National Center for Research on Gifted Education (NCRGE) Brief on Gifted Education Curriculum and Gifted Achievement Growth of Gifted Students in Three States

Executive Summary

- In a three state study of gifted education curriculum, we find a limited use of a gifted mathematics and language arts curriculum for gifted students.
- School gifted coordinators report that school gifted programs focus more on critical thinking skills and creative thinking skills than on accelerated instruction in mathematics and language arts, based on a ranking of 26 different potential curriculum foci.
- We find that gifted students start 3rd grade with academic achievement that is about two grade levels above the academic level of non-gifted students. However, gifted students have slower academic growth between 3rd grade and 5th grade than non-gifted students

In this research, we ask school and district gifted coordinators in three states to report on the gifted curriculum in their schools. We also use state administrative data to examine the achievement growth from 3rd to 5th grade for gifted and non-gifted students

Methods and Data

This memo presents selected findings from a larger study conducted by the National Center for Research on Gifted Education. The Center conducted an exploratory study of gifted programs in three states by collecting data from four sources: a) state data on student achievement (*n*=362,254 students who were in grade 5 in 2014), b) district (*n*=332) and school (*n*=2,250) surveys about services these students received.

State Selection

We selected three states based on the following criteria: (a) mandated identification and services for gifted students, (b) availability of vertically scaled longitudinal state data on student achievement, (c) emphasis on involving higher numbers of underrepresented students with gifted program services, and (d) the willingness of state department gifted specialist to work collaboratively.

Surveys

Between April 2015 and February 2017, we administered surveys to districts and schools in three states mandated to identify and serve gifted students. The district and school surveys were designed to extract current information about effective identification and programming practices in three states. With these surveys, we sought to determine whether key components distinguish districts and schools in which gifted students achieved higher reading or math growth, both across the general population of gifted students and specifically with students from traditionally underserved groups. The *District Level Survey* was sent to all district administrators with responsibility for gifted education, and the *School Level Survey* was administered to every public school containing a fifth-grade class. These surveys included questions about policies, procedures, and assessments used to identify students for gifted services, as well as a range of programming details, such as content and curricula, instructional approaches used, timing and location, duration and intensity, and staff qualifications and training. Overall, 304 districts

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across the three states completed the district survey and 2,293 schools across the three states completed school surveys. Response rates for the district survey ranged from 82.8% to 88.7%. Response rates for the school survey ranged from 48.6% to 73.5%.

Achievement data

The National Center for Research on Gifted Education also gathered longitudinal student-level academic achievement data for all of the 2011-12 3rd-grade cohort from three states. We gathered longitudinal data from these students from 3rd, 4th, and 5th grades on identification as gifted, FRPL status, EL status, race/ethnicity, math achievement and reading achievement for three academic years from 2011/12, 12/13, and 13/14.

Findings

Overall, gifted identification and selection practices across the three states focus on cognitive ability and/or academics (such as reading, math). However, gifted program practices do not seem to align with this focus. Schools overwhelmingly report using pull-out programs for gifted students, and schools and districts generally do not use a curriculum to guide gifted program activities. Even for those schools that offer a separate curriculum for gifted students, the focus of that curriculum tends to be on process skills, such as thinking skills, creativity, and metacognitive skills. Fewer schools report focusing on advanced academics such as above grade level math or reading/ELA content. Most schools report that students identified as gifted in reading/ELA or math tend to spend 5 hours or more in general education reading/ELA or math classrooms. Further, the content of the gifted programs and classes appears to depend on the teachers of the gifted: most schools and districts report that teachers have "a lot" or "complete" autonomy in selecting content for gifted students. It appears that students in the gifted programs in the three states we studied tend to spend relatively little time in gifted programs, have limited exposure to above grade level academic curriculum in reading/ELA and math, and are likely to participate in part-time pull-out programs.

Is there a gifted curriculum in mathematics or language arts?

We asked respondents whether there is a gifted curriculum in mathematics or language arts that is separate from regular mathematics or language arts curriculum. Among the nearly 2000 schools that responded in the 3 states, only 24% said that there was a separate mathematics curriculum and only 29% said that there was a s separate language arts curriculum (see Figure 1).

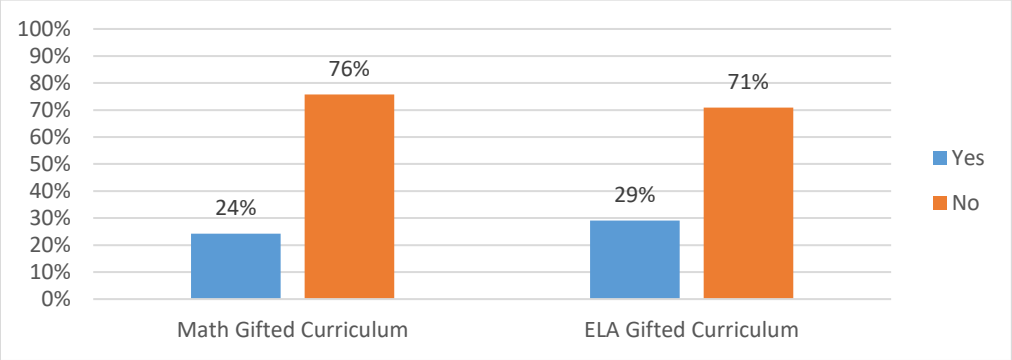

Figure 1. Is the gifted curriculum separate from the regular curricula offered?

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The focus of gifted curricula

In our school level survey, we asked respondents about the focus of gifted programming in their school (see figure 2). We asked respondents to "indicate the degree to which the gifted programming at your school focuses on the following goals and/or activities. (0=*Not a focus*, 100=*Complete focus*)."

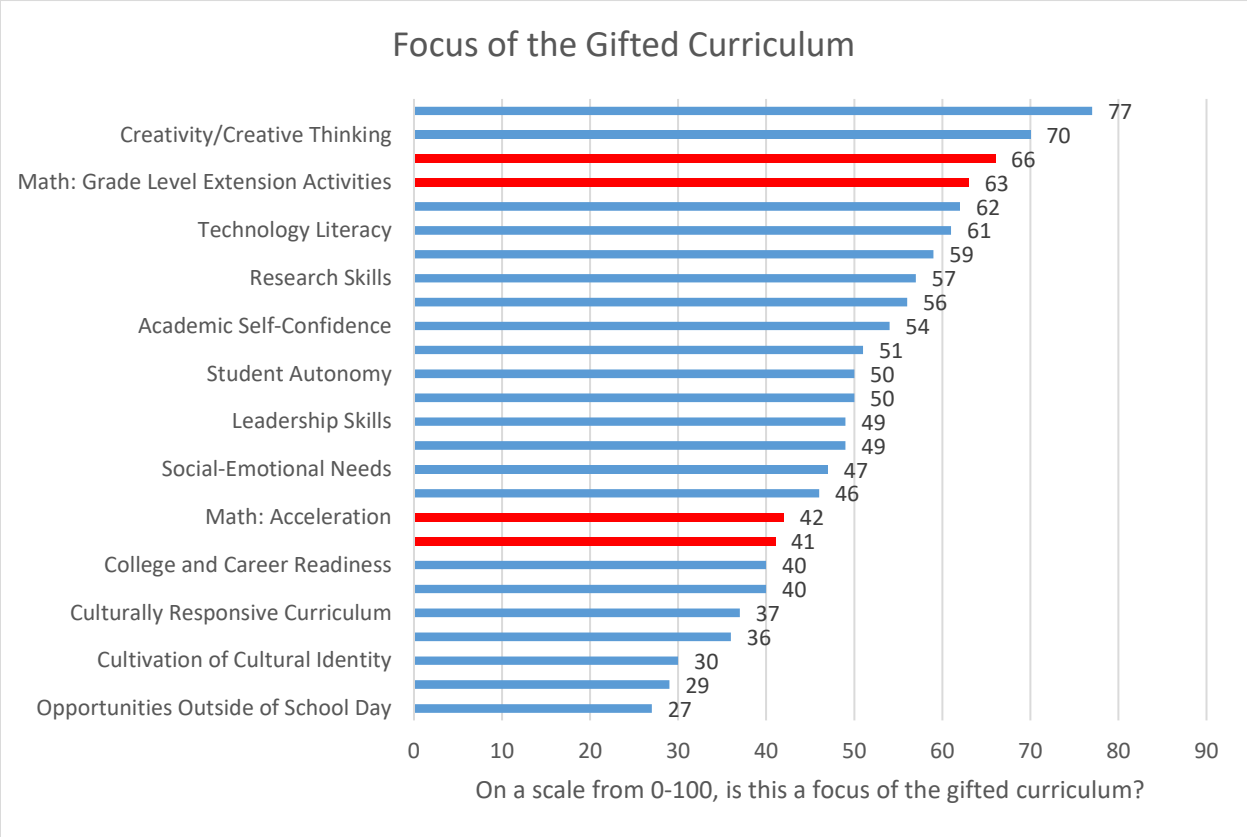

Figure 2. Focus of gifted program curriculum.

Across all three states, critical thinking and creativity skills stood out as a common focus, followed by extension activities. There was much less of a focus on math and reading/ELA acceleration. We also examined these responses based on a person mean centering of all 26 questions to overcome the observed non-normality in the set of items for the school survey (not shown). This additional analyses found an order that was almost identical to the uncentered means shown figure 2 and table 2.

Table 2
Focus of Gifted Program Curriculum

	Mean	*SD*
5. Critical Thinking Skills	77.17	27.146
4. Creativity/Creative Thinking	69.46	29.818
9. ELA: Grade Level Extension Activities	65.91	30.509
8. Math: Grade Level Extension Activities	62.99	31.444

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	Mean	*SD*
3. Communication Skills	62.27	30.583
7. Technology Literacy	61.09	31.194
6. Metacognitive Skills	59.03	31.723
2. Research Skills	57.27	31.246
24. Academic Motivation	56.31	34.736
23. Academic Self-Confidence	53.90	35.092
25. Student Autonomy	51.00	35.031
1. Writing Skills	50.90	32.226
10. Enrichment in non-core content areas	50.55	34.081
14. Self-directed projects	49.57	32.901
18. Leadership Skills	48.63	33.893
22. Social-Emotional Needs	47.37	34.783
13. Interdisciplinary study of big ideas	45.66	34.675
12. Math: Acceleration	42.05	36.725
11. ELA: Acceleration	41.12	36.868
26. Opportunities for Underserved Students	40.18	34.810
17. College and Career Readiness	39.89	36.819
20. Culturally Responsive Curriculum	37.12	33.580
15. Academic Contests	36.49	32.961
21. Cultivation of Cultural Identity	29.53	32.550
19. Service Learning	28.61	31.380
16. Opportunities Outside of School Day	26.95	30.582

(Notes: *SD* = Standard Deviation)

Achievement growth of gifted and non-gifted students

With respect to academic growth, we find that among the three states studied gifted students start about two grade levels higher than non-gifted students at 3rd grade but their academic achievement grows more slowly than non-gifted students from 3rd to 5th grade (see figure 3). We also find that students who are identified as gifted have higher academic achievement growth than high achieving non-gifted students (i.e., non-gifted students whose 3rd grade achievement scores are above the gifted 3rd grade median in a given subject area).

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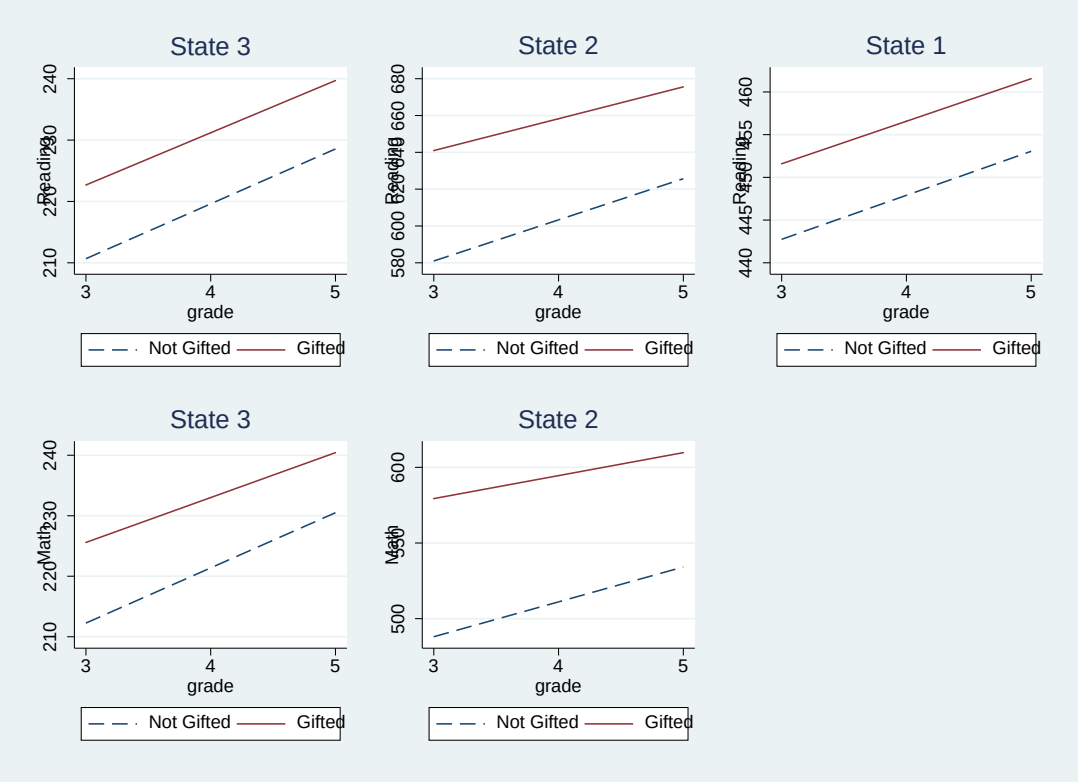

Figure 3. Growth of Reading and Math Achievement for Gifted and Non-gifted Students in the Three States.

Notes: These are predicted growth curves from a four-level models of time, student, school, and school district levels. These models control for race/ethnicity, SES, EL status at the student, school, and district levels and average achievement and average % gifted at the school and district levels. The above graphs show the predicted growth for White, non-FRPL, and non-EL students. (All intercepts and slopes are statistically significant at the .01 level.)

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