Review of Arlington Heights School District 25 Advanced Learning Opportunities and Procedures

By

Partners in Advanced Education, Inc.

Final Report

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Partners in Advanced Education, Inc. (PIAE) is a professional consulting company that supports state governments, educational groups, and school district constituencies in data-driven decision making in education. We work with organizations to research existing policies and practices and then provide recommendations for improvement based on stakeholder goals and objectives. Underlying our work is an emphasis on data use, equity, and resource efficiency, with the primary outcome being an improved educational experience for children.

This work was carried out by Scott J. Peters, Ph.D. Dr. Peters received his Ph.D. from Purdue University specializing in gifted and talented education and applied research methodology. For 13yrs he was a Professor of Assessment and Research Methodology at the University of Wisconsin – Whitewater. He is now a Senior Research Scientist with NWEA. His research focuses on educational assessment, identification of student exceptionalities (particularly those from low-income or underrepresented groups) and gifted and talented programming outcomes. He has published in the *Australian Educational Researcher, AERA Open, Teaching for High Potential*, *Gifted Child Quarterly*, the *Journal of Advanced Academics*, *Gifted and Talented International, Gifted Children*, the *Journal of Career and Technical Education Research*, *Ed Leadership, Ed Week, Phi Delta Kappan*, and *Pedagogies*. He is the recipient of the Feldhusen Doctoral Fellowship in Gifted Education, the National Association for Gifted Children (NAGC) Research an Evaluation Network Dissertation Award, the NAGC Doctoral Student of the Year Award, the NAGC Early Scholar Award, the NAGC Paper of the Year Award, the NAGC Book of the Year Award, and the UW-Whitewater Innovation and Outstanding Research Awards. He has served as the Program Chair of the American Educational Research Association Research on Giftedness, Creativity, and Talent Special Interest Group, on the Board of Directors of the Wisconsin Association for Talented and Gifted, and as the National Association for Gifted Children Research and Evaluation Secretary.

Dr. Peters is the first author of *Beyond Gifted Education: Designing and Implementing Advanced Academic Programs* (2013) and *Designing Gifted Education Programs and Services: From Purpose to Implementation* (2017), both from Prufrock Press, and the co-author (along with Jonathan Plucker) of *Excellence Gaps in Education: Expanding Opportunities for Talented Students* (2016), published by Harvard Education Press.

Genesis and Goals of this Review

Arlington Heights School District 25 (SD 25) currently follows a set of processes and procedures created by a committee of building and district administration, staff, and community members. Starting in the 2016-2017 school year, work was done that involved research, collaboration with a consultant, and the formation of criteria allowed for best meeting the needs of advanced learners within the school district. Julie Luck Jensen, past president and board chair of the Illinois Association for Gifted Children, was consulted in developing the current practices. Since that time, as reflected by the district's Program Review Cycle structure, monitoring and refining, and research phases were conducted in the Department of Student Learning. Ellie Chin, then the Advanced Learning Coordinator of District 25, contacted PIAE in April of 2022 while engaging in research around improving the current model to learn about consulting options regarding equity and advanced learning options. In September 2022, Katie Paulson, in the role of Advanced Learning coordinator, finalized an agreement with PIAE to provide feedback on existing advanced learning opportunities, identification criteria, and how both could be improved. Specific deliverables, which are included in this report, were as follows:

<u>Provide written analysis of district data:</u>

- Include interpretations related to advanced learning needs (i.e., what the data points to as needed services)
- Includes strengths and weaknesses of existing identification criteria
- Includes strengths and weaknesses of alternative identification criteria
- To evaluate the degree to which existing advanced learning services are meeting existing needs (e.g., are pre fourth-grade services sufficient? Are middle school honors / advanced classes sufficient?)

<u>Provide written recommendations:</u>

- Including modeling of alternative identification criteria
- Regarding advanced courses and their respective placement criteria at the middle and elementary school level
- Regarding 8th Grade Algebra placement criteria[1]
- Including a scope of work related to curriculum and service content according to the program model recommendations.

[1] These recommendations are still being finalized and will be included in a separate document.

Executive Summary of Findings

Services

1. The average D25 students is approximately 20 percentile-rank points above the national average. For example, the average 3rd grader is at the 68th percentile in reading and the average 5th grader is at the 71st percentile in math. In quantitative reasoning, the average D25 student outscores approximately 80% of same-age peers nationally (see Table 1). In verbal reasoning this is closer to 62% or 79% depending on the grade.
2. Although the baseline district curriculum is accelerated beyond grade-level content, there is still evidence of students who are ready for even-more advanced content. For example, the top 5% of D25 1st graders outscore half of U.S. 3rd graders in reading or math. Similarly, approximately 5% of D25 3rd graders would receive all the achievement "points" on the Iowa Acceleration Scale (the most widely-used criteria to determine which students are ready for full-grade acceleration) and four-of-six "ability" points – likely making them strong candidates for full-grade acceleration. Even in a district with a high baseline, there are students who need more than is currently available.
3. Advanced learning services in D25 are almost exclusively focused on math in grades 4-8 and language arts in grades 6-8. Outside of these content areas and grades, the services provided are differentiation from the general classroom teacher or the collaboration of the student learning coaches and teachers to develop ways to specifically meet the learning needs of students.

Identification

1. The existing identification and placement process for Advanced Language Arts (ALA) and Advanced Math is very time consuming for staff and students. It also requires many students to sit for course placement tests.
2. For both Advanced Math and ALA, the screening and identification phases are poorly calibrated. Many students score high enough to take a placement test, but do not score high enough on either matrix (see below) to be served. Some students go through the process year after year and are never identified. This suggests a phase one that is too low or a phase two that is too high. Phase one is what determines which students take placement tests in either math or language arts, while phase two is what makes the determination of which students are placed in advanced math or language arts.
3. The placement tests by their design will be less reliable and insert more error into the process than do the MAP or CogAT data points, simply because they are open-ended and subjectively graded even when structured interrater reliability training is provided before scoring.
4. The basis for the point ranges on the advanced math or language arts matrices is not clear. For example, a 98th percentile (130) CogAT-V earns a student 2 points, but a 98th percentile MAP-Reading earns a student 4 points.
5. Multiple stakeholders and the data suggest there are students who are not being identified for ALA or Advanced Math and yet are underchallenged in the regular classroom.

Executive Summary of Recommendations

Services

1. If the district seeks to meet a wider-range of advanced learning needs, it could expand service options to include proactive use of subject- and full-grade acceleration. Not only are there students who, based on the data, would be good candidates for acceleration, but this option is required by the Illinois Accelerated Placement Act.
2. Due to the lack of services prior to grades 4 or 6, to expand services without additional resources or staffing, the district could consider expanding the use of cluster grouping in the primary and elementary grades. The result would be more students, including advanced learners, receiving more-personalized attention from their classroom teachers.
3. The district should reflect on the ALA curriculum and whether it should only be provided to those students who score in the top ~4% of the country (i.e. under the current criteria for ALA, students earn no points from CogAT or MAP unless they score at the 96th or 93rd percentile nationally. Even then those scores alone are not sufficient for a student to be identified). There are likely more students (i.e., those with lower scores) who would benefit from ALA.
4. The district should reflect on the Advanced Math curriculum and whether it should only be provided to those students who score in the top ~1% of the country (i.e. under the current criteria for Advanced Math, students earn no points from CogAT or MAP unless they score at the 99th or 93rd percentile nationally. Even those scores alone are not sufficient for a student to be identified). There are likely more students who would benefit from Advanced Math courses.

Identification

1. The identification process for both ALA and Advanced Math can be made simpler by removing the placement test and modified Renzulli rating scale components and instead making placement decisions using the universally collected MAP and CogAT data. There are some trade-offs to this (discussed below), but it's not evident that the extra student time, staff time, and potential bias inserted into identification decisions by the placement tests are worth the additional value they provide.
2. Even if the district retains the current identification criteria / rubrics, either the phase-one criteria (i.e., MAP scores) should be raised or the phase-two criteria (e.g., rubric points system) should be lowered to improve calibration (i.e., decrease the number of students who sit the placement tests but earn few points on the rubrics).
3. The district could consider moving to some type of alternative norm comparison for identification – either district, school, or some combination of national OR district or national OR school norms. The result would be a more-predictable service population size from year-to-year and school-to-school.

Data

The data on which many of these recommendations are based came from approximately 5100 students (K-8) from the 2021 – 2022 school year. Primarily, these data included MAP Growth scores in reading and math from Fall, Winter, and Spring administrations as well as Cognitive ability Test (CogAT) quantitative, verbal, and nonverbal subscale and composite scores. Much of the specific analyses for this report relied on data from 3rd and 5th grade students since Advanced Math services start in 4th grade (based on 3rd grade data) and ALA services start in 6th grade (based on 5th grade data). Table 1 presents descriptive statistics for these data points disaggregated by grade. Also included is the district's 90th percentile for each data point. These same data, disaggregated by race / ethnicity and free-or-reduced meal eligibility (FRL) are included in the appendix.

A second data source included four focus groups as follows:

- May 18th morning – parents and families,
- May 18th evening – parents and families,
- May 3rd – building administrators,
- May 10th – staff.

All four meetings were held virtually and focused on two guiding questions: 1) what did attendees feel was going well regarding advanced learning identification and services in District 25 and 2) where could things be improved? There was also an emphasis on what advanced learning needs were currently being met by existing services and what else could be offered to challenge a wider range of students. Themes and lessons learned from these meetings are incorporated throughout this report.

Table 1

MAP and CogAT Descriptive Statistics - Grades 3 and 5

	Grade	N	Missing	Mean	St. Dev.	Min	Max	90th
Spring RIT Reading	3	568	17	204	14.7	142	233	221
Spring RIT Reading	5	569	9	218	13.8	158	252	233
Spring RIT Math	3	569	16	207	13.6	145	248	222
Spring RIT Math	5	571	7	228	16.8	144	276	249
Verbal SAS	3	555	30	105	13.1	72	150	121
Verbal SAS	5	557	21	113	14.0	70	155	131
Quant SAS	3	551	34	112	14.7	69	149	131
Quant SAS	5	560	18	114	16.3	68	160	135
Nonverbal SAS	3	556	29	107	16.0	62	160	128
Nonverbal SAS	5	562	16	114	16.4	71	158	136

Notes: SAS = CogAT Standard Age Scores, which have a national mean of 100 and a standard deviation of 16. Separate scores are provided in verbal, quantitative, and nonverbal reasoning. N = number of students included in the analyses, mostly representing one grade-level of students. St. Dev. = standard deviation or a measure of how spread out the scores are within a given grade within the district. Larger "SDs" represent more-diverse or more-variable scores.

Figures 1 and 2 present MAP score distributions for spring 3rd grade math and 5th grade reading, respectively. For context, each figure includes in its title the D25 50th percentile score and the score associated with proficiency in Illinois.

Figure 1

Spring RIT Math – 3rd Grade (201 is 50th percentile, 209 is proficient)

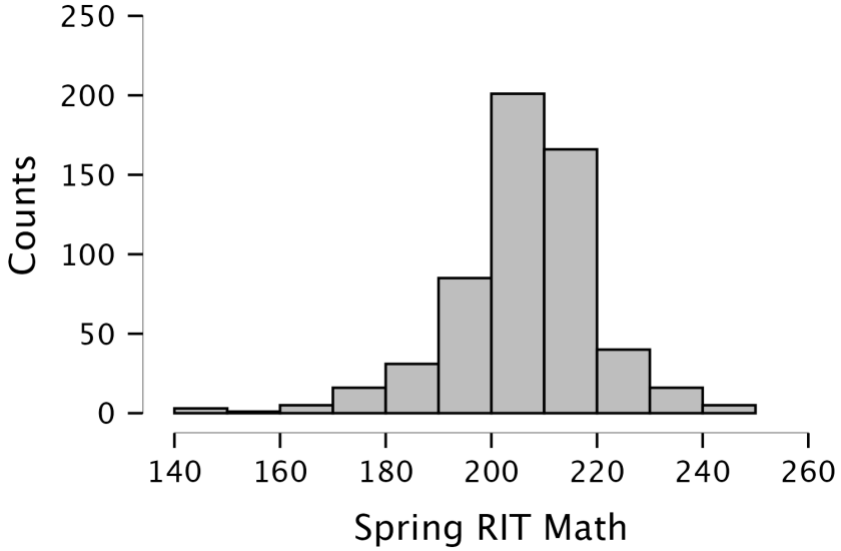


Figure 2

Spring RIT Reading – 5th Grade (211 is 50th percentile, 219 is proficient)

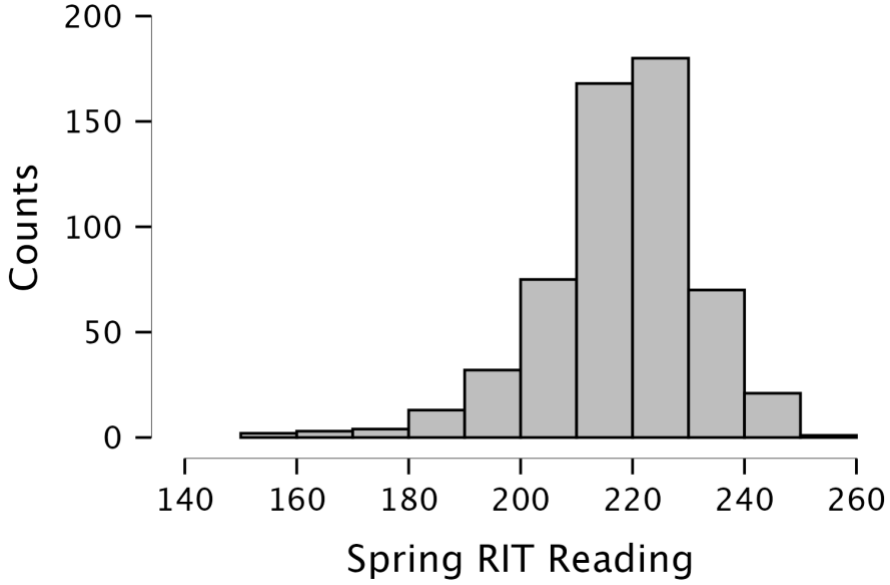


Figure 3 present CogAT quantitative scores for 3rd grade and Figure 4 presents CogAT Verbal scores for 5th grade. Nationally, the average score on both is 100 with a standard deviation of 16.

Figure 3

CogAT Quantitative SAS – 3rd Grade

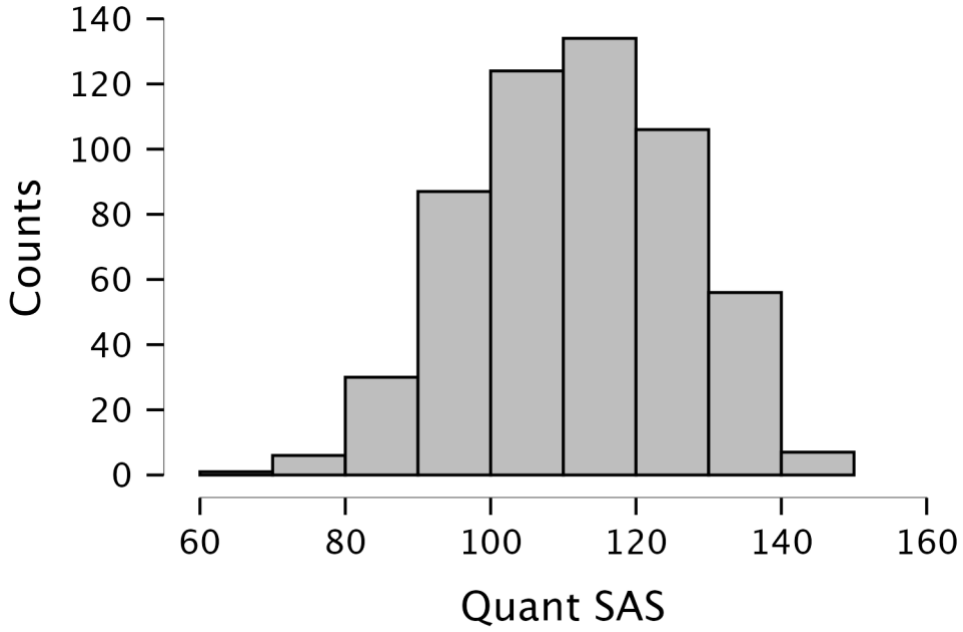
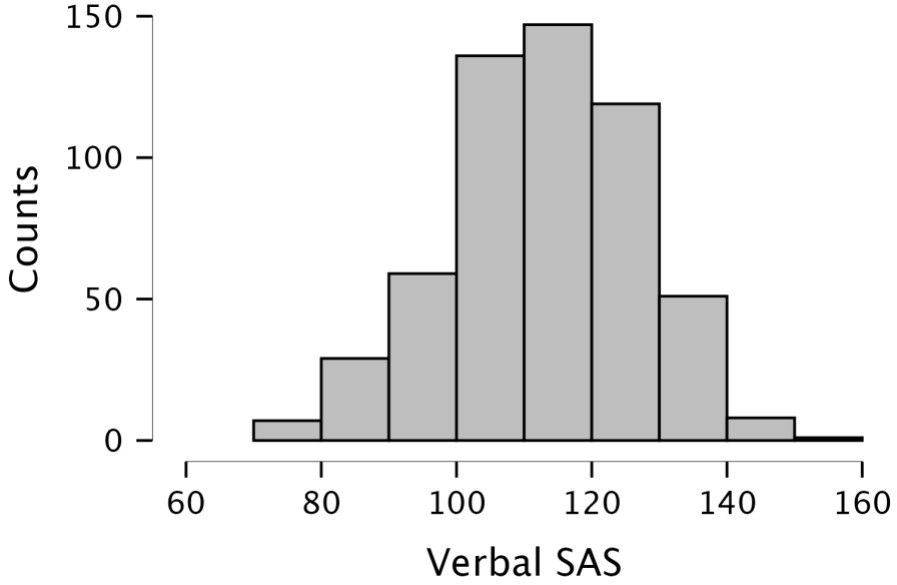


Figure 4

CogAT Verbal SAS – 5th Grade



Findings

Evidence of Advanced Learning Needs in District 25

As should be of no surprise, on average, students in District 25 are more advanced than the nation as a whole. For example, nationally, the average CogAT subscale score is 100. But in SD25, Table 1 shows the average score is anywhere from 5pts to 14pts higher (.32 to .75 standard deviation units). Standard deviation (sd) units are a common way to communicate average score differences between groups. For example, across all grades, CogAT-Q scores are .82sd higher and CogAT-V scores are .56sd higher than the national average. Although still subjective in interpretation, "effect sizes" / standard deviation unit differences are considered "large" if they are > 0.80, medium if they are > 0.50, or small if they are >0.20. The differences between District 25's CogAT scores and national averages would be considered medium to large.

Similarly, on MAP, SD25 3rd graders scored an average of 207 in math compared to the national median of 201. In 3rd grade math, the district's 50th percentile (208) is about the same as the nation's 68th percentile. In reading, SD25's 5th graders scored an average of 218 compared to a national median of 211. In 5th grade reading, the district's 50th percentile (220) is about the same as the nation's 71st percentile. For all intents and purposes, the district is, on average, about 20 percentile-rank points higher than the national average, both in measured ability and achievement. This is a somewhat easier way to understand how the district's population compares with the nation overall in terms of test scores.

Comparing SD25 to instructional standards is more complicated because every state has different standards and different state accountability tests that measure those standards (e.g., Illinois Assessment of Readiness). NWEA publishes linking studies that report what MAP Growth cut scores are associated with scoring proficient on IAR Reading and Math. For example, the MAP-M score at or above which students are likely to score proficient in math on the 3rd grade IAR for math is a 209. The related score for 4th grade proficiency is a 222. The MAP-R score at or above which students are likely to score proficient on the 5th grade IAR for ELA is 219. The related score for 6th grade proficiency is a 225. For context, Illinois has some of the highest cut scores for proficiency of any state.

When compared to Illinois's high standards for grade-level proficiency, roughly half of SD25 students are scoring "at grade level" at the end of the year. For example, the average 3rd grade spring math score is a 207 and the cut score associated with "grade level" is a 209. Again, while it might seem strange to consider advanced half of students scoring at grade level, this is more than is typical for Illinois or the nation overall. For some additional context, the average spring of 3rd grade math cut score across all states is a 202 – roughly 70% of SD25's students meet or exceed that score. In short, it's much easier to say how SD25's students are performing compared to other students (i.e. they outscore about 70% of students in math compared to national norms). It's much harder to say what percentage of SD25's students are ready for higher-level content because they have already mastered grade-level content.

Advanced Readers

So far the focus has been on average students in a grade. But it's also important to look at what the district's most-advanced students know and can do. Table 1 also presents the score associated with the top 10% of students in SD25. In 5th grade reading, the top 10% of students scored a 233 or higher. In Illinois, a 233 is higher than even 8th grade proficiency in reading,

though because these students take the 2-5 MAP test, comparing directly to middle school is harder. Still the top 10% of 6th grade students scored a 237, which suggests even on the 6+ MAP reading test the top 10% of students are scoring at these very high levels. And it's not just that SD25 has many high-scoring students. District students are very diverse in general in terms of their reading achievement scores. The middle 90% of 6th graders span approximately 50 MAP reading points. Again, for context, the entire range of proficiency cut scores on the linking study referenced above is only 36pts for grades 2 through 8. Although not quite this simple, SD25 students in 6th grade include those scoring proficient at 8th grade standards (or higher) and those scoring proficient according to third-grade standards. Hence the description as highly diverse in terms of reading achievement.

We also went back to 1st grade to examine advanced readers. In the fall of 1st grade, the top 10% of readers scored a 180 or higher. This is the 97th percentile nationally. The Illinois linking study above does not include proficiency cut scores for 1st grade, but the 2nd grade cut score for fall is 183, suggesting that even when compared to Illinois's high standards, the top 10% of 1st grade readers in SD25 are roughly one-year advanced. When compared to more-typical cut-scores nationally, the top 10% of D25 1st graders are closer to two grades ahead.

Advanced Math Students

In math, the highest-scoring 10% of students on the 3rd grade CogAT-Q battery scored a 135 or higher. Fewer than 1% of students score a 135 nationally and yet 10% of SD25's 3rd grade students do so. In the spring of 3rd grade, the top 10% of students scored a 222 or higher on MAP-M. This represents the 93rd percentile nationally and is also the cut score associated with spring of 4th grade proficiency. When compared to Illinois's high standards, the top 10% of students are roughly one-year advanced. When compared to the average cut scores for all states, SD25 3rd graders are roughly two years advanced (median proficiency cut score for 5th grade is 224).

Again, we returned to district 1st graders to examine advanced performance. In the fall of 1st grade, the cut score for the top 10% was a 182 or the 96th percentile nationally. It's also worth flagging that the highest-scoring 1st grader in math scored a 215 in the fall of 1st grade – roughly the same as the 50th percentile for American 6th graders. This suggests that there are students for whom no differentiation of grade-level content or even subject-acceleration will be sufficient.

Summary

What does all this mean? SD25's students are not only very advanced, but they're also very diverse in terms of MAP and CogAT scores. This is shown in Figures 1-4. Although SD25 does have more advanced students than an average district, it still has lower-scoring students as well. Despite a 5th grader scoring a 248 in the spring (99th percentile), several students also scored a 180 (3rd percentile). This is relevant because it points to a different type of set of services than if the district only had students who ranged from a 210 (50th percentile) to a 248. SD25 students cover the entire range of the achievement distribution, which requires a wide range of flexible services that are less constrained by age or grade. This is why it is so important to think of advanced learning or gifted and talented not as singular programs but rather as a Multi-Tiered System of Supports with multiple levels of services offered in multiple domains. The end goal is that all students have a means through which to be appropriately challenged and continue to develop, regardless of their level of achievement.

What Are Existing Advanced Academic Services and How Well are They Meeting Existing Student Needs?

There are four groups of advanced learning opportunities or services available in the district: 1) ALA course sections (grades 6-8), 2) advanced math sections (grades 4-8), 3) single—subject and whole-grade acceleration, and 4) student learning coaches working with teachers to create differentiated learning opportunities for advanced learners. The goal of this section is to consider how well those existing services meet the advanced learning needs described above.

Advanced Language Arts

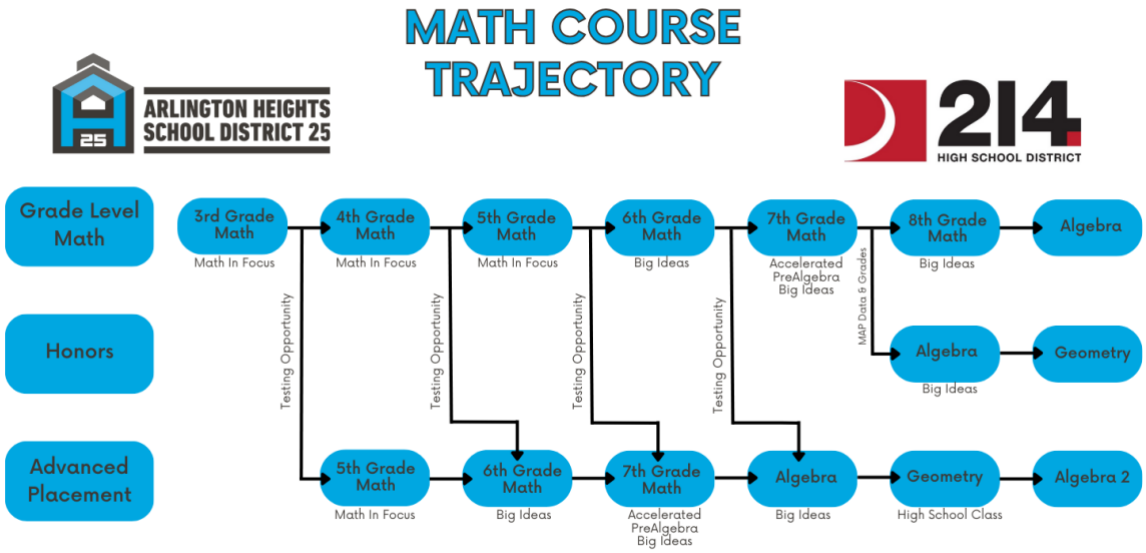
Services in Advanced Language Arts (ALA) begin in 6th grade (based on 5th grade test scores). ALA courses move at a faster pace and, as such, allow for greater depth of exploration. However, they follow the same grade-level content and instructional standards. Teachers discussed how these sections go into greater depth of content than do the standard ELA sections. But while that very likely is the case, as shown in Figure 2, D25 has many students who have already scored proficient one or more years advanced. Roughly half of 5th graders scored a 225 or higher on MAP-R – the score associated with spring of 6th grade reading proficiency. The top 10% of 5th graders score 20 RIT points higher. Although this is far beyond any linking study cut scores, it's safe to say there are many D25 students who need something far beyond greater depth of grade-level standards.

Advanced Math

Services in advanced math begin in 4th grade (based on 3rd grade test scores). It should be noted, the grade level math trajectory has students completing Algebra 1 in 8th grade as a core class (typical for 9th graders), although roughly 20% also take Grade 8 Math. Advanced math services differ in an important way from ALA services: they are accelerated in pace and timing. As shown in Figure 5, the 6th advanced math course is the same as standard 7th grade math (accelerated pre-algebra). Similarly, by 8th grade, advanced math is Geometry (typical for 10th graders). Advanced math services are an example of subject-specific grade acceleration where a 6th grader might take what is traditionally 7th grade math, but otherwise remain with her 6th grade peers. Students can also be double accelerated in math. In the 2022 – 2023 school year, two 6th graders took Algebra 1, two 7th graders took Geometry, and one 8th graders took pre-calculus / Algebra II at the high school. This last option is challenging for scheduling and transportation reasons. But it's worth noting that this is already an impressive availability of advanced math courses. Nationally, only 59% of middle schools even offer Algebra 1 and about 24% of 8th graders take it.

Figure 5

Sequence of Advanced Math Offerings



In District 25, we strive to challenge each student within their grade-level appropriate math class while preparing all students for Honors classes in High-School.

Possibilities for Alternative or Expanded Services

The most obvious area of unmet need is in the content areas of math and language arts, but in grades K-3 for math and K-6 for language arts. As documented above, students are just as "advanced" in those earlier grades as they are in the current grades where there are existing services. Currently, services only start in 4th or 6th grades. There are a few different options for how to expand services to meet these needs:

1. Expand the existing advanced course offerings into lower grades. For example, create ALA sections starting in 4th grade instead of waiting until 6th or advanced math sections as early as 2nd. There is no simple answer in terms of when to allow students to specialize and provide these advanced sections of courses. As a general rule, they should not start "too early" in a students' career as they are still developing their abilities. However, the need for advanced content certainly exists and this is one option for how to meet it. In addition to scheduling, the other major implication would be the need for additional CogAT testing to maintain the existing identification process.
2. Expand the use of subject- and whole-grade acceleration. Rather than create advanced sections in earlier grades (e.g., advanced 3rd grade math), the district could move the most-advanced 3rd grade students into 4th grade math. This is already an option in the district, but it could be expanded such that no special or separate advanced section would be needed. The biggest difference from current practice would be that the district would need to use existing data (primarily MAP) to proactively seek out students every year who might benefit from this option. This might involve giving off-cycle CogAT tests to the highest-scoring MAP students in 2nd grade and then reviewing those scores (along with MAP) to determine if subject acceleration is appropriate or if the student should go through the Iowa Acceleration Scale process to determine if full-grade acceleration is

appropriate. Regardless of how it's done, one way to meet the advanced learning needs documented above that are not being met currently is to make broader use of acceleration.

3. The third option for meeting a wider range of advanced learning needs is to implement broader use of within-grade cluster grouping. Instead of ensuring each classroom includes the full range of learning readiness and needs (e.g., students at the 5th and 99th percentiles in math), the district could try and narrow that range so that any one teacher could specialize and, on aggregate, a larger percentage of students could be challenged. Figure 6 presents a typical classroom placement process where the entire range of reading achievement at Windsor is more-or-less present in each classroom. In this circumstance, each teacher needs to be all things to all students, which is challenging. Figure 7 presents an example cluster grouping system, where each classroom has a narrower range of learners. This system allows teachers to focus their energy on a narrower range of learning needs *while also ensuring each classroom has students who are above and below "average" for the school*. This is a key way in which this form of flexible cluster grouping is different from tracking. Although each classroom has a narrower range of learners than it would if students were placed at random, each classroom still has diversity of all types, including that of achievement. Such an arrangement can result in more advanced learner being challenged (and all students receiving a more-targeted learning experience) since each teacher can focus on a smaller set of instructional needs. As with acceleration, the upside to clustering is that it does not require special sections of courses. The downside is that it can be hard to implement and, to be done correctly, requires teacher expertise regarding content knowledge and differentiation ability. Implementation would require additional staffing and/or teacher training to ensue successful implementation – something we, in part, address in the final bullet.
4. The final option for expanding services would involve hiring additional staff who would be dedicated advanced learning instructional resource teachers. Many districts have such staff, often .50FTE to 1.0FTE at each elementary building. However, whereas most often these staff engage in direct instruction via pulling students from their regular classrooms for small-group extension or enrichment activities, this is not ideal. The end result is too few students being served for too little time while they spend the majority of their day learning content they have already mastered. Instead, the better way to use such staff is to have them focus on 1) developing the abilities of regular classroom teachers to differentiate for advanced learners and challenge a wider range of learning needs, 2) push-in to regular classrooms to help with co-teaching or extension activities, and 3) help facilitate individual learning plans for the most-advanced students who don't have their needs met easily by existing services. For example, a 6th grade student might be ready for Geometry, but also have a reading disability. Alternatively, a student might have entered kindergarten early (at age 4) and need individualized attention almost like a case manager. These efforts require substantial staff time, but only a few students will need this level of attention. By combining a focus on expanding Tier I instruction (in the grade-level classroom) with some attention to the most-

advanced learners who are most-ill served by the standard curriculum, advanced learning instructional resource teachers or coaches can have a greater effect.

It's also important to emphasize that these options are not mutually exclusive. In fact, the district should offer a range of advanced learning opportunities even within individual content areas given what the data from above show in terms of advanced learning needs. Contemporary gifted education is moving away from singular programs for "the gifted student" and toward a levels of services approach, provided within individual domains, in a similar fashion to Response to Intervention or Multi-Tiered Systems and Supports.

Figure 6

Example Windsor Placement – Reading MAP Data

	TOTAL	Classroom 1	Classroom 2	Classroom 3	Classroom 4
234 - 249	9	3	2	2	2
216 - 234	32	8	8	8	8
197 - 215	25	6	7	5	7
178-196	18	3	5	5	5
158 - 177	4	2	0	2	0
TOTAL	88	22	22	22	22

Figure 7

Example Windsor Cluster Grouped Placement - Reading

	TOTAL	Classroom 1	Classroom 2	Classroom 3	Classroom 4
234 - 249	9	9			
216 - 234	32		8	12	12
197 - 215	25	7	8	5	5
178 -196	18	6	4	3	5
158 - 177	4	0	2	2	0
TOTAL	88	22	22	22	22

An option not presented above relates to the existing student learning coaches. Simply because of how many of them there are, how many classrooms there are, and how many students they already need to serve, it's hard to imagine expanding their role even more to meet additional unmet learning needs. However, as described above, there are ways advanced learning coaches or resource teachers can play a role in meeting a wider range of needs. The most obvious challenge to such an approach is the cost of additional staff and the fact that role of such staff described above does not often fit the preexisting skillset of teachers.

Still, once the district decides where to go regarding any other advanced service offerings (see above), it will be worth considering how to best use the existing student learning coaches or how their role might change if the district decided to hire specific advanced learning resource teachers. It's hard to say more in the abstract. But under the current system, it's probably best that the current student learning coaches continue to focus on the K-3 grades for math and K-5 grades for ELA given that is the only pathway through which advanced learning needs are met outside of the regular classroom. If these coaches could expand the average classroom teacher's ability to differentiate by even 10%, they could have a large effect on the number of students being challenged at their level of readiness. But we cannot speak to whether this is within the skillset of the existing coaches or the degree to which classroom teachers are already doing everything humanly possible to differentiate for advanced learners.

Although not a focus of this report, there is nothing to say that advanced learning should focus only on math and ELA. The district could just as easily have advanced services in the visual arts, music, or science. The domains in which the district decides to offer services are always a values decision. Traditionally, math and reading / ELA receive the most attention because data are already on hand to point out when advanced learning needs exist. But the district could just the same administer a universal science assessment to determine which students require additional intervention to remain challenged. In which domains to offer services is beyond the scope of this report.

Strengths and Weaknesses of Existing Identification Criteria

3rd grade data from CogAT, MAP, and placement tests are used to place students in Advanced Math services starting in 4th grade (and available through 8th grade). 5th grade CogAT and MAP data are used to place students in ALA courses starting in 6th grade (and available through 8th grade). Both identification systems can be supplemented with modified Renzulli rating scale data, but these and the placement tests are not collected on all students. Only those students who do not receive six points from MAP and CogAT alone take the placement tests and have the modified Renzulli completed on them. The rubrics for both are presented in Figures 8 (ALA) and 9 (Advanced Math). In both cases, students need six points to qualify. Importantly, while CogAT and MAP data are collected from all students in third and fifth grades, students are only considered (i.e. rubric points calculated) for services in math if they score at the 85th percentile on MAP-M (any of the three prior testing occasions) OR score a 130 or higher on the relevant subscale of the CogAT. They are only considered for ALA services if they score at the 93rd percentile OR score a 128 on the verbal subscale of the CogAT. Students who score at those levels, but not high enough to receive the six points necessary to automatically qualify, then take their respective placement tests and have points calculated accordingly.

Figure 8

Advanced Language Arts Placement Criteria

Advanced Reading and Writing Evaluation Criteria				
Reading MAP	98 - 99%ile = 4 points	96 - 97%ile = 3 points	93 - 95%ile = 2 points	Below 93%ile = 0 points
CogAT Verbal	143 or higher = 5 points	134 - 142 = 3 points	128 - 133 = 2 points	Below 128 = 0 points
Renzulli Scale			Meets Criteria = 1 point	Does Not Meet Criteria = 0 points
District 25 Advanced Placement Test	92 - 100% = 4 points	86 - 91% = 3 points	80 - 85% = 2 point	Below 80% = 0 points
Total:				

Figure 9
Advanced Math Placement Criteria

Advanced Math Evaluation Criteria				
Math MAP	98 - 99%ile = 3 points	96 - 97%ile = 2 points	93 - 95%ile = 1 point	Below 93%ile = 0 points
CogAT Quantitative	143 or higher = 3 points	138 - 142 = 2 points	134 - 137 = 1 point	Below 134 = 0 points
Renzulli Scale			Meets Criteria = 1 point	Does Not Meet Criteria = 0 points
District 25 Advanced Placement Test	90 - 100% Correct = 6 points	85 - 89% Correct = 4 points	80 - 84% Correct = 2 points	Below 80% Correct = 0 points
Total:				

Overall, it's a major strength that the primary data points (CogAT and MAP) are collected from all students. There is no screening phase or recommendation that students must first pass through before they are considered for either service. Similarly, SD25 identifies and serves within domains. Students need not be strong in ELA to be served in math (or vice versa). Instead, students are served in one or more areas of strength.

As a general observation, the placement criteria are too high and too complicated. It's not clear that the process the district currently uses is necessary (and that a simpler process wouldn't be equally effective). It's also not clear, particularly in ALA, that only students who meet the current criteria would benefit from advanced services. As a rule, placement criteria should be based on the level of skills necessary to benefit from a service. Similarly, if students who score at lower levels would also benefit, then cut scores should be set lower. The high criteria presented in Figures 8 and 9 have the benefit of enrolling fewer students, which is a real benefit in a higher-achieving district, but as a result only very high scoring students will ever be placed and some students who might have also benefitted will be missed. The following sections outline these challenges for advanced math and ALA.

Advanced Language Arts

Referring back to the rubric in Figure 8, students earn no points from their MAP scores unless they score at the 93rd percentile nationally, which represents a score of 235 for a 5th grader in the spring. According to the Illinois linking study, a 235 is higher than proficiency for a spring 8th grader. This means a student cannot even earn points toward being identified for 6th grade ALA unless they are (more or less) proficient according to 8th grade standards. Again, it's worth repeating that ALA content is focused on enriched coverage of grade-level material and grade-level standards. Even if the ALA content is one-year advanced, the MAP criteria are likely

too high. There is a mismatch between the level of skill or ability required by the identification system and the level of the service.

Similarly, students earn no points from the CogAT unless they score higher than ~94% of their same-age peers from around the country (128). Students cannot earn five points from the CogAT unless they score above ~99.64% of their same-age peers (143) and beyond the 99th percentile for the district's current third graders (134 for CogAT-V in 3rd grade). It's also worth noting that the 99th percentile among district's 3rd graders on CogAT-V is a 134. Hardly any students, even in this high-achieving district, score high enough to earn any points from the CogAT. The essential question for SD25 to ask is whether such high scores really are necessary for any student to benefit from ALA or if, alternatively, even students with slightly lower scores might benefit from the kinds of learning experiences provided in ALA. Identification is always about matching student needs with an appropriate service to meet those needs. As a result, to improve instructional match, the criteria can be modified or the services can be modified.

Although MAP and CogAT are collected from all students in grades three and five, this is somewhat misleading as a strength since students are not considered, do not have rubric points calculated, are not rated by their teachers using the modified Renzulli scale, and are not given the ALA placement test unless they score at or above the 93rd percentile on MAP. Given the extremely high criteria presented in Figure 8, it's unlikely that a student with an 80th percentile (for example) MAP-R score would ever receive enough points elsewhere to be identified for ALA. But it is technically possible. Another implication of this 93rd percentile screening criteria is that it means all students at or below the 93rd percentile remain the job of the grade-level classroom teacher. The 93rd percentile for spring reading in 3rd grade is a score of 221. That score is also right about the 50th percentile for the spring of 6th grade and "proficiency" according to 4th grade end-of-year standards in Illinois or 7th grade end-of-year standards according to the NWEA Default Linking Study. So while the 93rd percentile criteria might not be causing students to be missed who might otherwise earn six points on the ALA rubric, 1) it is likely only doing so because the rubric criteria are so high in the first place and 2) it is likely leaving students underchallenged in the "regular" classroom.

Regarding the specific point values on the ALA rubric, it's not clear why there are such large differences for MAP and CogAT scores. For example, to earn a single point from MAP, you need score at or above the 93rd percentile nationally. But to earn any points from CogAT, you need to score in excess of the 96th percentile nationally. It's also unclear why MAP points derive from national percentiles while CogAT points come from SAS scores. It's also unusual that some score on the Renzulli scale can add an extra point. The impact of this is that while one student with a 95th percentile MAP might not be identified, his or her peer could be identified if he or she received a sufficient rating scale score. But why does that one point translate to having an unmet ALA learning need despite the fact that both students scored at the same level on MAP-Reading?

Finally, the ALA process is logistically cumbersome. Students must first earn an 93rd percentile score on MAP-R in the previous Fall, Winter, or Spring. If they do, then their CogAT scores are pulled onto a spreadsheet. Some students automatically qualify based on CogAT and MAP scores alone. But for those that don't, they are given the modified Renzulli rating scale and will take the District 25 Advanced Placement Test. As noted above in Figure 8, Renzulli rating scale scores can earn students up to a single point toward the six needed to be identified. Roughly 88 5th graders (~16%) took the placement test last year and earned an average score of 67%. Only 23 students earned any points (> 80% correct) from this test. It's possible this test is

an excellent predictor of who would do well in ALA. But if this is the case, why give it to so few students? Further, if it's an ideal measure of readiness for ALA, why can students qualify having never taken it? What's more, unlike MAP-R or CogAT-V, the ALA test also includes writing. As a result, the content of the three major data points is quite different.

Advanced Math

Similar to ALA, in math, students are not considered (and given the math advanced placement test and rated by their teachers) unless they score at or above the 85th percentile on MAP-M. The minimum score necessary to earn any points from the CogAT is even higher for math (134 in Figure 9) than language arts (128 in Figure 8). A CogAT-Q of 134 represents the top 1.7% of same-age peers from across the nation or the top 6% of the district 3rd grade students. Similar to the ALA criteria, it's much easier to "earn" points from MAP than CogAT (e.g., a 98th percentile MAP-M score earns 3pts but a 98th percentile CogAT-Q score (just under 134) earns zero points.

Also relevant is the skill level a MAP-M score of the 93rd percentile represents. A MAP-M score of 222 represents the 93rd percentile in the spring of 3rd grade. But according to the NWEA Illinois linking study, a 222 is also the cut score for proficiency for the spring of 4th grade. This means that third graders are not even considered for Advanced Math or given the placement test unless they've already scored proficient one year advanced (i.e. scoring at the end of year cut score for 4th grade at the end of 3rd grade). This is likely causing students to be missed – those who were ready for and would have done well in a section of advanced 4th grade math.

Imagine the case of a 6th grader being considered for advanced math. A 93rd percentile in the spring of 6th grade represents a score of 249. But what does a 249 represent? In the states of Georgia and Texas, a score of 240 is the cut score for spring proficiency in *Algebra 1* (there are no Illinois specific Algebra 1 cut scores since Illinois does not administer a specific Algebra 1 proficiency test). Put simply, in those states, a student with a 249 in the spring of Algebra 1 has a 99% chance of passing the end of course Algebra 1 exam (at the end of having taken the course). But in SD25, students must score at least a 249 to receive any points in the Advanced Math evaluation rubric in 6th grade. Consider what this means. A 6th grader is being considered for placement in compacted and accelerated 7th grade math, where the student will cover 7th grade math and pre-algebra in one year. But students will not even be *considered* for placement in that class, let alone placed in the class, unless they've already scored at the "meets criteria" level for the end of Algebra 1. Currently, the top 10% of District 25 6th graders score a 249 or higher. It's likely that far more SD25 7th grade students could be successful in 7th grade advanced math.

Even if a 240 for Algebra 1 proficiency is too low to guarantee true proficiency in Algebra, the district is still missing students who would likely do well in the course both because 1) the MAP criteria in Figure 9 are too high and 2) even if students meet the MAP criteria (e.g., 99th percentile) they still need points from CogAT or the math placement test to qualify. A score of 249 in the spring of Algebra 1 is associated with a 99% chance of passing Algebra 1 in Ohio or Georgia. So even if 240 is too low a criterion, the current 249 criteria is too high.

Possibilities for Alternative Identification Criteria and Their Strengths and Weaknesses
Advanced Math (4th – 8th grade)

The current system relies on three data points: MAP, CogAT, and the math advanced placement test with the possibility for an additional point based on modified Renzulli scores. However, the advanced placement test is only given to students who score at or above the 85th percentile on MAP-Math. Despite this high threshold, 219 students took the math placement test in 2022. These tests needed to be hand scored and then points were assigned to score ranges along with points form MAP and CogAT to determine who was identified. This is a time-consuming, complex process that was brought up as excessively complicated and burdensome by every constituency group. Still, teachers of the advanced math classes were mixed as to its necessity to identify students who had learned the prerequisite skills to complete the coursework. One teacher mentioned how some students take the math test year after year (because they always score above the 85th percentile) but never do well enough on the placement exam to be placed in advanced math. The same group of teachers also noted that there are students left in "standard" math classes who are underchallenged – they fall in a kind of gap between the level of need that can be met in the regular classroom and what it takes to be identified for accelerated math.

Teachers and building administrators also expressed frustration that the number of students identified for advanced math was sometimes too small to fill an individual class and/or the criteria were too high. As a result, using the data we had on hand, we observed that some schools only had seven or nine students identified for 4th grade Advanced Math. Even the largest number at one school was 14. Even this isn't enough to fill a course section and, when it is left to a single section, all other sections of 4th grade math must be made larger.

To try and combat some of these challenges, we designed and then modeled several hypothetical advanced math identification systems that all relied on MAP or CogAT alone and not the placement test. We did this to see if a similar profile of students (i.e. those with similar MAP-Math and/or CogAT-Q scores to the students currently identified) could be identified in a simpler way that did not require the math placement test. This would be ideal as it would achieve a similar outcome but require far less student and staff time. It would also result in missing fewer students than the current system because all students in a grade would be considered (i.e. no longer would students need certain MAP scores to be considered). The alternative identification systems we modeled included the following pathways:

1. 93rd percentile compared to same age or grade students nationally on the average of MAP-Math and CogAT-Q
2. 87th percentile compared to all other 3rd graders in the district on the average of MAP-Math and CogAT-Q (top 13% of district 3rd graders)
3. 87th percentile compared to all other 3rd graders in the student's school on the average of MAP-Math and CogAT-Q (top 13% of each school's 3rd graders)
4. 87th percentile compared to all other 3rd graders in the student's school on the MAP-Math (top 13% of each school's 3rd graders)
5. Pathway 1 OR Pathway 3 (national OR school norms)
6. Pathway 1 OR Pathway 2 (national OR district norms)

We selected the percentiles above to try and identify a similar number of students as the current advanced math course (75 or 13% of district 4th graders). But this need not be the case.

The district could also choose larger or smaller service populations (though this has implications for services – if more students are identified with lower criteria, odds are they will require a different service than those students currently identified). Pathways 1-4 all identified similar numbers of students (80-90 students). For that reason, the two outcomes on which we compared the pathways were 1) the MAP and CogAT scores of the students identified under each pathway and 2) the racial, ethnic, gender, and income diversity of the students identified. Although we modified the percentiles or cut scores to try and identify a similar number of students to the current system, it has never been the district's goal to identify a specific number of students or fill a single class.

Table 2 presents the following for each of the above-described pathways in comparison to the overall district population of spring 3rd graders and the current population of 4th graders in accelerated math:

- Average CogAT-Q score of those students identified
- Lowest CogAT-Q score of any student identified
- Maximum CogAT-Q score of any student identified
- Standard deviation of CogAT-Q scores within the identified population
- Average MAP-Math score of those students identified
- Lowest MAP-Math score of any student identified
- Maximum MAP-Math score of any student identified
- Standard deviation of MAP-Math score within the identified population.

Figure 10 presents the racial, ethnic, gender, and income diversity of the students identified under the various pathways in terms of representation indices (RI), which are the group's representation in 4th grade advanced math divided by their representation in the district's overall 4th grade population. As a result, an RI of 1.0 would mean a group is as represented in advanced math as they are in the overall student population. An RI <1.0 would mean that group is underrepresented while an RI >1.0 would mean they are disproportionately overrepresented.

Table 2

CogAT-Quantitative and MAP-Math Scores Under Various Identification Pathways

Criteria	Mean CogAT-Q	Min CogAT-Q	Max CogAT-Q	SD CogAT-Q	Mean MAP-M	Min MAP-M	Max MAP-M	SD MAP-M
Overall Population	112.0	69.0	149.0	15.0	207.0	145.0	248.0	14.0
Accelerated Math	131.0	111.0	149.0	7.3	225.0	210.0	248.0	8.8
National Norms	133.0	117.0	149.0	6.3	226.0	210.0	248.0	8.4
District Norms	134.0	117.0	149.0	6.4	226.0	210.0	248.0	8.0
School Norms	133.0	117.0	149.0	6.4	225.0	210.0	248.0	8.7
MAP Only School Norms	128.0	84.0	149.0	10.5	226.0	215.0	248.0	7.6
National OR School	132.0	117.0	149.0	6.3	225.0	210.0	248.0	8.4
National OR District	133.0	117.0	149.0	6.4	226.0	210.0	248.0	8.4

Figure 10

Representation Indices for Various Identification Pathways for 4th Grade Advanced Math

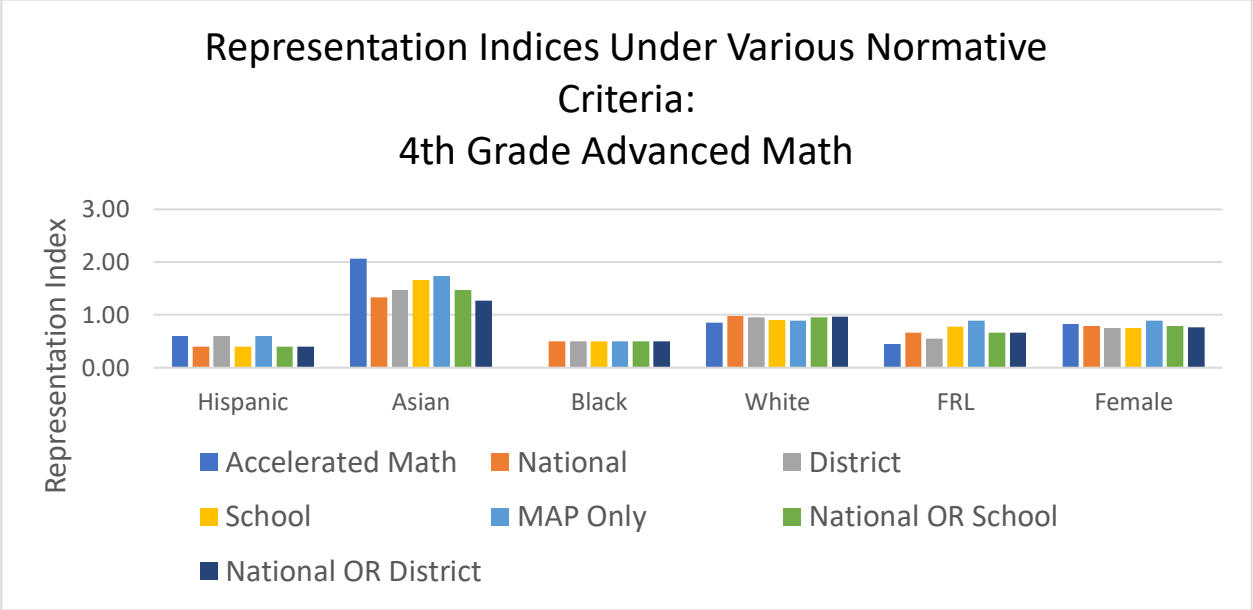


Table 3

Number of Students Identified for Advanced 4th Grade Math by School

School	Current	National	District	School	MAP Only	National OR School	National OR District
Dryden	10	15	14	10	10	15	15
Greenbrier	7	9	9	8	9	9	9
Ivy Hill	13	13	12	14	18	14	13
Olive-Mary	9	8	8	14	14	14	8
Patton	12	11	8	10	10	11	11
Westgate	10	11	10	14	15	14	12
Windsor	14	21	19	15	14	21	21
Total	75	88	80	85	90	98	89

Table 2 shows that all the alternative identification pathways would result in students with higher MAP-Math and CogAT-Q scores than the current system. This is to be expected because in the current system students earn points from placement tests in addition to MAP and CogAT tests. For example, the lowest-scoring students under the national norm pathway scored a 117 on CogAT-Q and a 210 on MAP-Math compared to 111 and 210 for currently identified students. Similarly unsurprising is that if CogAT were not to be considered, the average CogAT score of the students identified would be lower. Beyond that, all of these pathways would identify a similar score profile of students.

Figure 10 shows that a relatively similar profile of students would be identified under most of the pathways. The main exception related to students who are eligible for free or reduced-price meals (FRL). Although the differences are relatively slight, under school norms, FRL-eligible students are slightly better represented (7% of advance math under school norms vs. 4% under the current process with an overall population that is 9% FRL). Somewhat relatedly, all of the alternative pathways would decrease the identification rate of Asian students, although under all pathways they would still be more-represented in Advanced Math than they are in the overall 4th grade student population (31% of advanced math under the current process, 25% under school norms, and 15% of the overall 4th grade population).

Finally, Table 3 shows the number of students who would be identified for 4th grade Advanced Math at each building. What's worth pointing out here is the larger number of students identified in the final two columns and pathways. More students will always be identified under "OR" pathways than under any single pathway. This can be seen under the "national OR school" pathway that would identify 98 students compared to the national or school norm pathways individually at 88 or 85.

And finally, we also evaluated how many and which of the currently-identified students would be identified under these alternative pathways. Of the 75 students currently identified, 65 would be identified under the national OR school pathway – one of the most inclusive. Ten students who are currently identified would not have been identified under this alternative pathway, mostly because of those students' lower CogAT scores. Under the current process, lower CogAT scores can be offset by higher placement test scores. But if the district were to discontinue the placement tests, these are the students who would not be identified moving forward.

Possibilities for Alternative Identification Criteria and Their Strengths and Weaknesses Advanced Language Arts (6th – 8th grade)

We conducted similar modeling of alternative identification pathways for 6th grade ALA (based on spring of 5th grade data). Instead of using CogAT-Q and MAP-Math, we modeled these pathways based on CogAT-V and MAP-Reading. The pathways we modeled included the following:

1. 95th percentile compared to same age or grade students nationally on the average of MAP-Reading and CogAT-Verbal
2. 90th percentile compared to all other 5th graders in the district on the average of MAP-Reading and CogAT-Verbal (top 10% of district 5th graders)
3. 90th percentile compared to all other 5th graders in the student's school on the average of MAP-Reading and CogAT-Verbal (top 10% of each school's 5th graders)
4. 90th percentile compared to all other 5th graders in the student's school on the MAP-Reading (top 10% of each school's 5th graders)
5. Pathway 1 OR Pathway 3 (national OR school norms)
6. Pathway 1 OR Pathway 2 (national OR district norms)

Table 4 presents the following for each of the above-described pathways in comparison to the overall district population of spring 5th graders and the current population of 5th graders in ALA:

- Average CogAT-V score of those students identified
- Lowest CogAT-V score of any student identified
- Maximum CogAT-V score of any student identified
- Standard deviation of CogAT-V scores within the identified population
- Average MAP-Reading score of those students identified
- Lowest MAP-Reading score of any student identified
- Maximum MAP-Reading score of any student identified
- Standard deviation of MAP-Reading score within the identified population.

Figure 11 presents the racial, ethnic, gender, and income diversity of the students identified under the various pathways in terms of representation indices (RI), which are the group's representation in 6th grade ALA divided by their representation in the district's overall 5th grade population (since identification was based on 5th grade data). As a result, an RI of 1.0 would mean a group is as represented in advanced language arts as they are in the overall student population. An RI <1.0 would mean that group is underrepresented while an RI >1.0 would mean they are disproportionately overrepresented.

And finally, Table 5 shows the number of students who would be identified for 6th grade ALA and which 5th grade elementary feeder school those students would come from. The actual middle schools those students would attend for 6th grade ALA are highlighted in blue and yellow, respectively.

Table 4

CogAT-V and MAP-Reading Scores Under Various Identification Pathways

Criteria	Mean CogAT-V	Min CogAT-V	Max CogAT-V	SD CogAT-V	Mean MAP-R	Min MAP-R	Max MAP-R	SD MAP-R
Overall Population	113.2	70.0	155.0	14.0	218.0	158.0	252.0	13.5
ALA	133.0	116.0	155.0	7.9	235.0	220.0	252.0	6.9
National Norms	135.0	119.0	155.0	6.7	238.0	227.0	252.0	5.6
District Norms	135.0	119.0	155.0	6.7	238.0	227.0	252.0	5.6
School Norms	134.0	119.0	155.0	6.5	236.0	220.0	252.0	6.6
MAP Only School Norms	129.0	112.0	155.0	9.5	238.0	230.0	252.0	5.0
National OR School	134.0	119.0	155.0	6.5	236.0	220.0	252.0	6.5
National OR District	134.0	119.0	155.0	6.7	238.0	227.0	252.0	5.5

Figure 11

Representation Indices for Various Identification Pathways for 6th Grade ALA

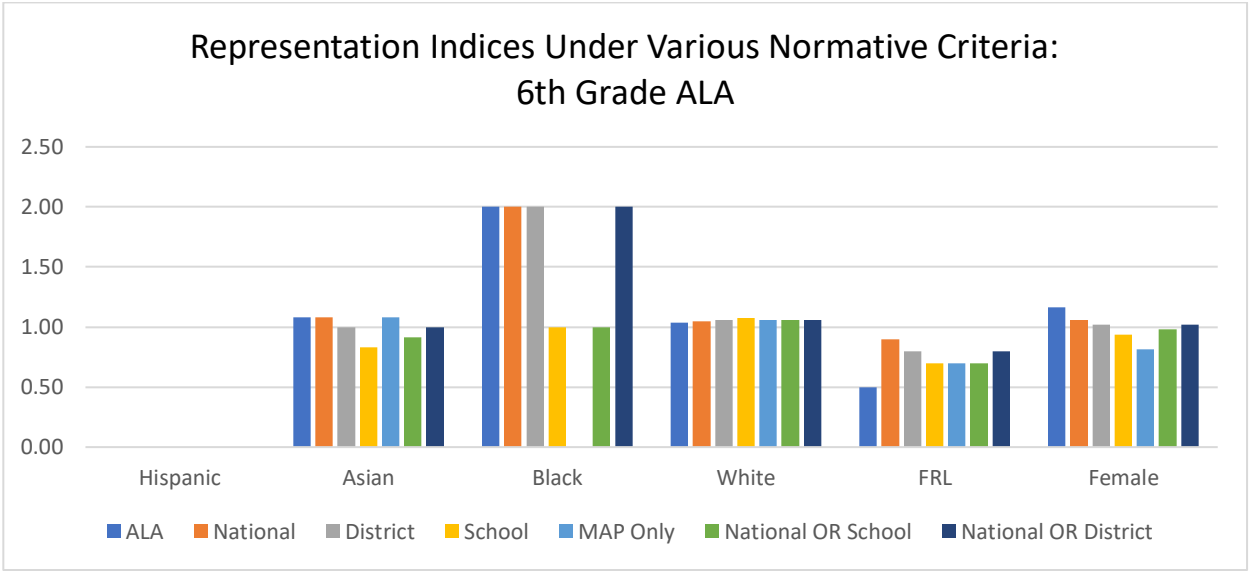


Table 5

Number of Students Identified for 6th Grade ALA by School (TMS in Blue and SMS in Yellow)

School	Current	National	District	School	MAP Only	National OR School	National OR District
Dryden	5	7	8	9	8	9	8
Greenbrier	10	8	8	5	5	8	8
Ivy Hill	6	11	12	11	11	11	12
Olive-Mary	18	10	11	12	13	12	11
Patton	4	4	4	9	9	9	4
Westgate	5	5	6	11	11	11	6
Windsor	12	11	11	10	10	11	11
Total	60	56	60	67	67	71	60

The results presented in Table 4 largely mirror those presented in Table 2 – under most of the alternative pathways, student MAP and CogAT scores are higher in large part because placement tests are no longer considered. Figure 11 suggests all the identification pathways result in similar ALA population demographics, the one exception being a slight decrease in female representation under most of the alternative pathways.

Of the 60 students identified for 6th grade ALA, 43 would be identified by the District norms pathway – 17 each would be identified by District norms who are not currently in ALA, and another 17 who are currently in ALA would not be identified by District norms. This translates to roughly 8% of the district's 6th graders who would be identified with either method and about 3% each that would be identified with one but not the other.

Of the 60 students identified for 6th grade ALA, 44 would be identified by the National OR School norms pathway. Although 17 who are currently identified for ALA would not be identified via the OR pathway, the OR pathway would pick up another 27 students in their place, mostly those who scored too low on MAP to be identified by the current system (so they were never placement tested or considered). This OR pathway would also identify more low-income students, would increase the overall ALA population size at each building, and make the population size more consistent across buildings and across years (9-11 students per school in our analyses).

Possibility for Retaining the Placement Tweaks but Better Calibrating the Existing System

It's possible that the district decides not to move forward with any of the alternative identification pathways described above. If so, there are still some smaller improvements that could be made to the existing identification systems (rubrics and procedures). These focus on the actual phase-two criteria (what is necessary to earn points on the rubrics) and the phase-one criteria (how high a student must score to take the placement test and be considered).

As already noted, for both Advanced Math and ALA, the existing two-phase systems are not well calibrated. Many students sit the placement tests each year who do not end up receiving enough points to be identified for a service. Some of this is inevitable – if the goal is to miss few students (i.e. to make sure all students who will meet the rubric criteria are flagged to sit the placement test), then there will always be some students who sit the test but do not qualify. However, the phase-two rubric criteria, as described above, are too high / too restrictive for the existing phase one (85th percentile MAP score for math and 93rd for ALA). To be more concrete, there are many students who are scoring at the 85th – 93rd percentiles on MAP-M, and as a result earn zero points on the advanced math rubric, score below a 134 on the CogAT-Q, and as a result earn zero points from CogAT-Q on the advanced math rubric, but sit the math placement test anyway because they scored >85th percentile on MAP-M. This is what is meant by poor calibration. Either the phase-two criteria are too high or the phase-one criteria are too low. We already know that an 85th or even 90th percentile MAP-M score earns zero points toward being identified. And a student who scores in this range is unlikely to score >134 on CogAT-Q, which means that student is very unlikely to be identified even with a high placement test score.

Given what was already discussed above regarding the existing placement criteria and rubrics, the district should consider if the current rubric criteria make sense for the current services. If they do, then the score that is necessary for a student to sit the placement test should be raised. Alternatively, if the district decides to make changes to the matrices, the result of which is more students meeting the criteria, then the current phase-one might make sense. This is why we describe it as an issue of calibration.

Appendices

Grade 3 Descriptive Statistics by Race / Ethnicity

		Valid	Missing	Mean	Std. Deviation	Minimum	Maximum	90th percentile
Spring RIT Reading	Hispanic	27	1	196.111	19.104	150.000	225.000	220.200
Spring RIT Reading	Asian	83	3	207.627	14.501	152.000	228.000	223.800
Spring RIT Reading	Black / African American	9	1	204.889	8.521	189.000	219.000	214.200
Spring RIT Reading	Native Hawaiian / Pac Islander	5	0	205.400	15.323	190.000	230.000	221.600
Spring RIT Reading	White	442	11	204.301	14.398	142.000	233.000	221.000
Spring RIT Reading	17	2	0	197.000	12.728	188.000	206.000	204.200
Spring RIT Math	Hispanic	27	1	200.037	16.489	166.000	234.000	217.000
Spring RIT Math	Asian	83	3	211.313	13.754	173.000	242.000	229.600
Spring RIT Math	Black / African American	9	1	201.889	7.322	192.000	213.000	210.600
Spring RIT Math	Native Hawaiian / Pac Islander	5	0	212.800	14.584	201.000	237.000	227.800
Spring RIT Math	White	443	10	206.357	13.210	145.000	248.000	220.000
Spring RIT Math	17	2	0	200.500	17.678	188.000	213.000	210.500
Verbal SAS	Hispanic	26	2	98.462	13.297	73.000	127.000	119.000
Verbal SAS	Asian	79	7	107.038	13.258	73.000	133.000	123.400
Verbal SAS	Black / African American	9	1	105.556	13.794	91.000	134.000	121.200
Verbal SAS	Native Hawaiian / Pac Islander	5	0	108.000	14.018	98.000	132.000	122.000
Verbal SAS	White	434	19	105.150	12.993	72.000	150.000	120.000
Verbal SAS	17	2	0	111.500	23.335	95.000	128.000	124.700
Quant SAS	Hispanic	25	3	102.920	14.089	72.000	127.000	119.400
Quant SAS	Asian	79	7	116.342	14.561	79.000	146.000	133.200
Quant SAS	Black / African American	8	2	106.750	10.820	92.000	124.000	119.100
Quant SAS	Native Hawaiian / Pac Islander	5	0	116.400	18.119	102.000	148.000	134.000
Quant SAS	White	432	21	112.035	14.514	69.000	149.000	131.000
Quant SAS	17	2	0	115.000	19.799	101.000	129.000	126.200
Nonverbal SAS	Hispanic	26	2	102.269	13.818	74.000	131.000	120.500
Nonverbal SAS	Asian	79	7	110.152	15.123	81.000	148.000	131.000

		Valid	Missing	Mean	Std. Deviation	Minimum	Maximum	90th percentile
Nonverbal SAS	Black / African American	9	1	102.889	17.496	77.000	136.000	125.600
Nonverbal SAS	Native Hawaiian / Pac Islander	5	0	109.000	17.015	97.000	139.000	125.400
Nonverbal SAS	White	435	18	107.338	16.214	62.000	160.000	128.600
Nonverbal SAS	17	2	0	110.500	2.121	109.000	112.000	111.700

Note. Excluded 1 rows from the analysis that correspond to the missing values of the split-by variable Ethnicity

Grade Three Descriptive Statistics by Free-or-Reduced Price Meal Eligibility

		Valid	Missing	Mean	Std. Deviation	Minimum	Maximum	90th percentile
Spring RIT Reading	F	51	3	198.196	17.409	150.000	227.000	216.000
Spring RIT Reading	P	513	14	204.996	14.345	142.000	233.000	221.800
Spring RIT Reading	R	4	0	205.750	2.062	203.000	208.000	207.400
Spring RIT Math	F	51	3	199.686	16.598	149.000	223.000	217.000
Spring RIT Math	P	514	13	207.510	13.072	145.000	248.000	222.000
Spring RIT Math	R	4	0	198.500	9.000	187.000	209.000	206.000
Verbal SAS	F	49	5	99.490	13.445	73.000	136.000	119.000
Verbal SAS	P	502	25	105.749	13.035	72.000	150.000	121.000
Verbal SAS	R	4	0	100.750	2.630	98.000	103.000	103.000
Quant SAS	F	48	6	107.958	15.924	72.000	138.000	127.300
Quant SAS	P	499	28	112.699	14.532	69.000	149.000	132.000
Quant SAS	R	4	0	102.500	3.109	100.000	107.000	105.500
Nonverbal SAS	F	49	5	101.082	15.086	67.000	134.000	121.600
Nonverbal SAS	P	503	24	108.127	15.996	62.000	160.000	129.800
Nonverbal SAS	R	4	0	101.000	4.320	95.000	105.000	104.400

Grade Five Descriptive Statistics by Race / Ethnicity

		Valid	Missing	Mean	Std. Deviation	Minimum	Maximum	90th percentile
Spring RIT Reading	Hispanic	28	1	209.000	15.019	170.000	233.000	230.300
Spring RIT Reading	Asian	68	0	221.956	13.298	158.000	252.000	235.900
Spring RIT Reading	Black / African American	5	0	213.800	15.320	197.000	232.000	230.400
Spring RIT Reading	Native Hawaiian / Pac Islander	3	0	214.667	13.614	204.000	230.000	226.000
Spring RIT Reading	White	462	8	218.595	13.231	158.000	249.000	233.000
Spring RIT Reading	17	3	0	192.333	32.624	173.000	230.000	218.800
Spring RIT Math	Hispanic	28	1	217.500	16.267	166.000	243.000	234.600
Spring RIT Math	Asian	68	0	235.735	17.197	144.000	270.000	255.300
Spring RIT Math	Black / African American	5	0	219.400	19.731	195.000	242.000	239.200
Spring RIT Math	Native Hawaiian / Pac Islander	3	0	229.333	22.502	213.000	255.000	248.000
Spring RIT Math	White	464	6	228.196	15.835	175.000	276.000	249.000
Spring RIT Math	17	3	0	194.667	45.567	159.000	246.000	232.600
Verbal SAS	Hispanic	26	3	104.346	13.350	77.000	123.000	120.000
Verbal SAS	Asian	66	2	114.273	11.663	82.000	136.000	127.000
Verbal SAS	Black / African American	5	0	106.800	17.570	92.000	134.000	126.000
Verbal SAS	Native Hawaiian / Pac Islander	3	0	117.333	19.630	106.000	140.000	133.200
Verbal SAS	White	456	14	113.614	14.121	70.000	155.000	132.000
Verbal SAS	17	1	2	125.000	NaN	125.000	125.000	125.000
Quant SAS	Hispanic	26	3	103.385	13.470	75.000	130.000	122.500
Quant SAS	Asian	66	2	118.985	13.205	91.000	149.000	135.500
Quant SAS	Black / African American	5	0	106.000	16.294	88.000	123.000	123.000
Quant SAS	Native Hawaiian / Pac Islander	3	0	126.000	16.703	108.000	141.000	138.600
Quant SAS	White	459	11	113.516	16.550	68.000	160.000	135.200
Quant SAS	17	1	2	135.000	NaN	135.000	135.000	135.000
Nonverbal SAS	Hispanic	27	2	103.852	15.720	71.000	136.000	123.000
Nonverbal SAS	Asian	66	2	118.879	13.583	84.000	151.000	135.500
Nonverbal SAS	Black / African American	5	0	106.200	26.902	86.000	143.000	136.600
Nonverbal SAS	Native Hawaiian / Pac Islander	3	0	115.333	7.572	110.000	124.000	121.600

Grade Five Descriptive Statistics by Race / Ethnicity

		Valid	Missing	Mean	Std. Deviation	Minimum	Maximum	90th percentile
Nonverbal SAS	White	460	10	114.222	16.496	73.000	158.000	136.100
Nonverbal SAS	17	1	2	137.000	NaN	137.000	137.000	137.000

Grade Five Descriptive Statistics by Free-or-Reduced Price Meal Eligibility

		Valid	Missing	Mean	Std. Deviation	Minimum	Maximum	90th percentile
Spring RIT Reading	F	54	2	212.093	14.867	181.000	245.000	230.000
Spring RIT Reading	P	514	7	218.963	13.503	158.000	252.000	233.700
Spring RIT Reading	R	1	0	226.000	NaN	226.000	226.000	226.000
Spring RIT Math	F	54	2	221.296	15.680	194.000	263.000	241.100
Spring RIT Math	P	516	5	229.021	16.739	144.000	276.000	249.000
Spring RIT Math	R	1	0	247.000	NaN	247.000	247.000	247.000
Verbal SAS	F	52	4	107.173	13.534	77.000	139.000	125.000
Verbal SAS	P	504	17	113.849	13.895	70.000	155.000	131.700
Verbal SAS	R	1	0	121.000	NaN	121.000	121.000	121.000
Quant SAS	F	53	3	107.774	15.621	84.000	150.000	134.400
Quant SAS	P	506	15	114.338	16.287	68.000	160.000	135.000
Quant SAS	R	1	0	121.000	NaN	121.000	121.000	121.000
Nonverbal SAS	F	53	3	107.943	15.175	74.000	152.000	127.600
Nonverbal SAS	P	508	13	114.860	16.425	71.000	158.000	136.300
Nonverbal SAS	R	1	0	136.000	NaN	136.000	136.000	136.000