



Arlington  
Public  
Schools



# Health and Physical Education Program Evaluation Executive Summary

September 2018



## About the Evaluation

The evaluation of the APS Health and Physical Education (PE) program began in 2015-16, during which a planning committee met regularly to develop the questions that would guide data collection. Committee members included staff from Planning and Evaluation, the Health and PE Office, health and PE teachers, school administrators, and a parent. Data collection occurred in 2016-17 and 2017-18.

The evaluation centered on two overarching questions: 1) How effectively was the Health and Physical Education program implemented and 2) What were the outcomes?

Highlights from this study of the Health and PE program include:

- Health and PE instruction connects directly to students' personal physical and social-emotional needs. Students are positive about the impact of their health and PE classes on their lives. In addition to the mental and physical break provided by PE class, they pointed to skills and knowledge they had gained through both curricular areas.
- Instructional practices in health and PE classrooms demonstrate high quality, particularly in emotional support, classroom organization, and student engagement.
- PE instruction is aligned with the APS PE curriculum, addresses student learning through the psychomotor domain, and shows strong evidence of sportsmanship, in alignment with standards of learning addressing social development.
- Across levels, most students are able to perform fitness skills according to age-level criteria.
- Elementary and high school students benefit from the swim program and increase swim skills through the APS swim unit. Most students are deep water swimmers.

## About the Health and Physical Education Program

The primary mission of the Health, Physical, and Driver Education Program is to ensure that all APS students become lifelong learners of wellness by participating in physical activities that develop behaviors and practices to promote a healthy lifestyle.

The Health and Physical Education Office provides system-wide leadership for curriculum, professional learning, and health and physical education instruction to all students in grades pre-K through 10, and physical education electives in grades 11 and 12. At the elementary level, the classroom teacher has the primary responsibility for delivering the health education curriculum. At the secondary level, health education is delivered by the health and physical education teacher, unless there is a health specialist. Driver Education is an elective course offered at Wakefield High School.

## Connection with Systemic APS Processes and Initiatives

In addition to the specific recommendations described below, APS should carefully consider this report's findings and recommendations in light of the following overarching processes, initiatives, and resources. Fundamental and systematic coordination is needed so that we can share, learn from, and build upon both our challenges and successes in a concerted manner.

- *Strategic Plan.* The School Board will adopt performance objectives for the new 2018-24 Strategic Plan in the fall of 2018. In order to ensure we are working toward the overall goal as well as the specific performance objectives, Health and PE will share leadership with Student Services and Administrative Services on two of the objectives aligned with the goal of **Healthy, Safe, and Supported Students**: *Create an environment that fosters the growth of the whole child. APS will nurture all students' intellectual, physical, mental, and social-emotional growth in healthy, safe, and supportive learning environments.* The two objectives are:
  - Key findings on student surveys, including the *Your Voice Matters* and *Youth Risk Behavior Surveys* will show a reduction in bullying, violence, and substance use.
  - Key findings on student surveys, including the *Your Voice Matters* and *Youth Risk Behavior Surveys* will show an improvement in mental health measures and access to mental health resources.

In conjunction with Student Services, Administrative Services, school staff, and community partners, the Health and PE program will implement strategies that lead to a reduction of the students reporting bullying, violence, and substance abuse and an improvement in mental health measures and access to mental health resources.

Over the next year, the Health and PE Office will continue to ensure that our APS Coordinated Prevention services focusing on the social-emotional framework includes strong core experiences for students as well as interventions as needed. Additionally, our goal for 2018-19 is to better understand the issue and to determine next steps.

- *Virginia Graduation Requirements.* The new state diploma requirements call for Virginia graduates to have acquired knowledge, skills, behaviors, and capabilities that qualify as attributes of a career-ready student, and for students to develop the following competencies: critical and creative thinking, communication, collaboration, and citizenship (community and civic responsibility).

Health and physical education provides opportunities for students to apply critical thinking; use collaboration and communication; as well as advocate for community and civic involvement to promote healthy living.

- *Personalized Learning.* The health and physical education program allows for students to have input and choice in their learning paths. High school students can select physical education units to participate in based on their interests and availability of offerings.

## Findings

### Quality of Instruction

**Finding 1: Observations show areas of high quality instruction while pointing to areas of focus for program improvement.**

- Observations using the Classroom Assessment Scoring System (CLASS) indicated high levels of **emotional support, classroom organization, and student engagement** in both health and PE classes. PE observations showed a relatively high level of variation in scores for the emotional support domain, which was stronger at the elementary level. Health observations were rated lower for **instructional support** and **student engagement** than observations of other disciplines.
- PE observations conducted using an APS-developed PE-specific observation tool found that observed instruction was **aligned with the APS PE curriculum**, addressed student learning through the **psychomotor domain**, and showed strong evidence of **sportsmanship**. Using the same tool, observers rated **differentiation strategies effective** in fewer than half of all observations across levels.
- Health observations conducted using an APS-developed health-specific tool found that **lesson objectives were effectively communicated**; and lessons provided **current, accurate, and reliable information** for usable purposes.

**Finding 2: Observed PE instruction indicates that student engagement in moderate to vigorous physical activity (MVPA) varies and does not occur in all PE classes.**

- Based on guidelines established by the Alliance for a Healthier Generation<sup>1</sup>, the Health and PE Office advises that at least 50% of PE class time should be dedicated to moderate to vigorous physical activity (MVPA). For purposes of physical activity observations, the level of exertion required to count as MVPA was defined as “jogging or higher.”
- On average, MVPA took up less than 20% of class time across levels. At the elementary and middle school level, around half of observed classes included MVPA for any amount of time. This was 58% at the high school level.
- There does not appear to be a strong relationship between class size and MVPA time.

**Finding 3: While student feedback indicates they are learning about important topics in health instruction, there appears to be variation in the amount of time students receive health instruction.**

- In a districtwide survey, most middle and high school students recalled learning about **healthy relationships, the importance of sleep, dating violence, and refusal skills** in their health class.
- Many elementary administrators noted that **health instruction is integrated with PE instruction or with other disciplines**. Not all saw this as a concern, though some mentioned that this model makes it difficult to implement or assess health instruction. A few elementary administrators mentioned that health is not taught frequently at their sites.

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<sup>1</sup> [www.healthiergeneration.org](http://www.healthiergeneration.org)

- Observers found that **scheduling of health instruction is fluid and often changes** based on factors such as the need for gym space for a given activity in PE class or availability of a classroom for health instruction. As a result, observers frequently arrived to observe a particular teacher only to find that the teacher was not teaching health at the scheduled time.
- Participants in student focus groups had **varying perceptions of how much time they spend in health instruction** in any given year. This ranged from one to two days at the elementary level to about a quarter of the school year for most high school students. Most middle school students said that health class lasts for about two to three weeks, though it is unclear whether this was a yearly total or referred to two to three weeks per quarter.

**Finding 4: Observations and teacher and student feedback suggest that assessment is an area of focus for program improvement.**

- Observers noted the occurrence of formal or informal **assessment** in 21% of elementary and high school PE observations, and 7% of middle school observations.
- Teachers report that they frequently assess students' PE knowledge and outcomes based on **participation, observation, skills development, and skills production**. Among secondary teachers, another commonly cited factor used for PE assessment was whether students **change clothes and have sneakers**, a practice which is not in alignment with guidance from the Health and PE Office.
- In focus groups, both middle and high school students said there were two consistent factors in grading: **changing clothes** and **participation/effort**.

**Finding 5: Teachers and students agree that providing support for English learners and students with disabilities poses more of a challenge in health instruction than in PE instruction.**

- Most health and PE teachers are *somewhat or very confident* in their ability to provide appropriate support to English learners and students with disabilities in their PE and health instruction.
- Teachers at all levels are more likely to indicate they are *very confident* about providing support to English learners during PE instruction than during health instruction. This is also true for high school teachers regarding their instruction for students with disabilities.
- In student focus groups, English learners said that their PE teachers use strategies like demonstrating and enlisting the help of bilingual students to communicate with them. The teachers also try to speak Spanish sometimes and explain slowly. They felt that their communication with PE teachers is largely successful.
- They also said that their teachers use the same strategies in health as in PE, though generally, they felt that communication in health class is a bit more difficult than it is in PE.

## Class Size

Class size has been an ongoing concern for the Health and PE program, and prior evaluations have included recommendations regarding monitoring class size. Two factors impact class size in PE instruction:

- The number of students enrolled in one class section
- The number of class sections scheduled in the gym at the same time, which determines the total number of students who may be in the gym in one period.

**Finding 6: At the secondary level, there is wide variation in the number of students scheduled in the gym during the same class period.**

- Secondary enrollment over the past three years shows **wide variation in the number of students and teachers (or class sections) scheduled in the gym during the same class period**. In 2017-18, the number of students scheduled in the gym at the same time ranged from 29 to 225 at the middle school level, and 22 to 195 at the high school level. The number of teachers or class sections scheduled in the gym ranged from 1 to 7 at the middle school level, and 1 to 8 at the high school level.
- **At the middle school level, the average number of students scheduled in the gym at the same time has increased** from 58.6 in 2015-16 to 108.4 in 2017-18, and the average number of teachers, or class sections, has increased from two to three.
- The number of students scheduled in the gym at the same time **varies greatly by school**.

**Finding 7: Observations and teacher feedback indicate that larger class sizes have a negative impact on instructional quality.**

- Observations of PE instruction indicate that **class size seems to have a negative impact on instructional effectiveness**.
- Most teachers indicated that their largest class size had a **negative impact on their ability to effectively teach both PE and health**. These sentiments were **stronger regarding health** than PE.

## Use of Resources

**Finding 8: Teachers and administrators both express overall satisfaction with support from the Health and PE Office. Curriculum and professional learning stand out as areas for improvement.**

- **Most teachers and administrators expressed satisfaction with support from the Health and PE Office.**
- **The degree of teacher satisfaction varied by level and by type of support.** Middle school teachers stand out as being far more likely to select *somewhat satisfied* rather than *very satisfied* and also generally having the highest rates of *dissatisfaction*. This was particularly true for the area of **curriculum** support.
- **Feedback from teachers about professional learning opportunities is mixed.** While most teachers indicated that they were *very* or *somewhat satisfied* with professional learning offered by the Health and PE Office, satisfaction tended to be lower for professional learning than other areas of support. Professional learning was the most common theme in open-ended responses about what other support teachers would like to receive from the Health and PE Office.

**Finding 9: Teachers report that use of gym facilities by outside groups can impact their space and equipment.**

- Among teachers who indicated that they teach PE in a facility shared with programs such as Parks and Recreation or other outside sports programs, most indicated that their **instructional space is left in fair condition after use by outside groups**, indicating they can teach with *minor adjustments to the space*.
- Many teachers – more than half at the middle school level – indicated that they *sometimes* find equipment missing after shared space has been used by outside groups, and a smaller percentage indicated that this happens *almost every time the space is used by an outside group*.

Student Outcomes from Health and PE Classes

**Finding 10: Fitness tests show that most students are meeting age-level criteria for a variety of skills, and swim pre- and post-tests show that students are increasing their swim skills.**

- Across levels, most students are able to perform tested skills according to their age-level criteria. Skills that appear to be most difficult for students include **push-ups, back saver sit and reach**, and – at the high school level – **pacers – 15 or 20 meters**.
- Most 3<sup>rd</sup> grade students fell into the *shallow swimmer* category on the pre-test, and the *deep water swimmer* category on the post-test. **Of those who tested at any level below deep water swimmer on the pre-test, almost all showed an increase in skills on the post-test**, and half of those testing at the *deep water swimmer* level showed an increase as well.
- Most high school students fell into the *deep water swimmer* category on both the pre-test and the post-test, and this percentage increased to 81% on the post-test. **Almost all students who tested at the novice swimmer or shallow swimmer level on the pre-test showed an increase in skills on the post-test.**
- While **students with disabilities** at each grade level tended to start out on par with their peers, they were less likely to show progress on the post-test. On the other hand, students who were **limited English proficient, economically disadvantaged, Asian, black, or Hispanic** were less likely to start out on par with their peers, though they made progress on the post-test at rates similar to their peers.

**Finding 11: Students provide positive feedback about the impact of health and PE on their lives.**

- In focus groups, students spoke highly of the impact that PE class has on their lives; the single most-appreciated aspect of PE for both middle and high school students was the **mental and physical break** it offers from seated classroom work.
- Focus group participants were also able to point out some ways that **PE impacts their daily life outside of school**. Examples include learning about proper form and technique for activities they participate in outside of school, or discovering a sport to participate in for exercise.
- Students agreed that **they are more active because PE is built into their school day**, though nearly all thought PE has no bearing on how active they are outside of school.
- Students also strongly believed that they had **learned useful information in health class**.

## Student Outcomes Related to Healthy Life Habits

One goal of the Health and PE program is to foster lifelong habits that contribute to a healthy lifestyle. This includes engagement in regular physical activity, taking care of one's mental health, healthy relationships, and avoidance of risk behaviors such as substance and alcohol abuse.

Findings from districtwide climate and risk behavior surveys are presented in this evaluation not as evidence of the Health and PE program's direct impact on students' engagement in healthy habits, but rather as a source of information about trends the program should take into consideration in program planning and implementation.

### **Finding 12: Healthy nutrition and physical activity behaviors decrease as students get older.**

- **The percentage of students reporting that they eat breakfast five times a week during a typical school week decreases as students get older.** Fewer than half of high school students report that they eat breakfast five times a week, and 16% report that they never eat breakfast during a typical school week.
- **Likewise, students are less likely to report eating fresh fruits and vegetables as they get older.** Across levels, most students report that they eat fresh fruits and vegetables either *several times a day*, or *almost every day*; this percentage decreases from 72% at the elementary level to 56% at the high school level.
- **Students become less likely to engage in physical activity as they progress from 6<sup>th</sup> to 12<sup>th</sup> grade.** While three quarters of 6<sup>th</sup> grade students report that they were physically active for at least 60 minutes a day between four to seven of the last seven days, fewer than half of 12<sup>th</sup> graders report this level of activity, and 20% reported that they were physically active on none of the last seven days.

### **Finding 13: Generally, signs of mental health stressors increase as students get older.**

- **Stress levels increase as students get older**, and by high school, around a quarter of students report *almost always* feeling stressed out. Around 20% of students at all levels indicate that they don't speak to anyone when they are feeling stressed out.
- **As students get older, they are more likely to exhibit signs of depression, and at all grade levels, this is more common among girls.**
- Among secondary students, the percentage of students planning how to attempt suicide is around 10% at most grade levels across years, and **the percentage of students actually attempting suicide is around 5%.**

### **Finding 14: While alcohol use has decreased, trends are less favorable with marijuana, e-cigarettes, and use of prescription drugs without a prescription.**

- **Use of alcohol has decreased across grade levels**, from 2013 to 2017. In 2017, 39% of 12<sup>th</sup> graders reported having at least one drink of alcohol in the past 30 days, and 20% reported binge drinking (5 or more drinks in a row) in the past 30 days.
- **Marijuana use has decreased among 10<sup>th</sup> graders and increased among 12<sup>th</sup> graders**, with 27% reporting having used marijuana in the past 30 days in 2017.



- In 2017, **almost a quarter of 12<sup>th</sup> graders reported having used an e-cigarette** at least once during the past 30 days.
- The percentage of students reporting that they have taken **prescription drugs without a prescription** increases by grade level and was 17% for 12<sup>th</sup> graders in 2017.

**Finding 15: Bullying, harassment, and assault**

- **Students are far more likely to be bullied in person than online, through social media, or text.** Around 40% of 5th grade and middle school students reported having been bullied in person, and this decreases to 31% in high school. Conversely, the percentage of students reporting having been bullied online, through social media or text increases from 5th grade (14%) to middle and high school (20-21%).
- Among students who reported being bullied, **the percentage of students who said they told someone and that person helped decreases by level**, while the percentage of students reporting they didn't tell anyone increases by level.
- **Incidents of sexual harassment or assault differ greatly by student gender.** Around half of female students report that another student has made unwelcome sexual comments, jokes, or gestures that made them feel uncomfortable on school property, compared to a quarter or less of male students. This behavior decreases from middle school to high school, for both girls and boys.

## Recommendations and Staff Action Plan

**Recommendation #1: Develop and implement assessment tools for health and physical education that measure students’ knowledge and skills. Work with health and PE teachers to create assessments that are effective to measure student learning in a variety of settings (gyms, fields, pools, classrooms, weight rooms, etc.).**

Action Plan for Recommendation #1			
Recommendation	Goal	Measures of Success	Action Steps
Develop and implement assessment tools for health and physical education that measure students’ knowledge and skills. Work with health and PE teachers to create assessments that are effective to measure student learning in a variety of settings (gyms, fields, pools, classrooms, weight rooms, etc.).	<p><u>Physical Education</u> – develop and implement assessment tools and procedures to measure physical education knowledge and skills.</p> <p><u>Health Education</u> - develop and implement assessment tools to measure health knowledge and skills.</p>	<p>Rubrics</p> <p>Checklists</p> <p>Tests</p> <p>Quizzes</p> <p>Exit slips</p> <p>Project-Based Learning</p>	<ul style="list-style-type: none"> <li>• Use the curriculum writing process to develop units of study that include the enduring understandings, essential questions, and knows and dos for all K-12 health and PE courses</li> <li>• Work with teachers to create effective assessments to measure the knowledge and skills in the unit plans</li> <li>• Work with teachers to ensure accurate and consistent data entry</li> <li>• Pilot the assessments in schools at each level</li> <li>• Evaluate effectiveness and efficiency of new assessment tools</li> </ul>

**Recommendation #2: Explore options to decrease class size (especially at the middle school level) and the number of classes scheduled each period at the secondary level.**

<b>Action Plan for Recommendation #2</b>			
<b>Recommendation</b>	<b>Goal</b>	<b>Measures of Success</b>	<b>Action Steps</b>
Explore options to decrease class size (especially at the middle school level) and the number of classes scheduled each period at the secondary level.	Decrease class size and reduce the number of classes scheduled each period at the secondary level.	Class sizes at middle and high school across all sections  Periods are limited to the number of classes that can safely occupy spaces	<ul style="list-style-type: none"> <li>• Continue to work with school leadership teams on scheduling</li> <li>• Discuss concerns with school leadership teams to identify factors that affect scheduling and determine possible solutions</li> <li>• Meet with Supervisor and Directors of Counseling to determine class size recommendations aligned with best practices</li> <li>• Meet with Directors of Counseling to create a master schedule that equals the number of spaces available for health and PE instruction</li> </ul>

**Recommendation #3: Improve consistency of health education instruction across levels and schools by:**

- a) Developing and implementing APS health curriculum aligned to state standards in grades K-10
- b) Providing guidelines for time of health instruction at each level
- c) Monitoring implementation of curriculum and time of instruction

<b>Action Plan for Recommendation #3</b>			
<b>Recommendation</b>	<b>Goal</b>	<b>Measures of Success</b>	<b>Action Steps</b>
a) Developing and implementing APS health curriculum aligned to state standards in grades K-10	Write and implement an elementary health curriculum with engaging lessons	Grade appropriate lessons with interactive and engaging lessons  Developmentally appropriate lessons that align with the common instructional framework  Determine time needed for lesson delivery and alignment with the elementary master schedule	<ul style="list-style-type: none"> <li>• Use the curriculum writing process to develop units of study for all K-12 Health and PE courses</li> <li>• Work with school leadership teams, counselors, and teachers to determine the delivery schedule for health lessons</li> </ul>
b) Providing guidelines for time of health instruction at each level	Schools will deliver health and PE instruction having 50% health education and 50% physical education	Schools' master schedules  HPE teachers' schedule  Schools' Health and PE Year Plan	<ul style="list-style-type: none"> <li>• Discuss concerns with teachers and school leadership teams to determine possible solutions</li> </ul>
c) Monitoring implementation of curriculum and time of instruction	Schools will deliver effective health lessons	Observations of health lessons  Reliable information about health schedules	<ul style="list-style-type: none"> <li>• Ensure that each school provides a schedule of health lessons</li> <li>• Build lessons for substance abuse and mental health into yearlong curriculum maps to ensure time is set aside for instruction in these areas including ensuring schools identify</li> </ul>

Action Plan for Recommendation #3			
Recommendation	Goal	Measures of Success	Action Steps
			<p>specific dates for substance abuse and mental health lessons</p> <ul style="list-style-type: none"> <li>• Observe instruction and provide feedback to teachers</li> </ul>

**Recommendation #4: Continue working with Student Services to enhance the instruction for social-emotional learning. This instruction will include mental health, substance abuse prevention, and an understanding of special populations including LGBTQ+.**

Action Plan for Recommendation #4			
Recommendation	Goal	Measures of Success	Action Steps
Continue working with Student Services to enhance the instruction for social-emotional learning. This instruction will include mental health, substance abuse prevention, and an understanding of special populations including LGBTQ+.	<p>Create supplemental instruction and interactive lessons for the following topics:</p> <ul style="list-style-type: none"> <li>• Mental health</li> <li>• Substance abuse prevention</li> <li>• LGBTQ awareness</li> </ul>	<ul style="list-style-type: none"> <li>• Interactive and engaging lessons</li> <li>• Key findings on student surveys, including the <i>Your Voice Matters</i> and <i>Youth Risk Behavior Surveys</i> will show a reduction in bullying, violence, and substance use.</li> <li>• Key findings on student surveys, including the <i>Your Voice Matters</i> and <i>Youth Risk Behavior Surveys</i> will show an improvement in mental health measures and access to mental health resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to collaborate with Student Services to present lessons at all levels</li> <li>• Utilize local resources to provide professional learning opportunities for staff</li> <li>• Build lessons for substance abuse and mental health into yearlong curriculum maps to ensure time is set aside for instruction in these areas including ensuring schools identify specific dates for substance abuse and mental health lessons</li> <li>• Observe instruction and provide feedback to teachers</li> </ul>

**Recommendation #5: Continue working with both ESOL/HILT and Special Education offices to support the needs of all learners.**

Action Plan for Recommendation #5			
Recommendation	Goal	Measures of Success	Action Steps
Continue working with both ESOL/HILT and Special Education offices to support the needs of all learners.	<p>Create supplemental instruction for small groups and individual students</p> <p>Investigate the need for assistants to accompany students to health and PE classes</p>	<p>Success of all students in health and PE classes</p> <p>Guidelines for the role of assistants in health and PE for ESOL/HILT students and students with disabilities</p>	<ul style="list-style-type: none"> <li>• Use the curriculum writing process to develop units of study for all K-10 health and PE courses that include core and intervention lessons</li> <li>• Continue to work with ESOL/HILT and Special Education staff to develop instructional strategies to support all learners</li> <li>• Meet with Directors of Counseling to create a schedule that ensures student access to courses as needed</li> <li>• Utilize APS resources to provide professional learning opportunities</li> </ul>

**Recommendation #6: Improve on Moderate to Vigorous Physical Activity (MVPA) time in physical education classes at all levels.**

Action Plan for Recommendation #6			
Recommendation	Goal	Measures of Success	Action Steps
Improve on Moderate to Vigorous Physical Activity (MVPA) time in physical education classes at all levels	Students participate in moderate to vigorous physical activity at least 50% of time in weekly physical education classes	<p>Key findings on student surveys, including the <i>Your Voice Matters</i> and <i>Youth Risk Behavior Surveys</i> will show an improvement in daily physical activity levels</p> <p>Observations indicate occurrence of MVPA</p>	<ul style="list-style-type: none"> <li>• Work with health and PE teachers to identify lesson components and activities that can increase MVPA</li> <li>• Include exemplar lessons in unit plans</li> </ul>