well-Being: All students will feel a sense of belonging and connection to their school where social-emotional, physical and mental health is nurtured and valued. 	

This We Believe

Keys to Educating Young Adolescents



16 Characteristics

Curriculum, Instruction, and Assessment

Educators value young adolescents and are prepared to teach them. *Value Young Adolescents*

Students and teachers are engaged in active, purposeful learning. *Active Learning*

Curriculum is challenging, exploratory, integrative, and relevant. *Challenging Curriculum*

Educators use multiple learning and teaching approaches. *Multiple Learning Approaches*

Varied and ongoing assessments advance learning as well as measure it. *Varied Assessments*

A shared vision developed by all stakeholders guides every decision. *Shared Vision*

Leaders are committed to and knowledgeable about this age group, educational research, and best practices. *Committed Leaders*

Leaders demonstrate courage and collaboration. *Courageous & Collaborative Leaders*

Ongoing professional development reflects best educational practices. *Professional Development*

Organizational structures foster purposeful learning and meaningful relationships. *Organizational Structures*

Culture and Community
The school environment is inviting, safe, inclusive, and supportive of all. *School Environment*

Every student's academic and personal development is guided by an adult advocate. *Adult Advocates*

Comprehensive guidance and support services meet the needs of young adolescents. *Guidance Services*

Health and wellness are supported in curricula, school-wide programs, and related policies. *Health & Wellness*

The school actively involves families in the education of their children. *Family Involvement*

The school includes community and business partners. *Community & Business*

This chart is based on This We Believe: Keys to Educating Young Adolescents (AMLE 2020). For more information visit us at www.aml.org

Successful Schools for Young Adolescents

Essential Attributes

An education for young adolescents must be

Developmentally Responsive

using the nature of young adolescents as the foundation on which all decisions are made.

Challenging

recognizing that every student can learn and everyone is held to high expectations.

Empowering

providing all students with the knowledge and skills they need to take control of their lives.

Equitable

advocating for every student's right to learn and providing challenging and relevant learning opportunities.

Assessment and Evaluation Program Beliefs

“Continuous, authentic, and appropriate assessment measures provide evidence about each student’s learning progress. Such information helps students, teachers, and family members select immediate learning goals and plan further education.”

“Students should have opportunities to set personal goals, chart their growth, and reflect on their progress in achieving the knowledge, skills and behavioral objectives of education.”

“Grades alone are inadequate for reporting student progress, particularly using grades in the formative assessment phase, when they inhibit students’ learning.”

“In developmentally responsive middle level schools, assessment procedures also reflect the unique characteristics of young adolescents. Assessment should emphasize individual progress rather than comparison with other students and should not rely on extrinsic motivation. The goal is to help students understand their own strengths, weaknesses, and interests.”

Curriculum, Instruction, and Assessment

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Varied Assessments

Background Work

Program Review and Emerging Practice

- Conducted a Comprehensive Review Middle School Program
- New Assessment Practices were Emerging in Teacher Practice
- Consulted with Nationally Recognized Assessment and Evaluation Experts
- Implemented Pilot Programs at CMS and WMS

Professional Development

- Three years of Professional Development Focused on Assessment and Evaluation Practices
- Principal, Teacher Attendance at Local, State and National Workshops and Conferences
- PLC Work

Communication

- Principal Presentations at PTAs and District Parent Liaison Committee Meetings
- Principal Presentations at Open House and Curriculum Nights
- Principal Presentations at 5th Grade Parent Orientation Meetings
- Communications Department Prepared a Informational Brochure and Video

Reporting Scale

	Descriptor
4	Exceeding Expectations at the established level.
3	Meeting Expectations at the established level.
2	Approaching Expectations at the established level.
1	Attempting Expectations at the established level.
IE	Insufficient Evidence
NA	Not Assessed

Report Card

Class: MATH67 / 01 MATH6/7

Teacher: TEACHER NAME

		SEMESTER
COMPONENTS	Assessment	1
	<i>The Number System</i>	2
	<i>Ratios and Proportions</i>	2
	<i>Expressions and Equations</i>	3
	<i>Geometry</i>	3
	<i>Probability and Statistics</i>	NA
	Personal Management	
	<i>Behavior</i>	2
	<i>Effort</i>	3
	<i>Timeliness</i>	3

Benefits

- Empowers the Student To Become a Partner with the Teacher in His or Her Learning
- Clarifies Success Criteria for Learners – What Student Must Know and Be Able to Do
- Emphasizes Student Learning – What Students Actually Know and Can do
- Reports Academic Achievement and “Personal Management” Separately
- Provides Feedback on Progress Toward Specific Standards
- Elevates the Importance and Relevance of Homework
- Encourages Responsible Risk-Taking and Creativity
- Increases Consistency in Teacher Practice
- Necessitates the Use of Feedback as a Critical Part of the Learning Process

2018 – 2019 NEXT STEPS

- **Parent Communication** – Continue to Share Assessment and Evaluation System with Parents, Especially the Importance of Homework and How Student Learning is Evaluate and Shared with Parents
- **Student Communication** - Continue to Share Assessment and Evaluation System with Parents, Especially the Importance of Homework and How Student Learning is Evaluate and Shared with Parents
- **Teacher Practice** – Continue to Strength Teacher Understanding Of and Consistent Use of Assessment and Evaluation Practices
- **Teacher Involvement** – Continue to Work with Our Teacher Leadership Team to Improvement Implementation
- **Stakeholder Engagement** – Administer Surveys and Conduct Focus Groups this Fall
- **Technology** – Clarify the Use of Canvas and Skyward
- **High School** – Collaborate with the High School on Grading Practices

Thank You
Questions?



North Star Excellence and Equity System (“North Star”)
New Minnesota State School & District Accountability System
Background Information & Talking Points’

Background

After over two and a half years since the Every Student Succeeds Act (ESSA) was signed into law, results from the state’s new accountability system will be publicly released August 30 by the Minnesota Department of Education (MDE).

The state has developed the North Star system to identify schools and districts for support. The North Star system was designed using extensive feedback from diverse stakeholders across Minnesota to satisfy the requirements of ESSA and the state’s World’s Best Work Force law.

Here are the key points to know about the new North Star accountability system.

Talking Points

1. The state’s new accountability system maintains a focus on equity and making sure all students are successful, particularly our historically underserved student populations.
2. The indicators used in the accountability system are a starting point for understanding the context of schools. These indicators, including test scores, graduation rates and consistent attendance rates, are not the conclusion. We will work together with the state to engage in conversation about the unique needs and experiences of students to inform continuous improvement efforts within our local community.
3. This system was designed, in part, to prioritize schools and districts for support. In the absence of having resources at the state to provide dedicated support to all schools, this system helps the state identify which schools need help the most and builds a system to meaningfully support those schools. Support to schools will be delivered either by the Regional Centers for Excellence or MDE depending on the reason the school was identified.
4. The accountability indicators will be reported separately and simply. This will allow families, educators and communities to understand the challenges and successes across multiple indicators in a transparent manner.
5. On August 30, 2018, MDE will report on the performance of schools using the new accountability system. This includes the following five Accountability Indicators for all public schools and districts, the districts and schools that are eligible for support, and the list of schools that are recognized for success:
 - Academic Achievement
 - Progress Toward English Language Proficiency
 - Academic Progress
 - Graduation Rates
 - Consistent Attendance

6. In the August 30 public release of accountability results, MDE will recognize schools for success in the following ways:
 - Overall school performance is in the top 5 percent within any one indicator (math achievement, reading achievement, progress toward English language proficiency, math progress, reading progress, four-year graduation rate, or consistent attendance).
 - Student group performance is similar to the top 5 percent of schools within any one indicator.
7. During the 2018-2019 school year, MDE will begin recognizing schools based on a variety of measures, including career and college readiness, early learning and school climate data.

More Resources

Information about the new system, including training modules, can be found on the MDE School and District Accountability page of the MDE website. On August 30, the public will be able to access the accountability results on the Minnesota Report Card, as well as in a more detailed spreadsheet titled "North Star Public File" on the Data Reports and Analytics page of the MDE website.

Every Student Succeeds Act (ESSA)

Stacey Lackner, PhD
Director of Research Evaluation

Amy Parnell
Director of Communications and Community Engagement

August 27, 2018

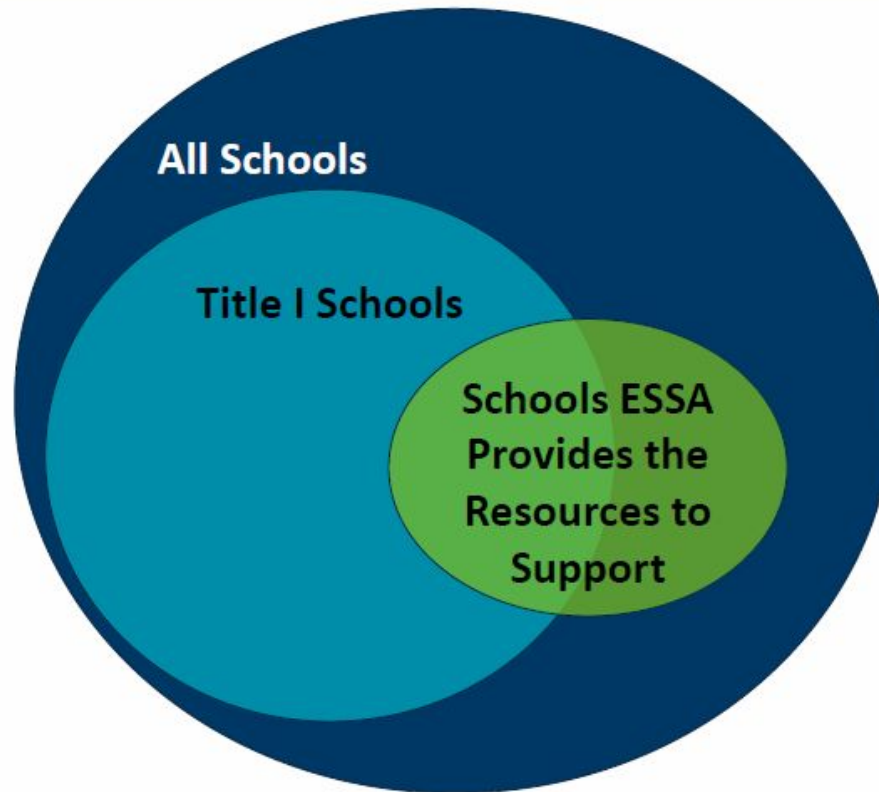
Overview

- ESSA overview slides from Michael Diedrich, MDE, Elementary and Secondary Education Act (ESEA) Policy Specialist
- Assessment and Accountability results release timeline
- Wayzata Public Schools stakeholder communications plan

The North Star Accountability System

- Identifies schools for support under the federal Every Student Succeeds Act (ESSA), as required for the state to receive its Title I funds from ESSA.
- Identifies districts for support under the state's World's Best Workforce law.
- Replaces the Multiple Measurements Rating (MMR), Adequate Yearly Progress (AYP), and Annual Measurable Achievement Objectives (AMAO) systems from No Child Left Behind (NCLB) and Minnesota's NCLB waiver.
- Uses several indicators grouped into three stages.

Prioritizing for Support



7/31/2018

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All schools working well for all students.

World's Best Workforce (WBWF) Goals

- All students ready for kindergarten.
- All students reading well by third grade.
- Close achievement gaps.
- All students career and college ready.
- All students graduate.



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Philosophy for the North Star System

Keep Indicators Separate and Simple



Remember: Prioritizing Schools and Districts for Support



Maintain Focus on Student Groups

- Racial and ethnic groups
- English learners
- Students eligible for free/reduced price lunch
- Students in special education

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Categories of Support

Comprehensive Support

Ongoing onsite technical assistance from the Regional Centers of Excellence (RCEs).

All public high schools with a four-year graduation rate below 67% overall or for any student group.

The lowest 5% of Title I schools.

Support from MDE

Title I schools with overall performance below performance thresholds in Stage 1.

Targeted Support

Mostly district support, with professional development opportunities from the RCEs.

Schools where student groups perform below performance thresholds for at least one indicator in each stage, when either:

- The group's average over the last three years was below thresholds.
- The group was below thresholds in each of the last three years.

Title I schools with overall performance below performance thresholds in Stage 1 and Stage 2.

The Three Stage Decision Process

Stage 1

Math Achievement
Reading Achievement
Progress Toward English
Language Proficiency

Stage 2 (Elementary/Middle)

Math Progress
Reading Progress

Stage 2 (High)

Four-Year Graduation
Seven-Year Graduation

Stage 3

Consistent Attendance

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The Indicators



Academic Achievement

The number of students at the “Meets Standards” or “Exceeds Standards” achievement levels divided by all students in tested grades. Calculated separately for math and reading.



Progress Toward English Language Proficiency

The average progress English learners made toward individual growth targets on the ACCESS for ELLs test.



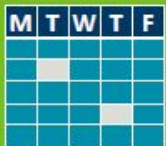
Academic Progress

A score based on students’ achievement levels from one year to the next. Calculated separately for math and reading.



Graduation Rates

The percentage of students who graduated in four years and seven years.



Consistent Attendance

The percentage of students attending more than 90 percent of the days they are enrolled.

Group Rules



Minimum Number of Students

A student group must have at least 20 students before it can be included in an indicator.

Overall Performance

A school's overall performance on an indicator is the average of all student groups with at least 20 students.



Groups

- All students.
- American Indian.
- Asian.
- Black.
- Hispanic.
- Native Hawaiian/Pacific Islander.
- White.
- Two or more races.
- English learners.
- Special education.
- Eligible for free or reduced price lunch.

Counter-Groups

- Each of the three special populations has its own counter-group.
 - English learners | Students who are not English learners.
 - Students in special education | Students not in special education.
 - Students eligible for free or reduced price meals | Students not eligible for FRP meals.
- When a special population is included, its counter-group is also included (as long as the counter-group also has at least 20 students).

Assessment and Accountability Results Release

MDE will release results to the public on August 30th in the Minnesota Report Card (MDE Website>Data Center>Minnesota Report Card)

DATE	DESCRIPTION
Week of Aug. 27	Embargoed recognition information sent to recognized schools
Mon. Aug 27	Embargoed statewide accountability data file available to districts
Tues. Aug 28	Media receives access to embargoed data file
Thurs. Aug 30	Public release of assessment and accountability results, including school recognition, in Data Center.

WPS Stakeholder Communication Plan

August 10th: ESSA Overview presented to WPS E-12 Principals/Supervisors

August 27th: ESSA Overview presented at WPS School Board Work Session

August 30th: ESSA Overview & WPS Results email to all WPS staff.

August 30th: ESSA WPS Media Release to local media.

Principal Talking Points Vision 21 Gifted & Talented

The Vision 21 Gifted & Talented program will be remaining the same this year for grades 3rd – 5th.

We will no longer be administering the CogAT screener in 2nd grade.

- Reason: A significant percentage of students that were selected in 2nd or 3rd grade do not qualify for GT in 4th or 5th grade using our current selection tools and criteria. Many of these students seem out of place in the program in the intermediate grades when compared with their peers that are selected.
- The CogAT screener is a tool that was intended to be used to identify students for the full CogAT assessment. It was not designed to be used as we are currently using it for selection.

We will still be selecting students in 2nd grade who demonstrate the need for additional academic extensions. The selection of these students will still include the aFast assessment.

- 2nd grade identification, purely academics (Advanced Academics) - this was recommended by “the Karens” during the review. This is a needs based approach and fits better with our current growth model that the district supports.
- Correlation academic (For 2nd Reading: Fall aReading, spring observation survey (DRA level) from 1st grade and for Math - aMath and 1st grade unit tests from bridges)
- Inclusion of specialist assessments for creativity and novel thinking.
- Students whose academic needs are greater than what the classroom teacher can provide will be identified using site scores. These students will receive enrichment opportunities based on current year needs. The selection criteria will be site specific and made on a yearly basis. Identification will be for that year only.
- The curriculum for these pull outs was piloted last year at Birchview. Nine units were piloted.
- These nine units will be:
 - Author Study
 - Algebra
 - Space
 - Scientific Method
 - Creative Writing
 - Poetry
 - Minnesota History
 - Robotics
 - STEM
- Identified talented students will choose 3 – 4 of the units to participate in during the year

The V21 Gifted and Talented teachers will also be working more closely with classroom teachers to help meet the needs of talented students in the general education classroom.

Tier 1 Extensions

- Collaborative work between Gifted & Talented teacher and the classroom teacher to increase the depth and complexion of enrichment strategies and practices during classroom lessons.
 - This may include:
 - Co-teaching
 - PLC collaboration
 - Leading Professional Development
 - Creating enrichment curriculum/materials for classroom use

Introduction

1

Gifted or advanced education is focused on providing appropriate education for those students who need it. Regardless of whether or not we call them gifted, students exist in every school who could do more than they are currently being asked to do. Every school has those students who would benefit—academically, socially, and motivationally—from additional challenge. This book is about how to find and serve those children. However, before we begin this complicated trek, we first address how the perspective we offer differs from that of traditional gifted education. To do so we will, in places, offer some seemingly harsh critiques of gifted education. We have all dedicated our careers to the field, and we believe passionately in championing the cause of challenging all learners. We only offer criticisms to the service of this cause, while simultaneously offering suggestions for change and improvement.

Determining whether or not a child meets a formal definition of giftedness is not a particularly useful thing to do from the point of view of the stakeholders in K–12 education—students, teachers, administrators, and parents. Instead, we believe that it is much more educationally helpful to determine which children are not being well-served by the existing curriculum and then design programs to meet their needs. Identification, when it is necessary at all, then becomes focused on answering the question,

“Who can thrive in the advanced academic program(s) we’ve designed?” instead of “Who is gifted?” In place of the old “gifted education” approach, we will provide a new framework that is logical, clear, and free of some of the internal contradictions and atheoretical practices that have been part of the practice of gifted education for many decades. Although our position stands in contrast to many years of practice, we believe it is supported by theory and is also far more defensible than current practice. We believe that the adoption of the framework we describe in this book would result in vastly improved K–12 educational experiences for bright students. Furthermore, our framework securely grounds programs and policies for gifted students within the context of major current educational initiatives such as the Common Core State Standards and Response to Intervention (RtI).

It is time that we, as passionate advocates of gifted education in K–12 schools, recognize that some (but not all) of the criticism directed at our field is legitimate. We have been unable to provide evidence-based arguments against these criticisms. As a result, advocates of gifted education have been less persuasive of policy makers, K–12 educators, and funding agencies than any of us would like. The history of the field is characterized by the slow assimilation of, and reform around, legitimate criticisms from the outside. For example, the historical concept of giftedness was essentially synonymous with high IQ, whereas now the widespread consensus in the field is that giftedness is a multidimensional construct that cannot be adequately measured by a single IQ score (Borland, 2005; Worrell, 2009). This book should be understood as another instance of the same historical trend within the field.

Finally, this book does not provide a step-by-step procedure or a “canned” program for using these ideas. This book is far more in the spirit of a persuasive essay whose goal is to reframe discussion and debate around gifted education. The principles presented in this book argue for advanced educational opportunities that are intensely local, that is, that are closely tailored to the needs and values of a particular setting at a particular time. Providing a canned program for implementation of our ideas would represent a violation of the very principles we espouse. These ideas place much of the burden of responsibility on local district and school personnel to develop appropriate programming for their advanced learners. This perspective is consistent with a philosophical viewpoint that believes teachers are professionals and experts in whose care we entrust the development of our children. Teaching is not, and should not be, a turnkey operation that anyone with a pulse can simply walk into a classroom and do!

Defining Giftedness, Talent, and Advanced Academics

What can be said most confidently about conceptual definitions of giftedness, talent, and high ability is that they are widely inconsistent. In fact, there is so much disagreement on the topic that even a workgroup of the National Association for Gifted Children (NAGC) had much difficulty agreeing on a definition. The two most general types of conceptual definitions revolve around typical academic skills (those important to student success in traditional K–12 school subjects) and those specific tasks that are not as directly related to traditional academics. For example, Renzulli (2005) referred to children who excel in academic subjects as the “schoolhouse gifted,” and he observed that the schoolhouse gifted are not necessarily the same group of children who exhibit adult creative productivity. Some in the gifted education community have taken this as evidence that we, as a field, have been focusing on the wrong individuals or the wrong goals (e.g., Subotnik, Olszewski-Kubilius, & Worrell, 2011). We disagree. Whether a child will or will not become an eminent adult is irrelevant to K–12 instruction; we hope many children will, but it simply is not possible to predict with accuracy which children will attain eminence as adults. Adult eminence is tangential to whether or not that child will spend his entire year sitting through coursework or instruction in content that he has already mastered. Schools are designed to help children develop expertise in a rather circumscribed set of disciplines and skills, and this book focuses on helping schools conceptualize programming to foster more advanced levels of development in those domains.

Because the approach we describe is so different from what is usually practiced under the rubric of gifted education, we consciously have decided to give it a different name. We refer to our approach as *advanced academics*. We clarify the precise meaning of the term in later chapters of the book. To summarize succinctly, gifted education is about identifying and serving a distinct class of individuals—the gifted. Advanced academics is about providing students who are not challenged by the ordinary curriculum and instruction with faster, deeper, and more rigorous instruction than they would receive within their typical academic experience, regardless of whether or not they are formally identified as gifted. Many students in need of such instruction may have been identified as gifted, but many others who also need and can benefit from such instruction have not. To better

contrast our approach against other ideas, next we review some influential definitions of giftedness that inform current practice.

Defining Gifted and Talented

The current federal definition of “gifted and talented” comes from the 1993 *National Excellence* report created by the U.S. Department of Education:

Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment. These children and youth exhibit high performance capability in *intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields [emphasis added]*. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor. (p. 3)

What is interesting to note about this definition is that the term *gifted* is conspicuously absent and instead the term *outstanding talent* is included. Although having a national-level definition might seem convenient for the sake of consistency, given the absence of any federal mandate for its use, identification, or programming, this definition serves as little more than guidance for states and districts. In practice, taking a closer look at the state-level definitions reveals many stark similarities.

Also at the national level are multiple conceptual definitions offered by the National Association for Gifted Children, the official current form of which is as follows:

Gifted individuals are those who demonstrate outstanding levels of aptitude (defined as an exceptional ability to reason and learn) or competence (documented performance or achievement in top 10% or rarer) in one or more domains. Domains include *any structured area of activity with its own symbol system (e.g., mathematics,*

music, language) and/or set of sensorimotor skills (e.g., painting, dance, sports) [emphasis added]. (NAGC, 2010b, p. 1)

This recent NAGC definition is broader and more inclusive than that of the U.S. Department of Education (1993) report and includes a wider range of skills and abilities than are typically addressed in public schools. Even if a school were to adopt this definition verbatim, the school still would have to decide which content areas or domains it would serve under the purview of advanced (specific) academic programming. In addition, this definition specifies the percentage of individuals at 10% or fewer. It is likely that most percentages used in conceptual definitions are arbitrary. Therefore, it is somewhat unusual to mandate that no more than 10% of some unknown group could be considered gifted and/or talented in any single area without first considering what the “other” people can or will do. However, because the NAGC definition does not specify a norm group, the terms *outstanding* and *exceptional* remain open to interpretation by the end user.

State-Level Definitions

Fortunately, a conceptual definition of giftedness turns out to be not all that important when it comes to fostering advanced academic skills. In other words, we don't need a fixed percentage or a psychological framework in order to provide students in need with subject-specific advanced content. However, many states do provide some structure and/or mandate when it comes to anything falling under the guise of “gifted” education. Because of this, programs for advanced academics should, when possible, align with any required state definitions or mandates that relate to gifted education. At the time of the 2010–2011 *State of the States in Gifted Education* report, 41 (out of 45 states responding) states had an official state definition for giftedness (NAGC & Council of State Directors of Programs for the Gifted [CSDPG], 2011). However, only 32 of these required that their definition be followed, allowing individual schools and districts much latitude in defining and identifying giftedness. For example, the State of Wisconsin dictates that gifted and talented students can and must be identified in five areas: intellectual, specific academic area, leadership, creativity, and visual and performing arts (Wisconsin Administrative Rule PI 8.01(2)(t)2, 2012; see <https://docs.legis.wisconsin.gov/code/>

admin_code/pi/8/01/2). Such state-level guidance in the form of a mandate makes gifted/advanced academic programming easier than if a given state had no formal definition or did not require adherence to such a definition. In theory, all Wisconsin schools must identify students in these five areas and then provide these learners with appropriate services. This is similar to the other 31 states that require either identification or services, or both (NAGC & CSPDG, 2011). However, just because a state has a formal definition and a mandate to identify and serve does not mean the mandate is universally followed or that all areas of the mandate receive equal attention. Some Wisconsin schools have no gifted program even if they do identify students, and many others only identify high-ability learners in math and language arts.

The situation is similar in other states; for example, a recent survey of the high school gifted coordinators across the state of Indiana revealed that although Indiana mandates that all school districts have a gifted and talented coordinator, only 75% of respondents indicated such a position or person existed (Peters & Mann, 2009). Given that the surveys were sent to the person listed by the state as the gifted coordinator, it's clear that having a state mandate does not always assure action. Furthermore, although states such as Wisconsin and Indiana specify that multiple measures must be used in student identification, both stop short of requiring specific assessments to be used, again leaving that decision to the school or district.

States such as Georgia have a conceptual definition similar to Indiana and Wisconsin. In Georgia, a gifted student is defined as

A student who demonstrates a high degree of intellectual and/or creative ability(ies), exhibits an exceptionally high degree of motivation, and/or excels in specific academic fields, and who needs special instruction and/or special ancillary services to achieve at levels commensurate with his or her abilities. The abilities manifest in a collection of traits, aptitudes and behaviors that, when taken together, are indicative of gifted potential. (Georgia Department of Education, 2012, p. 7)

Although this definition is similar to Wisconsin's in that it includes general intellectual, creative, and specific academic abilities, the Georgia definition does not include leadership or visual art abilities (although these perhaps could be considered part of creative talent). However, Georgia

does allow for a high degree of motivation as being sufficient to identify gifted ability in these areas, whereas high ability or achievement are required in the other two states mentioned. Although Georgia leaves some freedom to local districts to decide criteria for identification, the state does specify initial eligibility criteria based on the five areas of their conceptual definition. Students in Georgia then have two pathways to identification. They can either receive high scores on a nationally normed measure of mental ability (99th percentile in K–2, 96th percentile in 3–12) and on achievement tests (90th percentile or “superior” rating), or they can follow an alternate path that involves additional tests of creativity and motivation. For a discussion of some of the inherent issues and complexities with such a system, see McBee, Peters, and Waterman (in press).

The *State of the States* (NAGC & CSDPG, 2011) report is a biannual survey of gifted education policies across the country. In the 2010–2011 report, 45 states responded to a wide range of questions regarding gifted education practice in their respective states. As mentioned above, 41 of the responding states reported having a formal definition of giftedness. Of these, the most common area of giftedness listed was intellectual giftedness (34 states) followed by creatively gifted (26), performing and visual arts (25), academics (23), and specific academic areas (21). Other areas listed less frequently included leadership, culturally diverse, English language learners (ELL), disabled/twice-exceptional, highly gifted, and underachieving.

Within the *State of the States* (NAGC & CSDPG, 2011) report, 45 states responded to the question regarding identification practices. Of those states, 33 required the use of specific identification practices (such as in Georgia, as outlined above). Such requirements included multiple criteria (20), IQ tests (16), achievement tests (13), a menu of state-approved tests from which schools can choose (10), and nominations (8). However, even when specific criteria are required for the local schools, often the process and procedures are not specified. Only eight states mandate a specific process be followed, while seven states allow for collaborative decision making by the state and local district. In 15 states, schools are completely free to create an identification process. For example, how “multiple measures” are to be used in a state that requires such a practice (e.g., Arkansas, Indiana) is not specified, leaving each local district or school to decide what combination of measures to use and/or how to combine them. In another example, eight of the 33 states responding require nominations as

part of the specific methods of identification: Some list specific tools that are approved or recommended, but others do not. The same can be said for virtually all of the various required methods. Even though a class or type of assessment (e.g., IQ test) might be required, the definition specifies neither which particular test to use, nor the manner of its use. Because of this widespread emphasis on local control in education, the roles of the district coordinator, school board, and other local stakeholders can be extremely important in fostering effective identification and programming for academically advanced students.

Some areas of giftedness and talent are easier to assess and evaluate than others. In fact, several states specifically name the local education agency (school or district) as the deciding body for matters related to conceptual definition. For example, both North Carolina and Florida require locally developed plans to guide gifted identification and programming, although in both cases, these plans are reviewed at the state level for their compliance with the state rule.

In conclusion, states vary widely in their definitions of giftedness and their identification of students for gifted or advanced programming. With regard to identification, some states do not specify content areas at all (leaving terms like *specific academic area* to be operationalized by the district or school), other states specify content areas but not how these areas should be assessed, and still others specify the types of assessments but stop short of naming specific assessments to be used. Interested parents or professionals should investigate state-level policies before attempting to create a new framework or program for a specific school or district. *In some cases, the advanced academic approach is sufficiently different from gifted education that schools may not need to worry about whether the advanced academics program is in compliance with the state's gifted education policy, especially for students not currently identified as gifted or in settings where gifted status is not tied to funding. After all, advanced academics are not gifted education!*

Local Definitions

In cases where a state lacks an official definition or specifically leaves the decision to the local education agency (LEA), the decision falls on local school personnel. This situation obviously allows the greatest flexibility for implementing advanced academic programs.

Whenever advanced academic programs are being contemplated, the first step should be a needs assessment. What skills, aptitudes, and dispositions need additional development, in the form of educational programming, as justified by local values and unmet student need? This final point is very important. If student need is being met by the general education curriculum, such that even the highest performing students are challenged and engaged, then *it is unnecessary to create an advanced academic program in that area*. This may seem like a trivial issue, but when defining gifted or advanced, a major consideration needs to be what content is offered as standard or grade level in the given district, school, or grade. The need for specialized academic programming arises from a mismatch between a given student and his or her environment. Therefore, when a school board or group of individuals sets out to define advanced academics in a local setting, both existing local curriculum (and its accompanying student needs) and the characteristics of the local student population must be taken into account. Using a national perspective for comparison is likely to result in a large mismatch between the type of content and level of skills students need and what is actually being delivered. Lohman (2006) illustrated this issue with the example of a high-achieving school where an average student's achievement is around the 95th percentile relative to the national average. At this school, the content offered as standard or grade level would be much more advanced than that offered at a more typical, average-performing school district.

Even in the world of increasingly strict content standards, wide variation within a single school district is common. In average performing school districts, a subject such as Algebra I might be viewed as advanced, honors, accelerated, or gifted for eighth graders. However, in the high-achieving schools referenced above, Algebra I might be considered grade-level content for seventh graders. As Renzulli (2005) argued, "Even in schools where achievement levels are below national norms, there still exists an upper-level group of students who need services above and beyond those that are provided for the majority of the school population" (p. 271). Thus, supplementary advanced academic services should focus on *needs that are not being met as part of the general curriculum of a local school or district*, rather than on a statewide or national grade-level standard. This local-norm perspective is critical if a program is to best connect with local students' levels of need. This also means that some students who would be in an advanced academic program at one school would not have a need for

such a program in a different school, and that some students within a given school might be in need of a program one year, but not the following year.

Needs change across time and across schools, and programming should be responsive enough to change with them. When national standards or national norms are used for gifted and talented identification, a few schools will end up having 0% or 100% of their students being classified as gifted. Although the 100% instance might seem very appealing (what a wonderful thing to have 100% gifted students), the idea is rather absurd. If 100% of the students in a school are identified as in need of "advanced academics" (meaning they require more challenging curriculum than is being offered by the standard curriculum), then the standard curriculum is simply inadequate! It is impossible to specify on an a priori basis a desirable percentage of students who should be receiving advanced academic opportunities in a given school. However, when the percentage grows steadily over time (as we have seen it do), schools need to reconsider what level of content they offer as their standard, grade-level curriculum. In other words, when large numbers of students need advanced academics, this suggests there are deficiencies in the standard curriculum. Rather than shunting those students into special programs, the standard curriculum needs to be upgraded.

Where Does Giftedness Begin?

Often state or district policy identifies a set percentage of students as gifted. The use of these percentages may be arbitrary, but it is also likely that these target percentages were based on intelligence test percentiles (e.g., an IQ of 130 = approximately 2.5% of a population) and are rooted in the historically fixed percentages of some special education diagnoses (i.e., intellectually disabled, which traditionally has required an IQ score below 70, in addition to other criteria). Although those students in need of more challenge beyond the standard curriculum should by definition be *somewhat* rare, in this book we will not argue for any specific percentage of a population as being in need of advanced academic programming. Instead, *the percentage of students served by advanced programming should be directly proportional to the number of students whose needs cannot readily be met in the general education classroom as it currently exists in a particular setting.* In a district with a large portion of above-grade-level students, the percentage of the population labeled as in need of such programs could actually be

relatively small (e.g., 1%–2%) because the high-achieving nature of the school population requires that most needs typical of high-ability students are met as part of the general curriculum. Such a situation might occur in a high-performing high school serving an affluent population, where nearly all students take several honors, AP, or above-grade-level classes and go on to college. In this instance there (ideally) would be services that would not necessitate a label or advanced program because they already exist for most students as part of the general curriculum (so that, because the need is being met, no special program is required). The opposite could also be true. In a very large school in which the majority of students are low performing, the percentage of students identified for advanced academic services could be relatively high (e.g., 10%–15%) because these students are unlikely to have their needs met in the general education curriculum. Such a case could exist in a middle school where most students take pre-algebra in eighth grade, and algebra and geometry are not offered until high school. In this setting, some middle school students who are ready for advanced algebra, geometry, and trigonometry are unlikely to have their needs met in the general education classroom and are more likely to need special services.

These examples run contrary to the popular wisdom that says high-performing districts can expect to have a larger percentage of identified high-need students and low-performing districts would have a smaller percentage of such students, although such scenarios are also possible. When *educational need* is locally defined based on the students enrolled in a particular school or district and the standard curriculum of that district, the percentages of students who require academic programming outside of the standard grade-level curriculum varies. For this reason, our use of particular percentages in the examples does not imply that any set number or percentage is the “right number” for any advanced academic program.

A point that arises throughout this book is that predetermined percentages (or cutoffs) that only serve to arbitrarily limit the number of students who can receive a service should be avoided. The use of percentages can lead to a fixed number of spaces being set aside for a given program; this puts the needs of schools ahead of the needs of their students, rather than focusing on students’ needs as they differ from year to year and grade level to grade level. In contrast, percentages can be very useful for the purpose of comparing the ethnic, gender, racial, ELL, and socioeconomic status (SES) makeup of the identified student population. If dominant cultural

groups are overly represented in the population served by advanced programming, additional services might be necessary or the administrators and staff of the local school might consider reevaluating the philosophical, cultural, and practical base of their existing program. Because score discrepancies are correlated with cultural, ethnic, and especially economic status on nearly every existing measure of academic achievement or academic aptitude (Valencia & Suzuki, 2001), it may not be realistic to expect that students who are identified based on their performance on such measures should be representative of overall student population in a given school. Nevertheless, we suggest, existing discrepancies usually are far more lopsided than test scores alone would predict. We return to this issue in more depth in Chapter 7.

Does It Really Matter if a Student Is Gifted?

So what is giftedness and who are the gifted? These two questions have driven eight decades of educational philosophy, research, and practice. Even today, more than 90 years after the 1922 publication of Terman's seminal work, scholars still have not coalesced on a consensual, paradigmatic definition of the term. This lack of a common definition of the term *gifted* (and the related term *talented*) is frequently decried by researchers in the field (e.g., Lohman, Korb, & Lakin, 2008), for whom the lack of definitional consistency leads to great difficulty in synthesizing research results across studies. Furthermore, varied and inconsistent definitions don't tell us what to do with those students for whom the standard content or curriculum is inappropriate. Teachers need to know "Who needs more challenging math on Monday?" and "What do I do during reading time for my kindergarten students who can already read chapter books?" In the context of K-12 schooling, these are the questions that matter.

The lack of definitional consistency for the term gifted suggests there may be other fundamental flaws and logical inconsistencies in current educational practice. As we detailed in a recent paper (McBee, McCoach, Peters, & Mathews, 2012) the concept of giftedness does not really answer the educationally relevant question of "Who needs harder math problems?" Although it might seem like the gifted students would be those with unmet needs (and some scholars have argued that giftedness *itself* creates need), in our experience this is simply not the case. Every student who attends the North Carolina High School for Science and Math, for example, could be

considered gifted according to the field's most common definitions of that term. Does that imply that the education they are receiving is automatically inadequate—that they need more by virtue of being gifted? Do only neighborhood schools need a gifted program? What about a high-poverty school in which no students meet the criteria for being identified gifted? Are we prepared to argue that none of those students can and should be doing more than what they are asked to do academically? In many cases, there will be substantial overlap between those students who would be identified as gifted under traditional definitions and those who would be determined to have unmet academic needs, but this overlap is not perfect. Furthermore, the very term gifted, due to its long history, carries with it many unhelpful and unavoidable connotations in the minds of teachers, parents, children, and the academy. Replacing the concept of giftedness with the much more contextual notions of *academic need* and *advanced academic programming* removes an invisible intellectual straightjacket that has tied our hands and blinded our eyes to obvious changes our schools must make to support high-achieving or potentially high-achieving students.

We realize that our last few paragraphs may have alarmed the reader. It is critical at this point to clarify what we mean. We do *not* argue that bright children do not exist—we have collectively worked with many extraordinarily bright students whose minds work in qualitatively different ways and whose cognitive skills far surpass their physical and emotional development. It is precisely for this reason that we argue explicitly, forcefully, and passionately that many children in our schools need a great deal more challenge, opportunity, and intellectual rigor than is provided in the typical K–12 setting. Discarding the concept of giftedness on the part of parents, teachers, researchers, and advocates for gifted children is the very best thing that can happen to the gifted child when it comes to the educational experiences he or she receives in K–12 schools, provided other appropriate changes are made in order to meet bright children's educational needs.

The Case for Separating Advanced Academics From Gifted Studies

Gifted education has grown out of several fields and represents a truly multidisciplinary arena. Although psychologists dominated the first era of research and theory on giftedness, today gifted education is a *mélange* of several branches of psychology (primarily educational, cognitive, and

developmental) and education. Some of the long-running lack of consistency in definitions and theoretical conceptions must surely result from the diversity of perspectives brought by people who approach the study of giftedness from varying intellectual traditions.

Psychologists have contributed perhaps more theory than any other single constituent groups. However, psychologists have, in aggregate, quite different priorities and interests than educators. Psychologists interested in high ability often aim to understand and predict eminent achievement in adulthood. Psychologists yearn for a common definition of giftedness that is constant across settings and domains (and therefore consistent across studies), hoping to operationalize the construct of giftedness in the same way that they approach constructs such as depression. For example, to determine whether someone is depressed or not, his or her symptoms are compared against an operational definition that is defined objectively with respect to some external criteria. Whether or not someone is classified as depressed is not at all affected by whether that person happens to be the most or least melancholy person in his or her social context. In this way, and unlike definitions of giftedness, depression is a criterion-referenced construct as opposed to a norm-referenced construct.

Educators, on the other hand, may be tolerant of much less rigid definitions—a fact that has challenged researchers in the field for some time. Educators' primary concern must be with providing optimal services and education to students. Advanced academics should focus on designing, implementing, evaluating, and improving instructional models, program design, and curriculum for those students who need more—the question of whether a psychologist might define that student who needs more as *gifted* is completely irrelevant. Advanced academics, therefore, is a completely needs-based and *school-based* construct that stems directly from historical conceptions of gifted education with their focus on student need. Therefore, assessing the degree to which a student's level of academic need matches with his or her currently provided level of education becomes the key feature of any "identification" system. Although insights, discoveries, and theory from high-ability psychology may occasionally be applicable to advanced academics, there should be no attempt to force this connection. Indeed, the progress of our field has been stunted precisely *because* of our insistence on theoretical unification across subfields. The psychological focus on understanding talent, creativity, and eminence (which we refer to as high-ability psychology) is still incredibly important as a scientific dis-

cipline and undoubtedly requires additional research. But schools should have a different focus, a focus on advancing students' academic skills. Although there are many important areas of human endeavor worthy of investigation from a psychological point of view, not all content areas or domains can be the purview of K-12 schools. Instead, schools focus on a semistandardized set of academic skills, and some students demonstrate far greater proficiency in those areas than their grade-level peers, necessitating the provision of programs or services to meet their advanced academic needs. The term advanced academics that we promote throughout this book is meant to capture educationally relevant, academically oriented, needs-based programming geared toward students who have already mastered the grade-level curriculum or who have the capability of doing so far faster than their chronological peers.

The notion that giftedness is a stable trait has naturally led to a great deal of concern and attention in our field being directed to the effort of *finding the gifted*. The common misconception is that if we could just create or purchase the right test, then we would be able to find those gifted kids. The prevailing "trait" theory of giftedness has naturally led to the labeling of children as a primary concern. Labeling is only useful to the degree that it provides diagnostic information, and perhaps to a lesser extent as a means of directing funding toward specific needs. The label *gifted*, just like the label *tall*, provides little diagnostic information. We believe that effort expended in the interest of finding children who *need more* educationally than their peers is a better investment of resources—indeed this is what tests in schools are supposed to be for; however, *identifying* the gifted has been dramatically overemphasized and has crowded out other more educationally relevant efforts, such as what to do with these children once they are identified. We know of schools that have spent 100% of their gifted education funding for a year on a single test, only to have no funds remaining for programming. In the state of Connecticut, the identification of gifted students is mandatory; however, school districts are not required to provide programming or services for gifted students. We find such policies and practices absurd.

Legitimate Critiques of Gifted Education

Gifted education is under constant attack by critics with a variety of perspectives. As a field, we have frequently failed to provide convincing counterarguments to some of these criticisms. In this section, we explore common criticisms of gifted education; some of this discussion continues in Chapter 8. If gifted education is to grow beyond the niche program that it so often is, often surviving on the thinnest margins of public support, then the field must change the way that it operates so that these critiques can be honestly addressed.

Why Do We Set the Identification Cutoff Where It Is? Is the Child Who Scores One Point Below the Cutoff Really so Different From the One Who Scores One Point Above?

A child must exhibit a score or scores above some cutoff(s) in order to be identified as gifted. These cutoffs vary, in some cases dramatically, from state to state and district to district. For example, for a child to meet the “intellectual ability” aspect of the state of Georgia’s mandated definition, students must score above the 96th percentile on an appropriate test. This prompts the question, “What is so special about the 96th percentile?” As it turns out, there is *nothing* special about the 96th percentile. It’s simply an arbitrary cutoff. Proponents of the status quo would argue that you have to draw the proverbial line somewhere, and that the act of “line drawing” is not unethical.

Is there any evidence that a child at the 95th, 92nd, or 90th percentile on mental ability would be unable to keep up with the “top 4%ers” in the advanced educational services that (should) follow identification? If we had evidence that a cut score at the 96th percentile actually *does* discriminate between those who can and those who cannot succeed in an advanced educational program, then perhaps that cutoff would be justified. But such evidence does not exist. So a cutoff-based system that sorts children into the gifted and nongifted without sufficient thought and/or evidence for the creation of the cutoff appears to bestow a desirable label on some students but not others. This practice cannot be defended convincingly, and it only reinforces the image that gifted education is an optional luxury. Instead, cutoffs or identification criteria should be based on the demands

of the programming or intervention. We will address this topic in depth in Chapters 3 and 9.

Why Do Gifted Students Get to Do Fun Activities While the Other Students Do Worksheets?

Another criticism addresses what children actually do in gifted education programs after they have been identified. There are two general classifications of service provided in gifted education: acceleration and enrichment. Academic acceleration involves moving through the typical curriculum at a faster rate, whereas enrichment involves more in-depth study of topics within the curriculum and/or the study of topics that are outside the regular curriculum. A vast amount of research has supported the effectiveness of acceleration (Colangelo, Assouline, & Gross, 2004), but there is much weaker evidence supporting the efficacy of enrichment (although to be fair, enrichment programs are much more difficult to evaluate). Nonetheless, programs such as resource rooms and differentiation in the regular classroom were the most common types of gifted education programming reported in the *State of the States* report (NAGC & CSDPG, 2011). Ironically, schools appear overwhelmingly to prefer offering enrichment-like services to acceleration, even though there is far stronger evidence supporting the practice of acceleration. Why is enrichment more popular than acceleration? Enrichment maintains the status quo, the chronological delivery of curriculum. Gifted children in an enrichment-only program follow the same timeline and pace through the curriculum as their nongifted peers. Often when schools have provided acceleration, due to inadequate coordination across grades and schools, students may rapidly advance through content in some subjects or grades only to slam into an administrative brick wall in a later grade, at which point it is all too common that they are required to repeat material that has already been mastered. This does not happen with enrichment. In short, acceleration is much more complex from a logistical and administrative standpoint. Because in many settings the dominant proportion of care, concern, and energy is expended on the effort of identifying children, the question of "identifying them for *what*" (see Chapter 2) too often becomes an afterthought, when it should in fact be the most important question under consideration.

One rationale for acceleration is that gifted students are capable of learning more rapidly than their peers (Davis, Rimm, & Siegle, 2011); therefore, they can master material with less instructional time and less practice. The rationale for enrichment stems from common conceptions of giftedness: (a) that the gifted have wide and intense interest in intellectual topics; (b) that the gifted possess a proclivity to make spontaneous connections across subjects and domains; and (c) that the gifted engage in higher order thinking skills and these skills can be honed through the enrichment process. We will return to this topic in depth in Chapter 6.

The term *enrichment* encompasses a wide variety of programming. However, generally, enrichment entails the coverage of topics not usually encountered in the usual curriculum, frequently through individualized or small-group instruction or independent study, and often involving open-ended projects leading to products or performances (Davis et al., 2011). Often, these projects allow the exercise of creativity in ways that are rarely available in the usual curriculum, with its prescribed learning goals and state-mandated assessments. For most students, enrichment activities are far more enjoyable than “business as usual” instruction. For these reasons, enrichment is a hallmark of many gifted education programs. However using enrichment as the core of a gifted education program is potentially problematic: Although gifted students are likely to benefit from an enriched curriculum, there is no evidence that *only* gifted children benefit from enriched curriculum. Most, if not all, children would prefer to be involved in enrichment activities instead of the endless drill and practice of basic skills that characterizes so much of contemporary American education. If enrichment is to have a place in a program of advanced academics (and we believe that it should!), the program should be designed such that not all children can thrive in it due to its challenging demands. We will address this point in detail in Chapters 3 and 6. The perception that gifted students are allowed to have fun and be creative, while other students must endure monotony, undermines support for gifted education.

One might suspect that a central reason for the dominance of enrichment as gifted education programming is simply because of its convenience to the school and district, which does not have to engage in the troublesome coordination of effort required for integrated and meaningful acceleration opportunities or for focusing more attention on the match between student need/readiness and the curriculum. Also, acceleration typically requires a larger commitment to “dosage”—the amount of time

and energy devoted to the intervention by the school—than does enrichment; enrichment frequently is implemented with small dosages of one hour per week or less (i.e., in pull-out or coteaching program models). One of the authors of this book actually participated in an enrichment program that was comprised of two afterschool trivia competitions each semester in middle school and a single field trip each year in high school. In short, schools frequently default to enrichment because it is easy and convenient for them to implement; it often doesn't involve specialized training, students enjoy their time in the program, and parents are happy because the school has recognized their child's giftedness and is appearing to be responsive to their child's needs. There's also little chance of harm to the child. These programs are not deemed ineffective because often there is no stated purpose or goal for the program, and there are no formal assessments or evaluations of the program's efficacy. With so little risk also comes little potential for reward.

The State of Gifted Education

How should we characterize the state of gifted education today? Only one word is sufficient: Gifted education is in *crisis*. Many schools currently do nothing for gifted students. Of the schools that do provide services, many end that "service" at identification. Well-articulated programs of reasonable dosage are the exception, not the rule. The best evidence we have today regarding the overall effectiveness of gifted education programs was provided in a recent study performed by Adelson, McCoach, and Gavin (2012). Using the most rigorous statistical techniques and a very large, nationally representative dataset (the Early Childhood Longitudinal Study), the researchers compared children in gifted education programs and matched children who did not participate in gifted education. The result? There was no difference in students' academic performance in math or reading whether they were in gifted programs or not. Two potential takeaway messages from this research are that current gifted education programming is not influencing academic achievement and/or that programming is so inconsistent that some programs work while others do not.

Similarly Bui, Craig, and Imberman (2011) performed a rigorously designed study to estimate academic effects of gifted education. There were no differences for those students identified as gifted versus those who

were very similar but were not identified in math or reading. There was an effect for science achievement, but there were no effects in other academic areas. Some proponents of gifted education argue that the effects of gifted education are not well measured by achievement tests. However, in the world of increasingly stringent standards and accountability, increased achievement at least must be considered. In the end, the status quo is not well-supported by current research.

What is gifted education without giftedness? Focusing on the delivery of advanced academics allows for the development of a model that is ~~less~~ fundamentally unfair, that responds to local needs with tailored and responsive programs, and is centered around what students *do* (behavior) rather than who they *are*. Gifted education without giftedness is called advanced academics.

Differentiating the Common Core State Standards for Gifted and Advanced Students

All differentiation is based on an understanding of the characteristics of gifted and high-potential students *and* the content standards within a domain. The new Common Core State Standards provide an opportunity for the field of gifted education to examine its practices and align them more fully to the 2010 NAGC Pre-K–Grade 12 Gifted Programming Standards for curriculum, instruction, and assessment. For example, similar to the NAGC Gifted Programming Standards, the CCSS emphasize problem solving (see Evidence-Based Practices 3.4.1–3.4.4, NAGC, 2010, p. 10, and Standards for Mathematical Practice 1, NGA & CCSSO, 2010a, p. 6). Because the Gifted Programming Standards in curriculum require educators to engage in two major tasks in curriculum planning—alignment to standards in the content areas and the development of a scope and sequence—using the CCSS is a natural point of departure. The effort must occur in vertical planning teams within districts and states in order to increase the likelihood of consistency and coherence in the process. There are three major strategies that may be employed to accomplish the task for gifted education:

- *Provide pathways with appropriate pacing of the CCSS for gifted learners.* Some of the CCSS address higher level skills and concepts that should receive focus throughout the years of schooling, such as a major emphasis on reasoning and sense-making. However, there are also discrete skills that may be clustered across grade levels and compressed around higher level skills and concepts for more efficient mastery by gifted students. Teachers might use preassessments in determining which students require more accelerated pacing. For example, within the CCSS domain of Measurement and Data, some students in first grade might be estimating lengths in standard units, while others might be solving problems involving measurement and estimation of liquid, volumes, and/or masses of objects (grade 3) or converting like measurement units within a given measurement system (grade 5).
- *Provide examples of differentiated task demands to address specific standards.* Standards like problem solving in mathematics lend themselves to differentiated interpretation through demonstrating what a typical learner on grade level might be able to do at a given stage of development versus what a gifted learner might be able to do. The differentiated examples should show greater complexity and creativity using a more advanced curriculum base. In mathematics, whereas typical learners might solve multistep word problems using a variety of models and strategies throughout grades K–12, gifted learners might pose and solve new, related problems of their own at an earlier stage of development. Other degrees of differentiation may take place by adding complexity to the task and using enrichment techniques that address student needs and district demographics, such as using mathematical equations and modeling to solve community problems.
- *Create interdisciplinary product demands to elevate learning for gifted students and to efficiently address multiple standards at once.* Because English language arts and mathematics

standards can be grouped together in application, much of the project work that gifted educators might already use could be revised to connect to the new CCSS and to show how multiple standards could be addressed across content areas. For example, research projects could be designed that address the research standard in English language arts and the data representation standard in mathematics by (a) delineating a product demand for research on an issue, (b) asking researchable questions that require quantitative approaches, (c) using multiple sources to answer them, (d) collecting data, (e) interpreting data (e.g., by creating a scatterplot and deciding if there is a line of best fit and describing the related variables), and then (f) representing findings in tables, graphs, and other visual displays that are explained in text and presented to an audience with implications for a plan of action. Such a project might be possible for the gifted learner at an earlier grade than for a typical learner.

To differentiate the Common Core State Standards for Mathematics, educators need to be aware of the eight Standards for Mathematical Practice and additional standards that should be considered for promising mathematics students before differentiating the curriculum. This section will address these needs and provide specific examples of differentiation that examine learning progressions in operations and algebraic thinking, fractions and the number system, geometry, and statistics and probability.

The Common Core State Standards for Mathematical Practice

When considering the implications of the CCSS for the development of mathematical talent, it is important to take into account the eight Standards for Mathematical Practice that educators should seek to develop in their students in addition to the individual mathematics content standards. These Standards

for Mathematical Practice are an integral part of the Common Core State Standards for Mathematics and are described in detail (NGA & CCSSO, 2010a, pp. 6–8). These build on the NCTM (2000) process standards of problem solving, reasoning and proof, communication, representation, and connections, and include the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up* (Kilpatrick, Swafford, & Findell, 2001): adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations, and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently, and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy). The eight Standards for Mathematical Practice for all students from kindergarten through college and careers are:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

It is important that students actively engage in these practices daily in their mathematics classes. Students need ongoing opportunities to experience the joy of investigating rich concepts in depth and applying mathematical reasoning and justification to a variety of scientific, engineering, and other problems.

In order to support mathematically advanced students and to develop students who have the expertise, perseverance, creativity, and willingness to take risks and recover from failure, which is necessary for them to become mathematics innovators, we propose that a ninth Standard for Mathematical Practice be added for

the development of promising mathematics students—a standard on mathematical creativity and innovation: *Solve problems in novel ways and pose new mathematical questions of interest to investigate.*

The characteristics of the new proposed standard would be that students are encouraged and supported in taking risks, embracing challenge, solving problems in a variety of ways, posing new mathematical questions of interest to investigate, and being passionate about mathematical investigations.

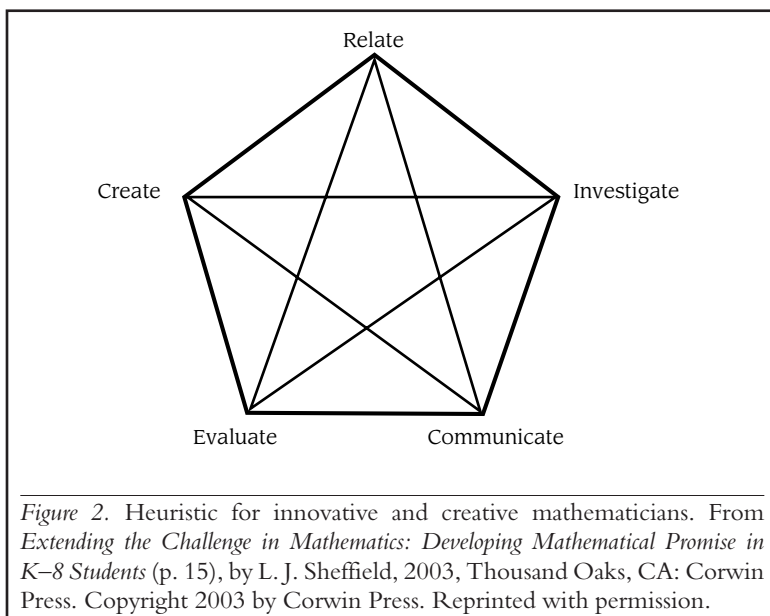
Developing Innovative and Creative Mathematicians

To aid in the development of passionate, innovative, and creative mathematicians, teachers might use a heuristic such as the one shown in Figure 2. Using this heuristic, students may start at any point on the diagram and proceed in any order. One possible order might be:

- Relate the problem to other problems that you have solved. How is this similar to other mathematical ideas that you have seen? How is it different?
- Investigate the problem. Think deeply and ask questions.
- Evaluate your findings. Did you answer the question? Does the answer make sense?
- Communicate your results. How can you best let others know what you have discovered?
- Create new questions to explore. What else would you like to find out about this topic? Start a new investigation.

To assist students in their creation of new mathematical insights, some suggested questions for creative mathematical investigations include the following (Sheffield, 2006):

- *Who?* Who has another solution? Who has another method? Who agrees or disagrees?
- *What or what if?* What patterns do I see in these data? What generalizations might I make from the patterns? What proof do I have? What are the chances? What is



the best answer, best method of solution, or best strategy to begin with? What if I change one or more parts of the problem? What new problems might I create?

- *When?* When does this work? When does this not work?
- *Where?* Where did that come from? Where should I start? Where might I go next? Where might I find additional information?
- *Why or why not?* Why does that work? If it does not work, why does it not work?
- *How?* How is this like other mathematical problems or patterns that I have seen? How does it differ? How does this relate to real-life situations or models? How many solutions are possible? How many ways might I to represent, simulate, model, or visualize these ideas? How many ways might I sort, organize, and present this information?

Even our best mathematics students are often not encouraged to be creative. Educators need to support them as they move from questions with one right answer to those that require reasoning and justification and to problems and explorations that have several solutions or related problems that will deepen and extend the concepts being learned. Educators need to remember that the real learning frequently begins after the original problem has been solved.

If educators wish for students to develop a deeper understanding of concepts and to become creative and investigative mathematicians, they should use criteria for assessment that encourage depth and creativity, such as those noted by Sheffield (2000):

- *Depth of understanding*: the extent to which core concepts are understood, explored, and developed.
- *Fluency*: the number of different correct answers, methods of solution, or new questions formulated.
- *Flexibility*: the number of different categories of answers, methods, or questions.
- *Originality*: solutions, methods, or questions that are unique and show insight.
- *Elaboration or elegance*: clarity and quality of expression of thinking, including charts, graphs, drawings, models, and words.
- *Generalizations*: patterns that are noted, hypothesized, and verified for larger categories.
- *Extensions*: related questions that are asked and explored, especially those involving why and what if.

The instructional pace is also a critical consideration in the education of gifted students in mathematics. Advanced learners may demonstrate rapid or early mastery of some of the mathematics standards, especially those involving skill at computation and mastery of algorithms, requiring accelerative opportunities at key stages of development. Appropriate pacing for these students, including accelerated courses, means that students have the

time and opportunity to delve deeply and creatively into topics, projects, and problems of interest. Therefore, it's important that advanced learners receive their instruction from well-prepared teachers who are knowledgeable regarding mathematics and strategies to use with advanced learners.

Teachers of the gifted should be mindful of the importance of providing problem-finding and problem-solving skills and strategies to stimulate mathematical and spatial reasoning and to work with a wide range of mathematical topics, such as number theory, geometry, and discrete mathematics. Early exposure to topics such as probability, statistics, and logic also are viable approaches to be used to support applied and cross-curricular skills, including conducting meaningful research in science and engineering. Extracurricular opportunities such as math clubs, circles, competitions, mentors, and online experiences should also be readily available without additional cost to students.

In encouraging these high levels of mathematical creativity and giftedness (Chapin, O'Connor, & Anderson, 2009), teachers should realize that the role of students is to:

- think, reason, make sense, and go deeper;
- talk to a partner and generate new ideas;
- repeat and rephrase what others have said and explain why they agree or disagree;
- make generalizations and justify conclusions;
- add on new ideas, new methods of solution, new questions, and original problems and related solutions;
- record solutions, reasoning, and questions;
- pose new mathematical questions of interest to investigate; and
- create innovative mathematical problems and solutions.

The role of the teacher is to:

- ask questions that encourage mathematical creativity, reasoning, and sense-making;
- elicit, engage, and challenge each student's thinking;
- listen carefully to students' ideas;

- ask students to clarify, justify, connect, and extend their ideas;
- assist students in attaching mathematical notation and language to their ideas;
- reflect on student understanding, differentiate instruction, and encourage participation; and
- guide students to resources, including those online, in print, and in person, such as mentors, apprenticeships, competitions, clubs, math circles, and other extracurricular opportunities.

Specific Examples for Differentiating Mathematics

The Standards for Mathematical Content appear in a variety of domains depending on the grade level. These are:

- Counting and Cardinality (K)
- Operations and Algebraic Thinking (K–5)
- Number and Operations in Base Ten (K–5)
- Measurement and Data (K–5)
- Geometry (K–HS)
- Number and Operations–Fractions (3–5)
- Ratios and Proportional Relationships (6–7)
- The Number System (6–8)
- Expressions and Equations (6–8)
- Statistics and Probability (6–HS)
- Functions (8–HS)
- Number and Quantity (HS)
- Algebra (HS)
- Modeling (HS)

The following pages offer examples of activities that use the eight Standards for Mathematical Practice and support the implementation of the Common Core State Standards for Mathematics. The advanced activities also make use of the proposed ninth Standard for Mathematical Practice on mathematical

creativity and innovation. (Options for mathematical creativity are italicized.)

The sample activities were designed to give exemplars in a variety of areas including number and operations, algebraic thinking, geometry, and data and statistics. Sample activities are given for primary, intermediate, middle, and high school standards. Each activity begins with a selected task, gives a variety of questions for both typical and advanced learners, and describes suggestions for implementation that include ideas for different types of formative and summative assessment. Note that sometimes the initial problem is the same for both typical and advanced learners, and questions and formative assessments are used to differentiate and develop mathematical creativity and giftedness.

Formative assessment in these activities includes the use of pretests, differentiation of tasks and questions to assess during the problem-solving process, observation and analysis of student work, portfolios, and authentic cross-disciplinary tasks and research.

Rethinking Giftedness Film

We decided to work with Citizen Film to make this short film after many years of my being a professor at Stanford and hearing from students about the labels they had received growing up. Many of the students had been labelled as “gifted” or “smart,” when they were in school, and these labels, intended to be positive, had given them learning challenges later in life. Most people realize that it is harmful to not be labelled as gifted when others are. The labelling of some students sends negative messages about potential, that are out of synch with important knowledge of neuroplasticity showing that everyone’s brains can grow and change. But few people realize that those labels are damaging for those who receive them too. At Stanford many students were labelled as gifted in Kindergarten or 1st grade and received special

advantages from that point on, raising many questions about equity in schools. But labels and ideas of smartness and giftedness carry with them fixed ideas about ability, suggesting to students that they are born with a gift or a special brain. When students are led to believe they are gifted, or they have a “math brain” or they are “smart” and later struggle, that struggle is absolutely devastating. Students who grow up thinking that they have a special brain often drop out of STEM subjects when they struggle. At that time students start to believe they were not, after all, gifted, or that the gift has “run out” as one of the students in our film reflects.

In the film, which I really recommend that you watch, we also hear from students from a local elementary school who shared their experiences of learning without labels. Their school does not give students the idea that some students are smart or gifted and has instead shared our youcubed messages and videos about the high potential of all students to grow and change their brains. Their math community values all kinds of learners and communicates that all students have interesting and unique ideas to share. The teachers know that careful problem-solving takes time, conversation, and lots of questions from everyone. The fourth graders who are interviewed illustrate the different ideas students can develop when they are given messages of brain growth and high academic potential for everyone, rather than messages of high academic potential for only some students.

Both labels and dichotomies are damaging in education. Instead of deciding some students are “smart” or “gifted” we should acknowledge that everyone is on a growth journey and we should celebrate the growth potential of all students. If you like this film and think it is important please share it on Facebook, twitter, and any other social media you use. We would like it to help bring about important changes in education.

-Jo Boaler



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