The Nitty Gritty of Accelerating Gifted Students

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Keys to Giftedness
### Special Education Services Compared to Gifted Education Services

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<th>Special Education</th>
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Types of Acceleration: Dimensions and Issues

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Abstract

Acceleration allows academically talented students to move ahead through the curriculum at a pace commensurate with their abilities. “Acceleration” is a term that encompasses many different educational options, including early entrance to kindergarten, moving up a grade for math, concurrent enrollment in middle school and high school, or entering college early. It typically results in the student completing curriculum at a younger age than most students. The authors describe 20 different types of accelerative options, as well as the dimensions of acceleration. Issues in implementing one or more acceleration interventions, such as unintended consequences, pacing, curricular decisions, and costs are also considered.

1 An earlier version of this chapter appeared in V.II of A Nation Deceived: How Schools Hold Back America’s Brightest Students (Colangelo, Assouline, & Gross, 2004). This revision of the original chapter was completed by the editors of A Nation Empowered.

Introduction

Pressey’s (1949) definition describes acceleration as “progress through an educational program at rates faster or at ages younger than conventional” (p. 2). According to that definition, Southern, Jones, and Stanley (1993) identified 17 educational types of accelerative options. In this chapter, we discuss those 17 applications and three others. Specifically, entrance to school is now distinguished between early entrance to kindergarten and early entrance to first grade; also, we have included two other options outlined by Karen Rogers in this volume, International Baccalaureate and Accelerated/Honors High School, for a total of 20 options (see Table 1). The chapter also considers five dimensions of acceleration that characterize and may affect their availability to students who demonstrate academic precocity.

Types of Acceleration

1. Early Admission to Kindergarten: Students enter kindergarten prior to achieving the minimum age for school entry as set by district or state policy. The entry age specified varies greatly throughout the country and is generally stated in terms of birth date. For example, entry to kindergarten will be allowed for prospective students who will achieve the age of five years on or before September 30 of their entry year.

2. Early Admission to First Grade: This practice can result from either skipping kindergarten entirely or from moving a student from kindergarten into first grade in what would be the student’s first year of school.

3. Grade-Skipping: A student is considered to have grade skipped if he or she is given a grade-level placement ahead of chronological-age peers. Grade-skipping may be done at the beginning of or during the school year. Radical acceleration is any whole-grade acceleration that is two (Stanley, 1976) or more (Gross, 2004) years above the student’s grade based on chronological years.

4. Continuous Progress: The student is given content progressively as prior content is completed and mastered. The practice is accelerative when the student’s progress exceeds the performance of chronological peers in rate and level.

5. Self-Paced Instruction: With this option, the student proceeds through learning and instructional activities at a self-selected pace. Self-paced instruction is a sub-type of continuous progress acceleration. Self-paced instruction is distinguishable from the more general continuous progress in that the student has control over all pacing decisions. Most self-paced instructional opportunities are provided within a larger instructional plan or Individualized Education Plan (IEP) for the younger student.
6. Subject-Matter Acceleration/Partial Acceleration: Also known as content-based acceleration, this practice allows students to be placed in classes with older peers for a part of the day (or with materials from higher grade placements) in one or more content areas. Subject-matter acceleration may be accomplished by the student either physically moving to a higher-level class for instruction (e.g., a second-grade student going to a fifth-grade reading group) or using higher-level curricular or study materials while remaining in the original classroom. Subject-matter acceleration may also be accomplished outside of the general instructional schedule (e.g., summer school or after school) or by using higher-level instructional activities on a continuous progress basis without leaving the placement with chronological-age peers. Often content-based acceleration is accomplished by a whole class where the materials are deliberately advanced by one year. Honors classes at middle and early high school may choose to provide such advanced learning.

7. Combined Classes: While not in and of itself a practice designed for acceleration, in some instances (e.g., a fourth- and fifth-grade combined classroom), this placement can allow younger students to interact academically and socially with older peers. It may or may not result in an advanced grade placement later.

8. Curriculum Compacting: The curriculum is adjusted so the student’s instruction entails reduced amounts of introductory activities, drill, and practice. Instructional experiences may also be based on relatively fewer instructional objectives compared to the general curriculum. The time saved may be used for more advanced content instruction or to participate in enrichment activities. Instructional goals should be selected on the basis of careful analyses for their roles in the content and hierarchies of curricula. The parsing of activities and goals should be based on pre-instructional assessment. Often the pre-assessment is accomplished through individual unit testing, followed by advanced activities for students who score near the ceiling.

9. Telescoping Curriculum: The student is provided instruction that entails less time than is normal (e.g., completing a one-year course in one semester, or three years of middle school in two years). Telescoping differs from curriculum compacting in that it involves larger chunks of time for the act of acceleration and the resulting time saved from telescoping always results in advanced grade placement. It is planned to fit a precise time schedule. Curriculum compacting, on the other hand, does not necessarily advance grade placement.

10. Mentoring/Tutoring: A student is paired with a mentor or expert tutor who provides advanced or more rapid pacing of instruction. The student may or may not receive credit for advanced work with a mentor.

11. Extracurricular Programs: Students elect to enroll in coursework, after school programs, or summer programs that confer advanced instruction and/or credit. Talent search programs are a good example of an extracurricular program offering accelerated classes during the summer. Most of these classes employ fast-paced learning and are content-based (Olszewski-Kubilius, this volume).

12. Distance Learning Courses: The student enrolls in coursework offered by an outside-of-school organization. Traditionally called correspondence courses and offered by mail, courses are increasingly offered online by a number of university-based and for-profit entities. The student may work on the computer at home or during school time. Local teachers are not responsible for instruction, although they may be responsible for supervising the students while they are working on the computer and are often responsible for assigning grades and assuring credit. Parents often pay for these courses, and the typical goal is for the student to earn advanced credit for the work completed.

13. Concurrent/Dual Enrollment: The student takes a course at one level and receives concurrent credit for a parallel course at a higher level (e.g., taking algebra at the middle...
school level and receiving credit at both the middle school and the high school level). Another example of dual enrollment courses is provided by a College in High School program, where a high school student takes a class taught by a high school teacher who has been specially selected and trained by a local college or university; college credit is awarded to the student upon successful completion of the course. This option is most often used to compress high school and college coursework.

14. Advanced Placement (AP™): The student takes a course (usually while in high school) that may confer college credit or placement upon successful completion of a standardized examination (e.g., achieving a three or higher on a scale of one to five). High school teachers receive specialized training before teaching AP courses. Students may take an AP examination without first taking the AP course at whatever age they wish as long as prerequisites have been met for math and science courses.

15. International Baccalaureate: Schools are authorized by the International Baccalaureate (IB) program (see http://www.ibo.org/) to offer a specialized educational program. Students who successfully complete an IB high school diploma may receive advanced standing at selected universities worldwide if they perform well on the IB exams. Students may also select key courses for IB credit at some schools.

16. Accelerated/Honors High School or Residential High School on a College Campus: Students attend a selective high school program designed specifically for gifted students, which may be provided as a residential program on a college campus or as a Governor’s School. Both day schools like Thomas Jefferson High School in Alexandria, Virginia and residential schools such as The Illinois Mathematics and Science Academy offer advanced coursework that is often correlated to college level work, mentorships with scientists, and internships at national labs. Students may complete requirements for high school graduation at the same time as they complete college courses. The Texas Academy of Math and Science (https://tams.unt.edu/) is an example. Students enter after their sophomore year of high school; at the end of the two-year program, students have completed two years of college in addition to earning their high school diploma.

17. Credit by Examination: The student is awarded advanced standing credit (e.g., in high school or college) by successfully completing some form of mastery test or activity. The College Board’s CLEP tests (see http://clep.collegeboard.org/exam) are an example of a national program available to students to earn college credit by examination. Students typically have mastered material through independent study or internship experiences and the tests document their level of mastery.

18. Early Entrance into Middle School, High School, or College: The student is provided an advanced level of instruction at least one year ahead of normal. This may be achieved with the employment of other accelerative techniques such as talent search classes for which they receive credit, dual enrollment and credit by examination, or by determination of teachers and administrators.

19. Early Graduation from High School or College: The student graduates from high school or college in three-and-a-half years or less. Generally, this is accomplished by increasing the amount of coursework undertaken each year in high school or college, but it may also be accomplished through dual/concurrent enrollment (see above) or extracurricular and distance learning coursework.

20. Acceleration in College: The student completes two or more majors in a total of four years and/or earns an advanced degree along with or in lieu of a bachelor’s degree.

**Dimensions of Acceleration**

Despite conceptual distinctions that have been drawn, the practices of acceleration also overlap. For example, a mentor (see #10) may provide advanced instruction on a continuous progress basis (see #4). The mentor may function as an instructor, as a facilitator, or as a monitor of progress. On the other hand, even a cursory look at the list shows a variety of acceleration practices. There are several dimensions along which accelerative options differ. The five dimensions are: pacing, salience, peers, access, and timing (see Table 2).

**Pacing**

The pacing or rate of instruction defines acceleration, and it is along this dimension that acceleration practices diverge. Some of the practices cited in Table 1 do not represent differential curriculum pacing. For instance, credit by examination and acceleration in college are not necessarily differential pacing; rather, they are forms of administrative recognition of a student’s past achievement. In fact, Southern and Jones (1991) have noted that, given the resistance to acceleration by parents and practitioners, even the forms of acceleration

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*This form of acceleration did not appear in the original Southern and Jones chapter. It was added by the editors of A Nation Empowered.*

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## Right Diagnostic Tool Resources

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<th>Question</th>
<th>Data Resources</th>
<th>Human Resources</th>
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<td>How do I know in which subject areas the student is advanced?</td>
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<td>How do I assess the student’s mastery level by subject area?</td>
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<td>How do I ensure the student isn’t limited by a test ceiling?</td>
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<td>How do I gauge the student’s ability to manage an acceleration?</td>
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<td>- Peer relations</td>
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<td>- Different schedule/multiple classrooms</td>
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<td>- Perseverance</td>
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<td>- Family dynamics</td>
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Jamall

Math specialist at elementary school noticed he was exceptionally good at math. She pulled him a few times to determine the best way to add challenge for him within his 2nd grade classroom. She found it difficult to find mathematical concepts that were challenging. She contacted the district’s gifted and talented office for support. His teachers report that he is easy going and gets along well with other students. His mother is employed by the medical center in a lab. He has no older siblings. His younger sister is an infant. Jamall was given a number of tests in the summer between 2nd and 3rd grades to determine his level of mastery.

Algebra I End of Course exam = 82.5%

3rd grade end of year science assessment = 88%

4th grade end of year science assessment = 92%

3rd grade end of year reading assessment = 96%

3rd grade end of year social studies assessment = 87%

WISC IV Verbal Comprehension Index 127, Perceptual Reasoning Index 134, Full Scale IQ 132

Based on this data, what is the best educational plan for him next year in 3rd grade? What might his long term course schedule contain between next year and graduation?
Marcus

Marcus’s parents have spoken with his teachers and his assistant principal many times. He is identified as gifted and talented in all subject areas. While he enjoys school, he regularly asks for more challenging work. His 4th grade teacher has been working with the 5th grade math teacher to access higher level math for him. He is a native English speaker who participates in the Dual Language program and has since kindergarten. His teachers in all subject areas believe he is a good candidate for grade skipping. His brother is a year older, and he would skip into his brother’s grade. However, his parents have discussed the possibility with both boys and they seem open to it. They would request they be in separate classes.

CogAT Verbal 109, Quantitative 123, NonVerbal 107

Reynolds Intellectual Assessment Scales Verbal Index 126, Nonverbal Index 127, Composite (IQ) 129

Aprenda (Spanish achievement test) Reading 92nd percentile, Math 99th percentile

Reading level in English = 8th grade

Reading level in Spanish = 6th grade

Social studies grades on report card = 97

5th grade end of year math assessment = 85%

6th grade end of year math assessment = 54%

Based on this data, what is the best educational plan for him next year in 5th grade? What might his long term course schedule contain between next year and graduation?
Tara

Tara’s parents have felt she needed more challenge in school for years. She has been a leader among her classmates and gets along well with most people. Now that she is entering 7th grade, her parents would like the school to considering ensuring she is growing in all curricular areas. They are concerned about school continuing to be too easy for her, despite her participating in the gifted and talented program. At home they’ve purchased access to an online mathematics program that Tara seems to enjoy. They’ve heard about the benefits of acceleration and are now ready to act on it. Tara seems to like school and has not complained to the teacher of boredom or lack of challenge. Because of the parent’s persistence, the school decided to test her in the summer before 7th grade.

CogAT Verbal 134, Quantitative 133, NonVerbal 134
Reynolds Intellectual Assessment Scales Verbal Index 132, Nonverbal Index 130, Composite (IQ) 131
Reading level = 8th grade
7th grade end of year math assessment = 95%
8th grade end of year math assessment = 94%
Algebra I end of course assessment = 52%

Based on this data, what is the best educational plan for her next year in 7th grade? What might her long term course schedule contain between next year and graduation?
McKenzie

McKenzie has had a very rough 3rd grade year. She has been bullied at school by another gifted and talented student. It has been much worse in some classrooms than in others. School officials finally intervened and moved the other student into a different classroom. During this time, McKenzie’s grades and classroom performance were reviewed. She was doing extremely well and teachers reported difficulty challenging her. Her math scores are her strongest, but she has good skills in all areas. Her teachers feel she is quite mature.

CogAT Verbal 149, Quantitative 150, NonVerbal 150

Reynolds Intellectual Assessment Scales Verbal Index 154, Nonverbal Index 148, Composite (IQ) 153

Reading level in English = 6th grade

4th grade end of year math assessment = 98%

5th grade end of year math assessment = 66%

Based on this data, what is the best educational plan for her next year in 4th grade? What might her long term course schedule contain between next year and graduation?
## Acceleration Strategies – Navigating Roadblocks

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<th>Ideas for addressing the roadblocks</th>
<th>Next steps</th>
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<tr>
<td>Single subject acceleration</td>
<td>Problems at transition years</td>
<td>Bus to next school</td>
<td>Form committee of principals at each building level, testing coordinator, teacher at each level to develop policy and step-by-step practice</td>
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<td>Determining who needs it</td>
<td>Teacher come over</td>
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<td>Part time tutor</td>
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<td>Online course</td>
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<td>Transfer to school where can walk to next building</td>
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<td>Run out of courses in HS</td>
<td>Do beginning of year assessment at all grade levels</td>
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<td>Train teachers to look for it</td>
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<td>Base on end of year state testing to enter pool</td>
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<td>Clear qualifying standards &amp; clear messages about how challenge students</td>
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<td>Graduate early</td>
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<td>Extra electives</td>
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<td>Part day at community college</td>
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<td></td>
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<td>Online courses</td>
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<td>Part time higher level teacher</td>
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Resources & Research

- [www.acclerationinstitute.org](http://www.acclerationinstitute.org) (Acceleration Institute at University of Iowa; *A Nation Deceived & A Nation Empowered*)

- [Top 1 in 10,000: A 10-Year Follow Up of the Profoundly Gifted](http://www.hoagiesgifted.org/acceleration.htm) (Study of Mathematically Precocious Youth at Vanderbilt)

- [When Less Is More: Effects of Grade Skipping on Adult STEM Productivity Among Mathematically Precocious Adolescents](http://www.hoagiesgifted.org/acceleration.htm) (SMPY at Vanderbilt)

- [http://www.hoagiesgifted.org/acceleration.htm](http://www.hoagiesgifted.org/acceleration.htm)