

**Gifted Services Advisory Committee
REPORT AND RECOMMENDATIONS**

Memorandum

Date: February 23, 2011

To: Arlington School Board

From: Gifted Services Advisory Committee

Subject: 2010-2011 Report and Recommendations

The Gifted Services Advisory Committee unanimously recommends the following actions, presented in order of priority:

RECOMMENDATION ONE:

Consider achievement levels as a factor in class placements:

- **at the elementary level, implement cross-grade achievement grouping with appropriate curricular adjustments at all levels, with grouping in all core subjects by at least third grade;**
- **provide intensified class options in all core subjects at the middle and high school levels.**

RECOMMENDATION TWO:

Base instructional and placement decisions for students on objective measures of individual student progress in order to close individual achievement gaps.

RECOMMENDATION THREE:

Provide an equitable, appropriate education for all students, including gifted students, through consistent application of APS policies across schools, and by maintaining and strengthening Resource Teacher for the Gifted (“RTG”) staffing levels.

All three recommendations are premised on a unified educational philosophy: **that all students, regardless of ability level, are entitled to an education that challenges each student to achieve to his or her potential.** Starting from this foundational principle of equity, the Committee has formulated its recommendations based on well-established educational research and information about Arlington Public Schools. Each of the Committee’s recommendations would directly serve the unmet needs of Arlington’s gifted students, while also increasing the quality of instruction for all students.

I. RECOMMENDATION ONE:

Consider achievement levels as a factor in class placements:

- at the elementary level, implement cross-grade achievement grouping with appropriate curricular adjustments at all levels, with grouping in all core subjects by at least third grade;
- provide intensified class options in all core subjects at the middle and high school levels.

The Committee puts forward these two measures as a single recommendation because they rest on the same foundation: the findings that the **academic performance of all students improves when class placements include achievement-grouping of students and the curriculum is adjusted to correspond to ability levels.**¹ Although implemented differently at the elementary and secondary school levels, this approach is also consistent with the Commonwealth of Virginia's regulatory requirement that school divisions provide a continuum of services to students identified as in need of gifted services.²

Mixed-ability classrooms are the dominant model in APS

By graduation, approximately one in four APS students has been identified as needing gifted services support in one or more academic areas or in the fine arts. As is the case with special education students, students who are identified as in need of gifted services cannot meet their full potential under the standard curriculum or mode of instruction. Arlington's model currently depends largely on differentiated instruction by the classroom teacher, with support to the teacher and some direct instruction by resource teachers for the gifted. The same dynamic operates at the middle and high school levels, where unsorted, mixed ability classrooms are the general rule. Although some cluster grouping of students occurs within these heterogeneous classrooms, the classrooms often contain students at both extremes of the learning continuum. This precludes any class-wide curricular adjustments. In

¹ See Brulles, D., Saunders, R., & Cohn, S., "Improving Performance for Gifted Students in a Cluster Grouping Model," *Journal for the Education of the Gifted* (2010), at 34:332-34 (citing research studies supporting effectiveness of grouping by ability); Kulik, J.A., *An analysis of the research on ability grouping: Historical and contemporary perspectives* (1992), Storrs: University of Connecticut, The National Research Center on the Gifted and Talented (finding that ability-grouped programs that include acceleration and involve curricular adjustments have the largest effects on learning for students at all ability levels).

² The regulations, which have been recently revised and were approved by the Governor on December 28, 2009, require school divisions in Virginia to provide "curriculum and instruction adapted and modified to accommodate the accelerated learning aptitudes of identified students in their areas of strength.... Such curriculum and instruction [must be] offered continuously and sequentially to support the achievement of student outcomes, and provide support necessary for these students to work at increasing levels of complexity that differ significantly from their age-level peers." 8 VAC 20-40-20.

middle and high school, APS students have few options to choose between basic and more challenging course content, with the exception of math and AP courses.³ This approach poorly serves Arlington's students.

Achievement grouping better meets student needs

In achievement-grouped classrooms with advanced students, teachers are able to cover required material at a higher level of complexity, accelerate progress, deepen learning of topics, and add enriched extension activities. At the same time, students grouped with like-ability peers can learn from each other. In achievement-grouped classrooms with less advanced students, teachers can take more time to explain concepts, provide more individual attention and review, and can move at a pace geared to the students in the class, so those students can build a solid mastery of the core material. Given the structural advantages of achievement grouping, it is hardly surprising that educational research has found that instruction for students at **all** achievement levels is more effective in classrooms with achievement grouping and corresponding curricular adjustments.⁴ Educational research consistently demonstrates the need for both achievement-grouping and curricular adjustments :

A vast range in abilities among students in heterogeneous classrooms makes it virtually impossible to teach one curriculum to all students... Assigning students to classes by ability and then providing them with the same curriculum has limited effect on achievement; but **when the curriculum is altered, clustering and ability grouping benefits all students. Clustering promotes achievement among all groups and grade levels of students**, and no particular group of students misses out on the gain.⁵

³ Currently, with the exception of math classes at the middle and high school level, Arlington largely does not require any class-wide achievement grouping of students. Arlington also mostly does not, with the exception of AP classes at the high school level and certain math classes, offer intensified or honors level classes in any subject area. The absence of such classes is regrettable, as they are a classic method of allowing achievement grouping through course self-selection. The APS middle school program of studies requires that team assignments include students of varying achievement levels, with "regrouping" into "achievement groups" for instruction in math and reading/language arts, but without any requirement of curricular adjustment. The Committee's recommendation extends this approach to all core subjects but would require grouping by classes, rather than in subgroups within classes, to allow for appropriate curricular adjustments. Research shows that "when students are ability-grouped into separate classes and given identical curriculum, there is no appreciable effect on achievement." Brulles *et al.*, *supra* n. 1, at 332.

⁴ See, e.g., Kulik, J.A. & Kulik, C.C., "Meta-analytic Findings on Grouping Programs," *Gifted Child Quarterly* (1992), at 73-74, 77; M. Gentry & S.V. Owen, "An Investigation of the Effects of Total School Flexible Cluster Grouping on Identification, Achievement, and Classroom Practices," *Gifted Child Quarterly* (1999), at 117 (internal citations to other studies omitted).

⁵ Brulles *et al.*, *supra* n. 1, at 344-45 (emphasis added), citing Farrar, E., "The effect of ability grouping on student attitudes and achievement in science labs," in McCoy, L.P. (ed.), *Studies in teaching 2003 research digest* (2003), Winston-Salem: Wake Forest University Department of Education, at 51-55; Winebrenner, S. & Devlin, B., "Cluster grouping of gifted students: How to

It is time for Arlington to adopt the achievement grouping model. At the elementary level, this model could be implemented with unit-based flexible across-grade grouping of students, based on teacher-administered pre-testing of unit content. A student's placement for one unit would not determine placement for a different unit or a different subject. The curriculum for each unit would be adjusted to match the achievement level of the group, although every group would cover the standards of learning objectives for the unit.

At the middle and high school level, achievement grouping would occur by placing students in regular or intensified courses in subjects based on past performance and student preference. Grouping decisions would be made each year, as currently occurs with math placement decisions. While the school may recommend a placement for a student based on past performance, the student and his or her parents may request a different placement, if they believe the student needs increased or decreased challenge. Adding intensified level classes in core subjects at the middle and high school levels would allow students who need or seek more challenge to learn a subject at a greater level of rigor and complexity.⁶ At both the elementary and secondary levels, the purpose of this approach is the same: **allow students the opportunity to learn in an environment in which the teacher can target instructional complexity and pace commensurate with the achievement level of the students.** This requires classes in which the curriculum has been adjusted to match the level of students in the class, and in which the student can engage in collaborative learning with like-ability peers.

Achievement grouping is not a return to tracking, because students will be free to move in and out of intensified level courses based on their achievement in prior years, and course placement can vary by subject area, depending on a particular student's strengths. While "tracking" has a negative connotation in pedagogy because of its rigidity, **performance-based achievement grouping and the availability of intensified classes, by contrast, is a flexible approach** that allows teachers to target their instruction to the demonstrated achievement level of the students in their classes, without pre-determining the academic track students will follow after completion of the unit or course.

The mixed-ability group model has not been successful in APS

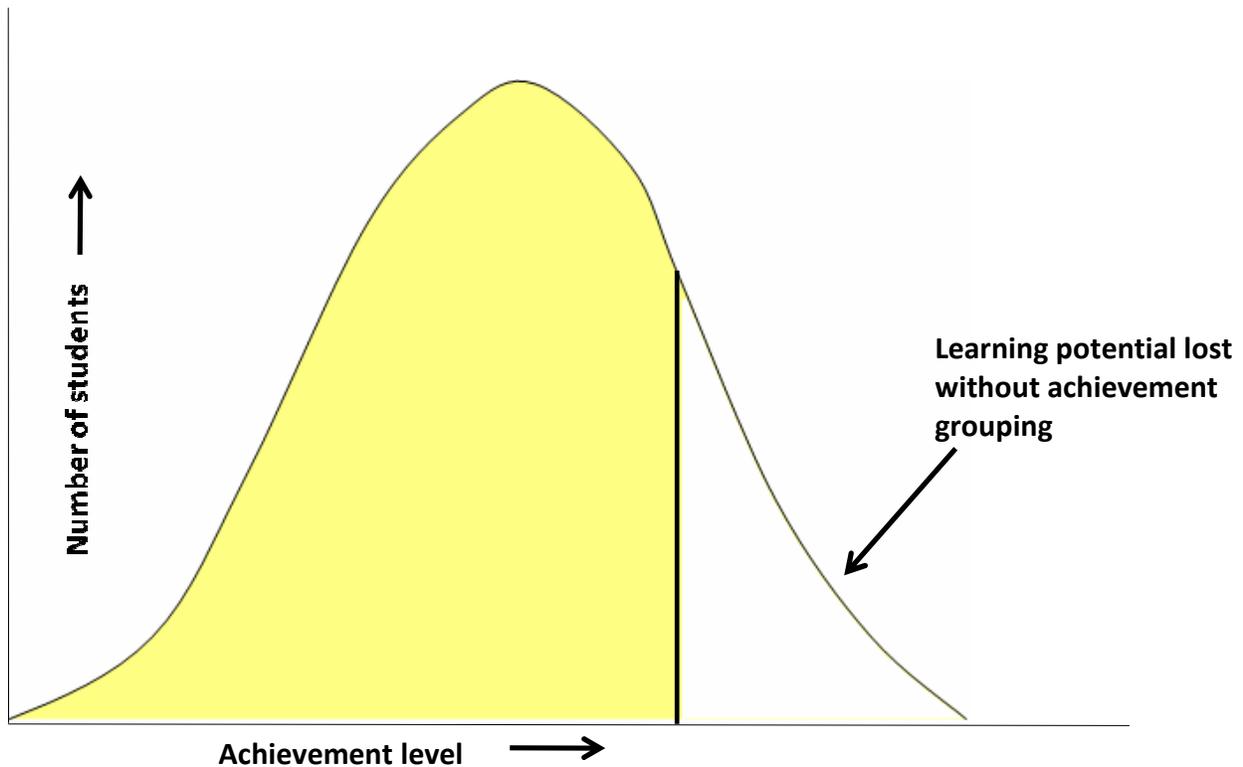
The lack of achievement grouping and adjusted curricular offerings has resulted in diminished educational opportunities for gifted students. Program evaluations at APS have found that **effective differentiation of instruction,**

provide full-time services on a part-time basis (ED607)" (2001); Arlington, VA: ERIC Digests; Cohn, S.J., "The optimal match strategy: An academic alternative for gifted students," in Kanevesky, L. (ed.), *Issues in Gifted Education* (1986), at 44-68.

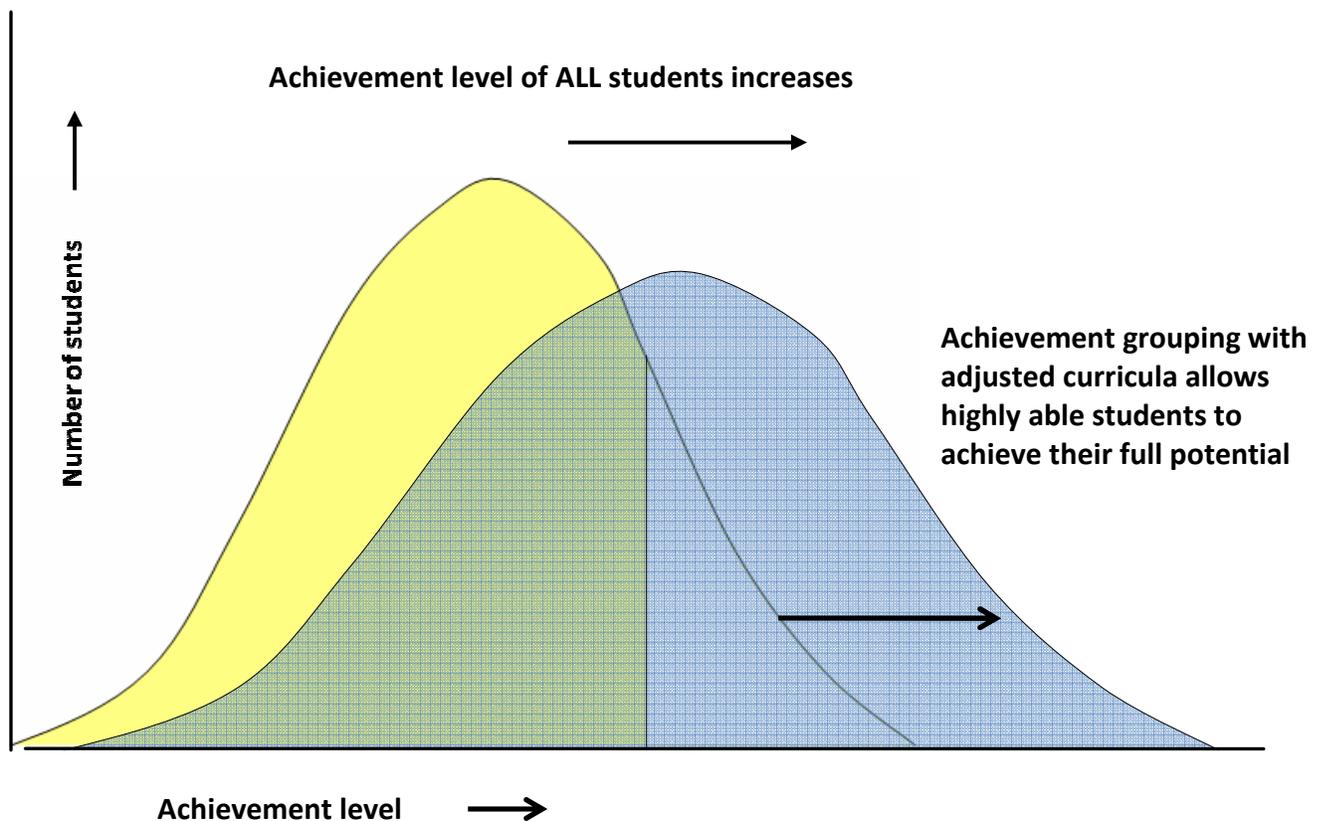
⁶ The Appendix to this Report includes a chart of APS's current offerings in the four core subjects at the middle and high school levels, along with a chart showing the curricular offerings if an intensified course option were available.

specifically differentiation designed for gifted students, is not occurring at a consistent level in mixed-achievement classrooms. In focus groups, classroom teachers report that, given the broad spectrum of ability and achievement levels in their classrooms, they have little option but to devote more of their attention to students who are struggling or at the middle of the achievement curve so that their classes get a high percentage of passing scores on the state Standards of Learning exams. The Committee believes that few instructional efforts are made to challenge advanced students to meet their individual potential, because their passing scores can be taken for granted. Teachers are simply stretched too thin with the current very heterogeneous classrooms and have insufficient time or attention to tailor instruction to each of the many different ability levels in their classrooms.

Without achievement grouping and intensified class options, Arlington in effect has truncated the bell curve of achievement for its students, such that achievement and educational opportunities drop off past the proficiency levels set by the Standards of Learning curriculum offerings:



The model the Committee proposes would instead increase achievement across the spectrum of student abilities, raising the bar and allowing all children to advance academically and meet their individual potential:



Equity requires meeting all students' needs

Achievement grouping benefits all students, but its absence especially harms gifted students.⁷ This is a national problem, not just an Arlington issue. For example, an extensive, multi-year review by the National Science Board decries the current U.S. education system for ignoring excellence and focusing disproportionately on basic skills. According to the report,

Although many past and current educational reforms have focused on the vital goal of raising the general performance of all students, far fewer have focused on raising the ceiling of achievement for our Nation's most talented and motivated students.... [E]ducational

⁷ The harm to gifted students extends beyond the loss of opportunity to make academic progress. See Brulles *et al.*, *supra* n. 1, at 333 (noting that when gifted students “are forced to study material they already know, they become bored and angry, [which are] risk factors for academic problems, including loss of interest, lack of motivation, and underachievement”). See also Rogers, K., “Lessons Learned About Educating the Gifted and Talented,” *Gifted Child Quarterly* (2007), 51: 383 (noting research demonstrating a rise in psychological distress and boredom in high-ability teens who lack daily challenge in school).

opportunity is not a zero-sum game: **true equity means that we must address the needs of all students.**⁸

The report cautions that the economic strength of our country relies on developing the talent of our brightest students: the “critical challenge in this ‘conceptual economy’ is to discover and then develop the next generation of innovators who will help create the products and processes that will fuel our future economic prosperity.”⁹ Arlington, home to governmental and private sector research powerhouses and top-tier cultural venues, needs to take a leadership role in changing the educational model to raise achievement levels across the ability spectrum of students.

Now is the time for Arlington to **close the individual achievement gap. Every child should have the opportunity for an education that challenges that child to achieve to that child’s potential.**

Budget implications: Adopting the achievement-grouping model and instituting intensified course options should not require APS to hire any new teachers or otherwise increase budget expenditures. Rather, the model could be implemented through a reorganization of course offerings and a consistent implementation in all APS elementary schools of cross-grade achievement grouping practices that are already used successfully in a number of APS elementary schools. **Implementing this recommendation should thus raise student achievement without increased financial cost**, except to the extent there may be additional costs relating to individual growth assessments of students for placement recommendations, as addressed in Recommendation Two.

II. RECOMMENDATION TWO:

Base instructional and placement decisions for students on objective measures of individual student progress in order to close individual achievement gaps.

This recommendation ties directly to the Committee’s first recommendation and extends it. Currently, APS’s assessment of student performance is based primarily on Standards of Learning tests, in which the student’s performance is measured relative to the grade-level standards tested in the Commonwealth, not the progress made by the student during the school year. These assessments do not measure individual student growth. Lacking measures of individual student progress has too often resulted in disproportionate attention being paid to group scores on proficiency tests. Too little attention has been paid to whether individual students have shown at least a year of academic growth, regardless of their starting points.

⁸ *Preparing the Next Generation of STEM Innovators: Identifying and Developing our Nation’s Human Capital*, report of the National Science Board (May 5, 2010), at 6, available at <http://www.nsf.gov/nsb/publications/2010/nsb1033.pdf>.

⁹ *Id.* at 8.

APS has “individual achievement gaps”

Evidence from focus group studies and numerous student accounts suggests that “individual achievement gaps” persist in Arlington Public Schools – a gap between a student’s potential and what the student is actually achieving. The Committee’s first recommendation aims to reduce the individual achievement gap by restructuring class placements. This will enable deepening and extending the curriculum for students who have demonstrated that they need challenge beyond the proficiency levels. These changes will also provide additional attention and review for students who need more help achieving proficiency levels. For such class placements to be effective, placement recommendations should be based on objective data about student performance and aptitude. Using objective data will help ensure that student placements are made based on performance and ability, rather than on preconceptions about what the student can achieve.

APS needs objective data on individual students’ progress

APS must seek, collect, and use objective data that allow teachers, parents, students, and administrators to see the progress students are making on an individual level. If we do not have objective data on individual students’ starting and ending points, any assessment of how much progress they’re making – or whether they’re making progress at all – is highly speculative. “Learning is demonstrated by growth in student achievement from one point in time to another point in time – not by status at either point [in] time alone.”¹⁰

Without these data, teachers and administrators are unable to provide objective answers to parents’ basic questions:

- Did my child make a year’s progress in each subject this year?
- Did my child make more progress in some subjects than others?
- Did my child make as much progress this year as last year?¹¹

The promise of value-added assessment

The Committee has recommended for several years that APS investigate value-added evaluative assessment systems to determine whether each student is making at least one year of progress in each academic subject each year. This could be done by building on Virginia’s Longitudinal Systems Expansion Project¹² or by using the Value-Added Assessment tools that are offered by the SAS Institute (and

¹⁰ Betebenner, D.W., “The Virginia Growth Model: Changing Conversations about Education,” CIT/DOE Growth Measures Project Workshop, Herndon, VA, November 15, 2010.

¹¹ Adapted from Betebenner, *supra* note 10.

¹² See the Virginia Department of Education Growth Measures portal, at <http://www.cit.org/programs/cit-connect/vdoe-gm>.

used by other school districts) to analyze currently-available test data on students to statistically compare each student to other students in the district who have similar testing histories. By measuring the student's actual performance compared to how the student would be expected to perform during the coming school year, these assessment systems offer individually meaningful measures of growth that are simply unavailable when looking at student test scores in isolation.

Ensuring that placement and curriculum match individual student needs

Students' individual progress may also be measured through unit pre-tests at the elementary level, or by their performance in a given subject the previous semester or year at the middle and high school levels. At the elementary level, these results would determine placement for the next unit or set of units; at the middle or high school level, the results would determine placement for the following year. We have recently learned of a new APS initiative to promote more systematic use of formative assessments in grades K-8; this initiative could be useful in supporting flexible placements.

Even with the benefits of achievement grouping, it is important to note that highly able students tend to have different learning styles than their classmates. They may not already know the specific content in a particular pre-test, but they are still likely to learn the new material more rapidly than their classmates.

Measuring collective progress is admittedly convenient for satisfying state and national standards. But this collective assessment masks the failure of many students to achieve the higher levels of learning that they are individually capable of attaining.

Instructing students at the appropriate level would help close the individual achievement gap for all students, but we need objective individual assessments in order to do so. As Dr. Murphy frequently points out, if we don't have quality data, we can't make quality decisions. Ensuring that all of our students achieve their individual potential is not a luxury. It's a matter of equity and fulfilling our responsibilities to Arlington students.

Budget Implications: The Committee's 2006-2007 Report cited a \$2.50 per student cost for the SAS Institute to conduct a "value-added" analysis of test data and noted that SAS did not charge for the initial work of looking at the tests a school district administers or developing a model for the analysis. Based on communication with the SAS Institute, the Committee estimates that APS would be charged approximately \$52,500 for the SAS Institute to perform value-added testing analysis for grades K-12, using data from tests APS already administers and based on student population projections for the 2011-2012 school year. The Virginia Department of Education Growth Measures project may also provide alternative methods of obtaining such data.

III. RECOMMENDATION THREE:

Provide an equitable, appropriate education for all students, including gifted students, through consistent application of APS policies across schools, and by maintaining and strengthening Resource Teacher for the Gifted (“RTG”) staffing levels.

We have a responsibility to provide **all** of our students with an appropriate education which will enable each and every student to meet basic competencies, standards of learning, and achieve their optimum potential, truly leaving no child behind. At the same time, we must also serve students who may have already mastered these standards and basic competencies. Any parent or educator knows full well that **“fair and equal” does not mean “exactly the same.”** This is sometimes the unintended result for some members of our gifted student population. In the press of legitimate concern to address and meet the needs of struggling and grade-level learners, our accelerated learners may receive less attention. It may be presumed that, educationally, “they will be just fine on their own,” having already mastered grade level requirements. Unfortunately, research does not support this assumption.¹³ For example, studies have estimated that from 10 percent to 50 percent of gifted students nationwide underachieve at some point in school.¹⁴

Students need consistent implementation of APS policies and preservation or enhancement of Resource Teacher for the Gifted staffing

Approximately one in four students in Arlington County Public Schools is identified as needing gifted services by graduation. Cognizance of the legitimate learning needs of thousands of students is critically important.¹⁵ To support the goal of equitable, appropriate education, the Committee recommends that the School Board focus on oversight of **consistent application of existing APS policies related to the education of the gifted across schools and commit to maintaining the planning factor for staffing levels of Resource Teachers for the Gifted** at elementary, middle, and high schools.

Resource teachers are already stretched extremely thin. Current allocations stand at one full-time RTG per each high school, middle school, and elementary school with a student population of 500 or more. Elementary schools with fewer than 500 students are only allocated a half-time RTG. Arlington’s 22 elementary

¹³ Callahan, C. (2000). Special Issue: Demythologizing gifted education. *Gifted Child Quarterly*, 53(4).

¹⁴ See Hoffman, J.O.L., Watson, F.Z., & Christianson, B.P. (1985), “Personal development of the gifted underachiever,” *Gifted Child Today*, 8(3), 12-14; Richert, E.S. (1991), “Patterns of underachievement in gifted students,” in Borland, J.H. (series ed.), *Understanding the gifted adolescent* (139-162). NY: Teachers College Press.

¹⁵ Virginia Department of Education – Educational Information Management, 2009-2010 End-of-year Student Record Collection, Arlington County Public Schools.

schools (12 with full-time RTGs; 10 with part-time RTGs), 5 middle schools, and 4 high schools/secondary programs have a total of 26 resource teachers addressing the needs of close to 4,000 students.

Classroom teachers are responsible for the lion's share of direct instruction of identified gifted students. That said, the RTGs provide essential support, specialized guidance, training, and materials for the classroom teachers. The value that RTGs provide includes direct enrichment activities and accelerated instruction to both individual gifted students and small groups of highly able students, and enriched instruction to all students by modeling lessons for the whole classroom. In addition, RTGs play a critical role in identifying students in need of gifted services. The assumption that appropriate differentiation of instruction by regular classroom teachers occurs in a majority of classrooms is not supported in the current gifted services program evaluation.¹⁶ The services and support provided by the RTGs thus serve as bright intervals of challenge and engagement for many gifted students who otherwise experience school as a place that provides few opportunities for them to fully use their capabilities and intellect. Thus, while additional measures are needed to provide equity of educational opportunity to all students, including gifted students (as noted in the Committee's first two recommendations), **preserving or strengthening current RTG staffing levels is essential to maintaining the progress that APS has already made in identifying and providing appropriate instruction to highly able students in need of gifted services.**

A need to ensure consistent application of APS policies on differentiation

In addition, although Arlington has already adopted a number of policies aimed at providing all students an education with appropriate, effective differentiated education, those **policies are mere words on paper unless APS enforces consistent application of the policies by principals and teachers.** For example, as the Committee has noted in prior reports, both APS Policy No. 20-1.400 on "Grouping" (that requires cluster grouping of students where "required to provide the most effective and appropriate educational opportunities") and APS Policy Implementation Procedure ("PIP") 35-3.9 (that requires training in gifted instruction for teachers assigned to teach gifted students) are designed to promote appropriate and effective instruction of gifted students. Unfortunately, compliance with the policies varies greatly, depending on the educational philosophy and approach of the principal at each school.

In the past, the Gifted Services department could provide oversight of the application of policies on use of an RTG's time because RTGs reported directly to the Gifted Services Supervisor, rather than to the principal at the school(s) at which each RTG was based. The budget changes last year, however, placed supervision and appraisal of RTGs in the hands of the school principals. Anecdotal accounts indicate that some RTGs have been pressured by principals to devote time to other priorities

¹⁶ APS (2008). *Gifted services evaluation report*. Chandler, K. & Robbins, J. (Co-principal investigators). College of William and Mary.

of the school. Oversight from the School Board and the Central Office is essential to ensure that APS policies are being carried out at the school level in a consistent fashion.

Budget Implications: Enforcement of consistent compliance with APS policies should not increase budget expenditures. Maintaining the planning factor for school-based RTG positions may result in additional costs if the student populations at more elementary schools rise above the 500-student threshold, but the Committee does not have data to indicate whether any additional schools will require full-time RTG positions.

IV. COMMITTEE MEMBERS:

Jane Englund (co-Chair); Julia Judish (co-Chair); Herb Fontecilla; Michele Ginnerty; Natalie Goldring; Michael Novak; Robert Ramsey; Kelsey Coia (student member); Makshya Tolbert (student member); Lisa Sockett (ACI Vice Chair). We are grateful to Margaret Gilhooley, the Gifted Services Supervisor and the Committee's staff liaison, for her assistance with our efforts in support of APS Gifted Services and for her continued unwavering support of APS gifted students.

Current APS Offerings in Core Subjects and Proposed Intensified Course Options

Grades 6 – 8

	Math		English		Science		Social Studies	
<u>Grade</u>	<u>Current Offerings</u>	<u>Proposed Intensified Options</u>	<u>Current Offerings</u>	<u>Proposed Intensified Options</u>	<u>Current Offerings</u>	<u>Proposed Intensified Options</u>	<u>Current Offerings</u>	<u>Proposed Intensified Options</u>
6	- Math 6 - Math 6 Intens.	**	- English 6 - Reading	<i>-English 6 Intens. -Reading Intens.</i>	- Science 6	<i>-Science 6 Intens.</i>	- US - 1865	<i>-US – 1865 Intens.</i>
7	- Math 7 Intens. - Algebra I - Algebra I Intens.	**	- English 7	<i>English 7 Intens.</i>	- Life Science 7	<i>-Life Science 7 Intens.</i>	- 1865 - Present	<i>-1865 – Present Intens.</i>
8	- Math 8 - Algebra I - Geometry - Geometry Intens.	**	- English 8	<i>English 8 Intens.</i>	- Physical Science 8	<i>-Physical Science 8 Intens.</i>	- World Geography	<i>-World Geography Intens.</i>

** = no additional offering recommended because APS already provides an intensified option

Intens = Intensified

Grades 9 - 10

	Math		English		Science		Social Studies	
<u>Grade</u>	<u>Current Offerings</u>	<u>Proposed Intensified Options</u>	<u>Current Offerings</u>	<u>Proposed Intensified Options</u>	<u>Current Offerings</u>	<u>Proposed Intensified Options</u>	<u>Current Offerings</u>	<u>Proposed Intensified Options</u>
9	- Algebra I, Part 1 - Algebra I Intens. - Geometry - Geometry Intens. - Algebra II - Algebra II Intens.	**	- English 9 - English 9 & World History Intens. (Block: must be taken together)	<i>English 9 Intens.</i>	- Biology - Biology Intensified - Earth Science	<i>-Earth Science Intens. (allow in 9th also - see below)</i>	- World History - World History Intensified & English - AP World History	**
10	- All of the above - Prob & Statistics -Math Analysis Trig - AP Statistics - Pre-Calculus - Pre-Calculus Intensified	**	- English - English 10 Intens.	**	- All of the above - Earth Science Intens. - Chemistry - Chemistry Intens.	**	- World History and Geography - World History and Geography Intens. - Economics - AP World History - AP European History	**

** = no additional offering recommended because APS already provides an intensified option.

Intens = Intensified

