Arlington Public Schools

Health and Physical Education Program Evaluation

September 2018

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Appendices, including a detailed program description and evaluation methodology, are available at www.apsva.us/evaluationreports.

SECTION 1: FINDINGS

Evaluation Question #1: How effectively was the Health and Physical Education program implemented?

To address this question, the evaluation focused on several areas: quality of instruction, class size, and use of resources.

Quality of Instruction

Classroom Assessment Scoring System

Arlington Public Schools uses the Classroom Assessment Scoring System (CLASS) observation tool to assess the quality of interactions between teachers and students for all program evaluation areas. It was developed by the University of Virginia's Curry School of Education as an early childhood observation tool, and later expanded to include other grade levels. CLASS is now managed by Teachstone, a company in Charlottesville, Virginia.

The CLASS tool organizes teacher-student interactions into three broad domains: **Emotional Support**, **Classroom Organization**, and **Instructional Support**. The upper elementary (grades 4–5) and secondary tool include a fourth domain: **Student Engagement**. Dimensions are scored on a 7-point scale consisting of Low (1, 2), Mid (3, 4, 5), and High (6, 7) ranges.

CLASS observations were conducted in PE classes throughout the 2016-17 school year at all grade levels. Due to the emphasis on physical activity in PE classes, CLASS observers conducted a partial observation focusing on emotional support, classroom organization, and – in upper elementary and secondary observations – student engagement.

Health observations took place during the fall of 2017 in secondary schools. These observations included the full CLASS framework, including instructional support. Observers conducted one 30-minute observation for each observed teacher.

Table 1 shows the percentage of teachers observed by level for PE and health.

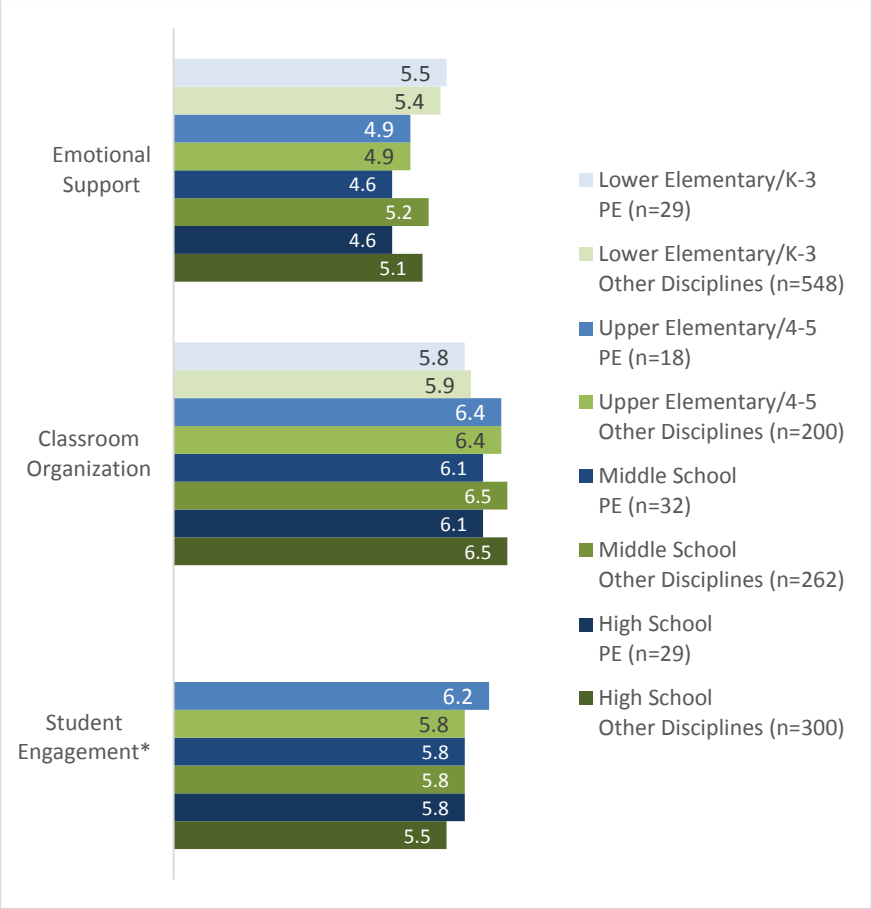
Table 1: Number of CLASS Observations by Level and Course Type

Teacher Group	Number of Teachers	Number of Observations	Percent Observed	Margin of Error (95% Confidence Level)
Elementary PE Teachers	53	47	87%	4.9%
Middle School PE Teachers	36	32	89%	5.8%
High School PE Teachers	37	29	78%	8.6%
Middle School Health Teachers	32	29	91%	5.7%
High School Health Teachers	25	23	92%	5.9%

When interpreting CLASS results, Teachstone advises that typically, half a point to a point difference is considered to be **educationally significant**; in other words, a difference that would impact outcomes for students[1].

Average CLASS scores for observed PE classes (figure 1) indicate a high level of instructional best practices, with scores falling in the mid-high or high ranges across domains. The largest variation among levels is in the **emotional support** domain, with average scores decreasing as the grade level increases. The difference between the lower elementary score (5.5) and the upper elementary (4.9), middle school (4.6), and high school (4.6) scores falls into Teachstone's definition of *educationally significant*. Secondary emotional support also stands out as being the only domain showing a large difference between PE classes and classes observed in other disciplines.

Figure 1: Average PE CLASS Domain Scores



*The Student Engagement domain is not included in the lower elementary CLASS tool.

Within the emotional support domain, the dimension receiving lowest average scores is **regard for student/adolescent perspectives**, and these scores follow a similar pattern to the overall emotional support score, with the average decreasing as the grade level increases (4.5, 3.8, 3.6, and 3.4 at the

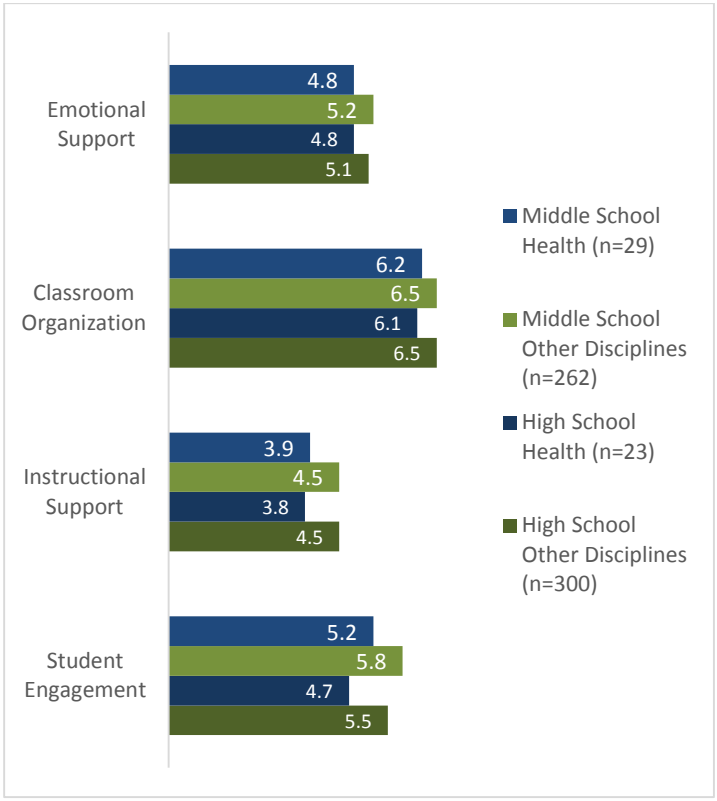
[1] Teachstone, personal communication, June 13, 2014 and January 5, 2016

lower elementary, upper elementary, middle school, and high school levels, respectively). Indicators associated with this dimension include:

- Flexibility and student/adolescent focus
- Connections to current life (upper elementary and secondary)
- Support for autonomy and leadership
- Meaningful peer interactions (upper elementary and secondary)
- Student expression (lower elementary)
- (Lack of) restriction of movement (lower elementary)

Similar to PE observations, average CLASS scores for observed health classes (figure 2) fall into the high-mid or high ranges for emotional support, classroom organization, and student engagement. These observations also included the **instructional support** domain, which fell into the mid range. In comparison to observations of classes in other disciplines, average scores for **student engagement** and **instructional support** were over half a point lower in health observations, an *educationally significant* difference.

Figure 2: Average Health CLASS Domain Scores



Within the instructional support domain, the dimension receiving lowest average scores is **analysis and inquiry**, with an average score of 2.8 at the middle school level and 2.1 at the high school level. Indicators associated with this dimension include:

- Facilitation of higher-order thinking
- Opportunities for novel application
- Metacognition

Further information about the CLASS observation tool, including its domains and dimensions, can be found in **Appendices B1 and B2**. The full report on CLASS scores from the 2016-17 health and PE observations is in **Appendix B3**.

Locally Developed PE and Health Observations

The Health and PE Office, the Office of Planning and Evaluation, and the Health and PE evaluation planning committee adapted and developed three observation tools to assess the prevalence of best instructional practices specific to the disciplines of PE and health:

- **PE instructional practices**: occurrence and effectiveness of expected instructional components
- **PE physical activity**: amount of time students spend being physically active and types of activity
- **Health instructional practices**: occurrence and effectiveness of expected instructional components

Recently retired health and PE teachers from Virginia school districts were hired to observe both types of classes. Observers participated in an all-day training for the two PE observation tools, and a separate training for the health observation tool. The same set of observers conducted observations in both PE and health classes.

PE observations occurred during the 2016-17 school year and health observations occurred during fall 2017 and winter 2018.

PE Instructional Practices

The PE instructional practices observation tool was adapted from a tool that was originally developed for the 2009 evaluation, and has been used by the Health and PE Office since then in conducting informal observations. The number and percentage of teachers observed are shown in table 2.

Table 2: Number and Percentage of Teachers Observed, PE Instructional Practices Observation Tool

Teacher Group	Number of Teachers	Number of Observations	Percent Observed	Margin of Error (95% Confidence Level)
Elementary Physical Education Teachers	53	39	74%	8.1%
Middle School Physical Education Teachers	36	28	78%	8.9%
High School Physical Education Teachers	37	24	65%	12.2%

Occurrence of Instructional Components

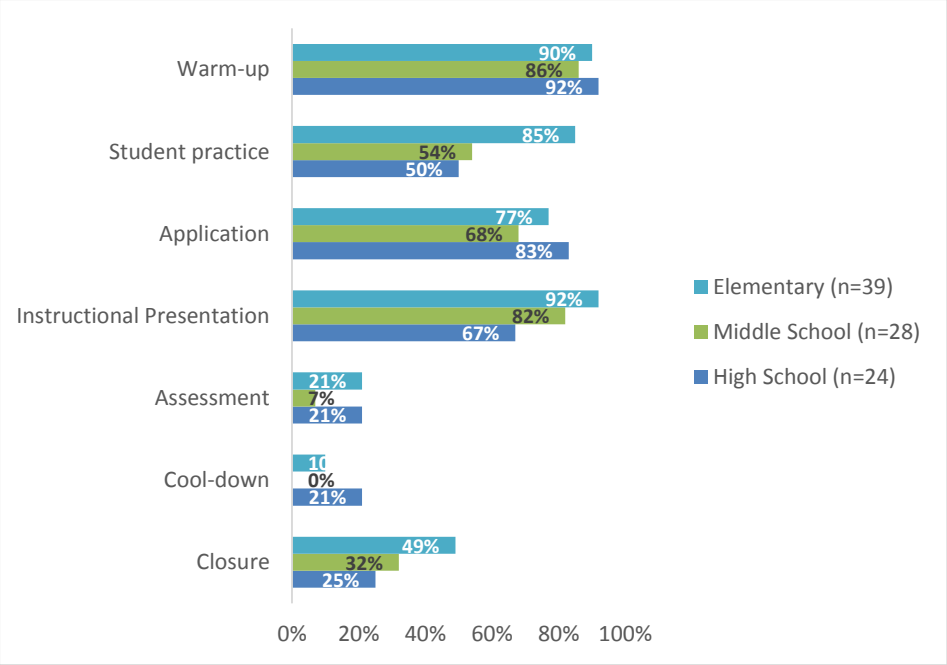
Observers noted which of the following instructional components occurred in each observed PE class:

- Warm-Up

- Student practice (Students reinforce new knowledge and skill development through practice and drills)
- Application (Students combine more than one skill in authentic play or game situations)
- Instructional Presentation
- Assessment
- Cool-down
- Closure

The instructional component most likely to be observed across levels was **warm-ups**, which was observed in 86-92% of all observations (figure 3). At the elementary level, two additional components were observed with a similar level of frequency: **instructional presentation** (92%) and **student practice** (85%). Elements least likely to be observed were **assessment** and **cool-down**, and both of these were particularly low at the middle school level (7% and 0% of observations, respectively). While **closure** was observed in around half of elementary observations, it was observed in just a third of middle school observations and a quarter of high school observations.

Figure 3: Instructional Components in Observed PE Classes



The prevalence of some instructional components varied depending what part of the unit – beginning, middle, or end – was being covered during the observed lesson, particularly at the secondary level.

At the elementary level, observers were more likely to see **closure** occurring at the beginning of the unit (59% of observations) than in the middle (35% of observations). They were also somewhat more likely to see **cool-down** at the beginning (18%) than in the middle (5%).

At the secondary level:

- **Application** was far more likely to occur in the middle (86%) or end (91%) of a unit than at the beginning (44%).
- The prevalence of **student practice** decreased with each part of the unit and was most likely to occur at the beginning (81% of observations, in comparison to 50% of middle-of-unit observations and 32% of end-of-unit observations).
- **Closure** was observed in 44% of beginning-of-unit observations, 14% of middle-of-unit observations, and 27% of end-of-unit observations.
- **Instructional presentation** was more likely to be observed at the end of the unit (82%) than at the beginning (75%) or middle (64%)

Effectiveness of Instructional Practices

The observation tool asked for a rating of *not observed*, *ineffective*, or *effective* for a series of items indicating expected best practices in a PE classroom. As shown in figure 4, the item that was almost equally strong across all levels was "**The physical education content is aligned with the APS PE curriculum**." This was rated *effective* in 92% of elementary and high school observations, and 86% of middle school observations. Other strengths that are common across levels include:

- The teacher addresses student learning objectives in the lesson through the **psychomotor domain.** (92% of elementary observations, 82% of middle school observations, 75% of high school observations)
- **Sportsmanship** is evident. (97%, 75%, 88%)

In addition, 90% of elementary observations and 79% of high school observations were rated *effective* for, "**The lesson allows for opportunities for practice of skills**." This was rated *effective* in just 46% of middle school observations.

The following items were **stronger at the elementary level** than at the secondary level:

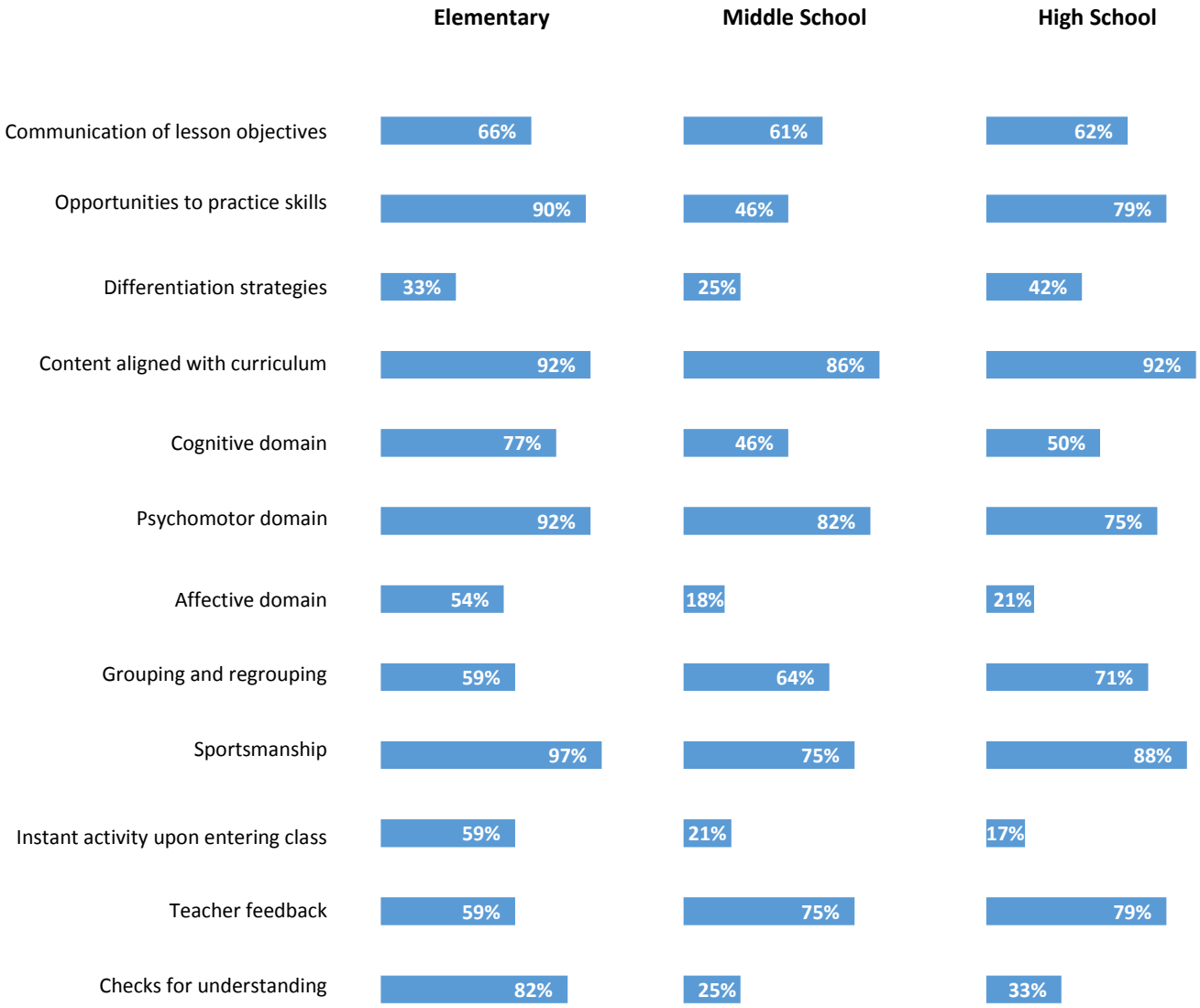
- The teacher addresses student learning objectives in the lesson through the **cognitive domain** (77%, 46%, 50%)
- Number of **checks for understanding** (82%, 25%, 33%)
- Students engage in an **instant activity** upon entering class. (59%, 21%, 17%)
- The teacher addresses student learning objectives in the lesson through the **affective domain**. (54%, 18%, 21%)

The following items were **stronger at the secondary level** than at the elementary level:

- The teacher **moves around the class to provide feedback** to as many students as possible. (59%, 75%, 79%)
- The teacher **groups and/or regroups students**. (59%, 64%, 71%)

Differentiation strategies were rated *effective* in fewer than half of all observations across levels (33%, 25%, 42%), and **communication of lesson objectives** was rated *effective* in about two-thirds of observations across levels.

Figure 4: Percentage Effective: PE Observation Items



Differences in Effectiveness by Part of Unit

Ratings of effectiveness varied depending what part of the unit – beginning, middle, or end – was being covered during the observed lesson, particularly at the secondary level.

Elementary observers completed 17 observations at the beginning of a unit, 20 in the middle of a unit, and 2 at the end of a unit. The two end-of-unit observations are not included in this analysis. Elementary observation items that varied the most depending on the part of the unit were:

- The teacher addresses student learning objectives in the lesson through the **affective domain**. (71% effective at beginning of unit, 35% effective in middle of unit)
- The teacher **groups and/or regroups students**. (65%, 50%)
- Students engage in an **instant activity** upon entering class. (65%, 50%)

- The teacher **moves around the class to provide feedback** to as many students as possible (65%, 50%)

Secondary observers completed 16 observations at the beginning of a unit, 14 in the middle of a unit, and 22 at the end of a unit. Secondary observation items that varied the most depending on the part of the unit were:

- **Objectives for lesson are communicated** in writing and/or orally. (94% effective at beginning of unit, 21% effective in middle of unit, 36% effective at end of unit)
- The teacher **moves around the class to provide feedback** to as many students as possible (88%, 64%, 77%)
- Number of **checks for understanding** (56%, 36%, 9%)
- Students engage in an **instant activity** upon entering class (25%, 36%, 5%)
- The teacher addresses student learning objectives in the lesson through the **affective domain** (19%, 36%, 9%)
- The physical education content is **aligned with the APS PE curriculum** (100%, 79%, 86%)
- The lesson allows for **opportunities for practice of skills** (75%, 57%, 55%)

Differences in Effectiveness by Class Size

Another factor that seems to have an impact on effectiveness is class size. As with part of unit, this impact appears to be greater at the secondary level, where large differences emerged based on class size for most observation items, and in most cases, observations were more likely to be rated *effective* if the class size was average/below average. This data is further explored in the Class Size section (see page 48).

The full report on results of the PE instructional practices observations is available in **Appendix B4**.

Physical Activity in PE

The physical activity observation tool was developed for this evaluation to measure the proportion of class time that students are physically active, as well as what types of physical activity students engage in. The number and percentage of teachers observed are shown in table 3.

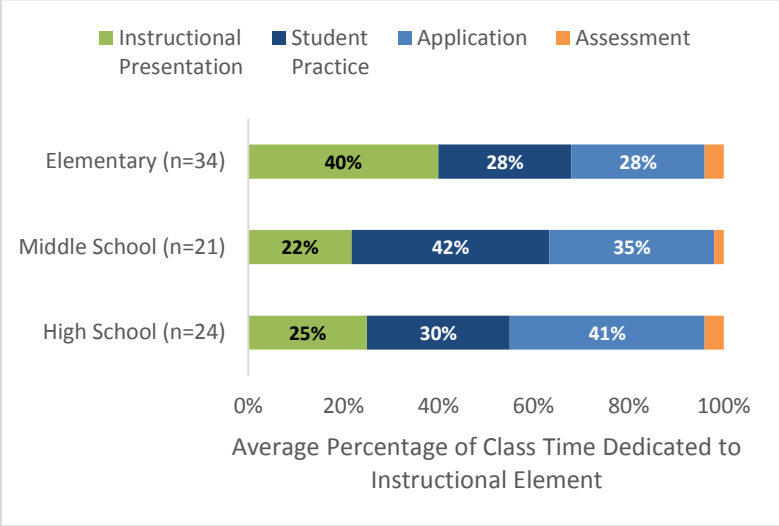
Table 3: Number and Percentage of Teachers Observed, PE Physical Activity Observation Tool

Teacher Group	Number of Teachers	Number of Observations	Percent Observed	Margin of Error (95% Confidence Level)
Elementary Physical Education Teachers	53	34	64%	10.2%
Middle School Physical Education Teachers	36	21	58%	14%
High School Physical Education Teachers	37	24	65%	12%

Across levels, most class time is dedicated to either **student practice** or **application**, though at the elementary level, **instructional presentation** takes up a greater amount of class time (40% on average)

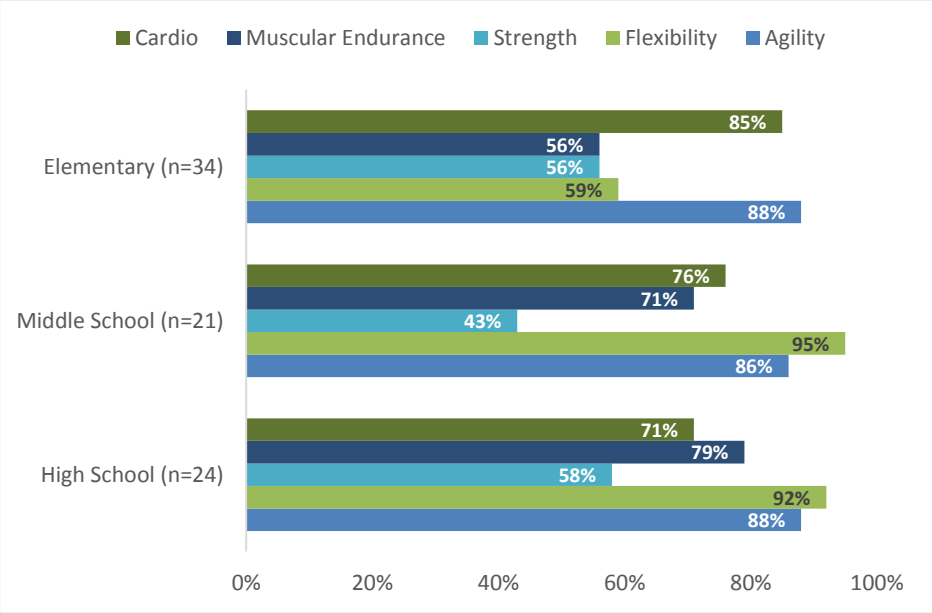
than at the middle or high school levels. **Assessment** takes up a relatively small proportion of class time – between 2% and 4% across levels.

Figure 5: Average Percentage of Class Dedicated to Each Instructional Element



Observers noted the different types of physical activity students engaged in during each observed PE class (figure 6). Across levels, observers were least likely to observe **strength** activities. Among the other types of activities, there were notable differences between elementary and secondary observations. At the elementary level, almost all observations included **cardio** and **agility** activities (85% and 88% of observations, respectively), while **muscular endurance** and **flexibility** were observed far less frequently (56% and 59%, respectively), similar to strength. Both middle school and high school observations noted **agility** and **flexibility** activities at rates above 85%, and **muscular endurance** and **cardio** between 71-79% of the time.

Figure 6: Average Percentage of Observed Classes that Included Specified Type of Activity



Moderate to Vigorous Physical Activity

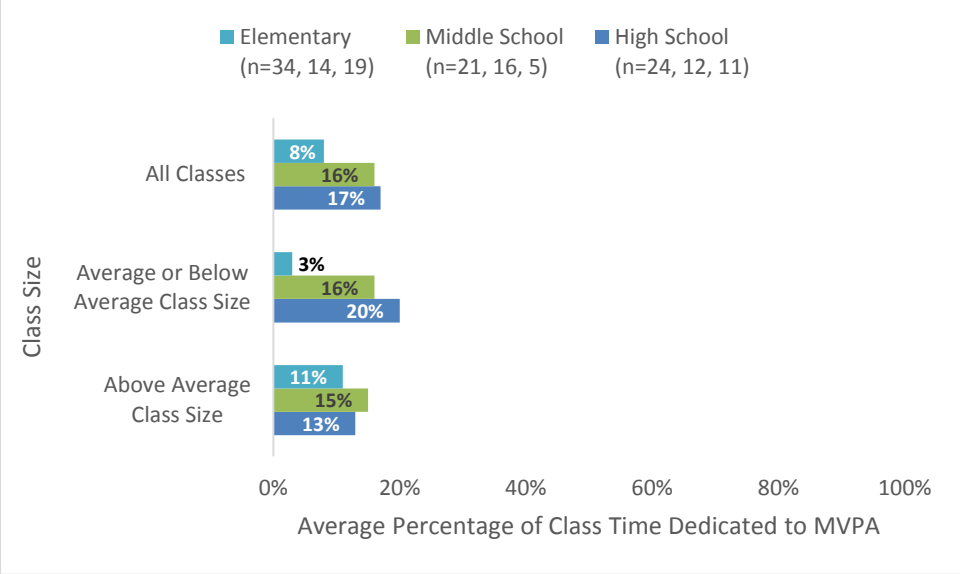
Based on guidelines established by the Alliance for a Healthier Generation[2], the Health and PE Office advises that at least 50% of PE class time should be dedicated to moderate to vigorous physical activity (MVPA). For purposes of these observations, the level of exertion required to count as MVPA was defined as "jogging or higher."

Observers found a wide range of MVPA time and only noted the occurrence of MVPA (for any amount of time) in around half of elementary and middle school observations, and 58% of high school observations (table 4). On average, MVPA took up 8% of class time at the elementary level, 16% of class time at the middle school level, and 17% of class time at the high school level (figure 7). There does not appear to be a strong relationship between class size and MVPA time.

Table 4: Minimum and Maximum MVPA Time

Level	Minimum MVPA Time Observed	Maximum MVPA Time Observed	Percentage of Observations that Noted the Occurrence of MVPA
Elementary (n=34)	0% of class time	34% of class time	47%
Middle School (n=21)	0% of class time	80% of class time	48%
High School (n=24)	0% of class time	79% of class time	58%

Figure 7: Average Percentage of Class Dedicated to Moderate to Vigorous Physical Activity, by Grade Level and Class Size*



* In this graph, the n represents number of observations for each category of class size. For example, there were 21 middle school observations total, 16 that had an average or below average class size, and 5 that had an above average class size.

[2] www.healthiergeneration.org

Student Perceptions of Physical Activity Time

In spring 2017, Planning & Evaluation contracted with an external evaluator to conduct focus groups with middle and high school students to gather feedback on a variety of topics related to their experiences with PE and health instruction. Students in the middle school focus groups said they felt they get approximately 20-30 minutes of physical activity in a 45-minute class. Activities that took away from physical activity included changing, taking attendance, and "getting students to stop talking."

In the high school groups, some of the students took PE in a 90-minute block every other day, and some took PE for 45 minutes every day. Most said they preferred the 90-minute block because that format affords more time for a given activity and minimizes the hassle of changing clothes compared to daily changing. This was particularly true for swimming.

In calculating how much time they spend being physically active, high school students subtracted 15 minutes for changing before and after class, up to 10 minutes for instructions - which they said take longer at the start of a unit and less time in the middle and end – and 5 to 10 minutes for teachers to get students to stop talking. The total non-active time by this estimate is 20 to 35 minutes.

The full report on results of the PE physical activity observation tool is available in **Appendix B5**. The full focus group report is available in **Appendix D2**.

Health Instructional Practices

The health instructional practices tool was developed for this evaluation and is primarily based on guidelines from SHAPE America[3] and the Centers for Disease Control (CDC)[4]. The number and percentage of teachers observed are shown in table 5.

Table 5: Number and Percentage of Teachers Observed, Health Instructional Practices Observation Tool

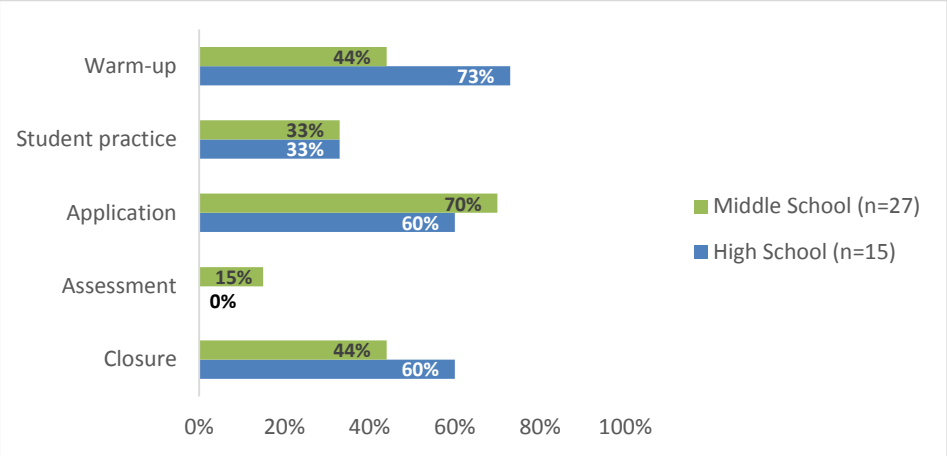
Teacher Group	Number of Teachers	Number of Observations	Percent Observed	Margin of Error (95% Confidence Level)
Middle School Health Teachers	34	27	79%	8.7%
High School Health Teachers	24	15	63%	16%

Occurrence of Instructional Components

The instructional component most likely to be observed across levels was **application**, which was observed in 70% of middle school health classes and 60% of high school health classes (figure 8). **Assessment** was the least observed instructional component and was observed in 15% of middle school classes and none of the high school classes.

[3] www.shapeamerica.org
[4] www.cdc.gov/healthyschools/sher/characteristics

Figure 8: Instructional Components in Observed Health Classes



Effectiveness of Instructional Practices

The observation tool asked for a rating of *not observed*, *ineffective*, or *effective* for a series of items indicating expected best practices in a health classroom. The percentage of observations receiving a rating of *effective* for each item is shown in figure 9. Across both middle school and high school classrooms, the three strongest items were:

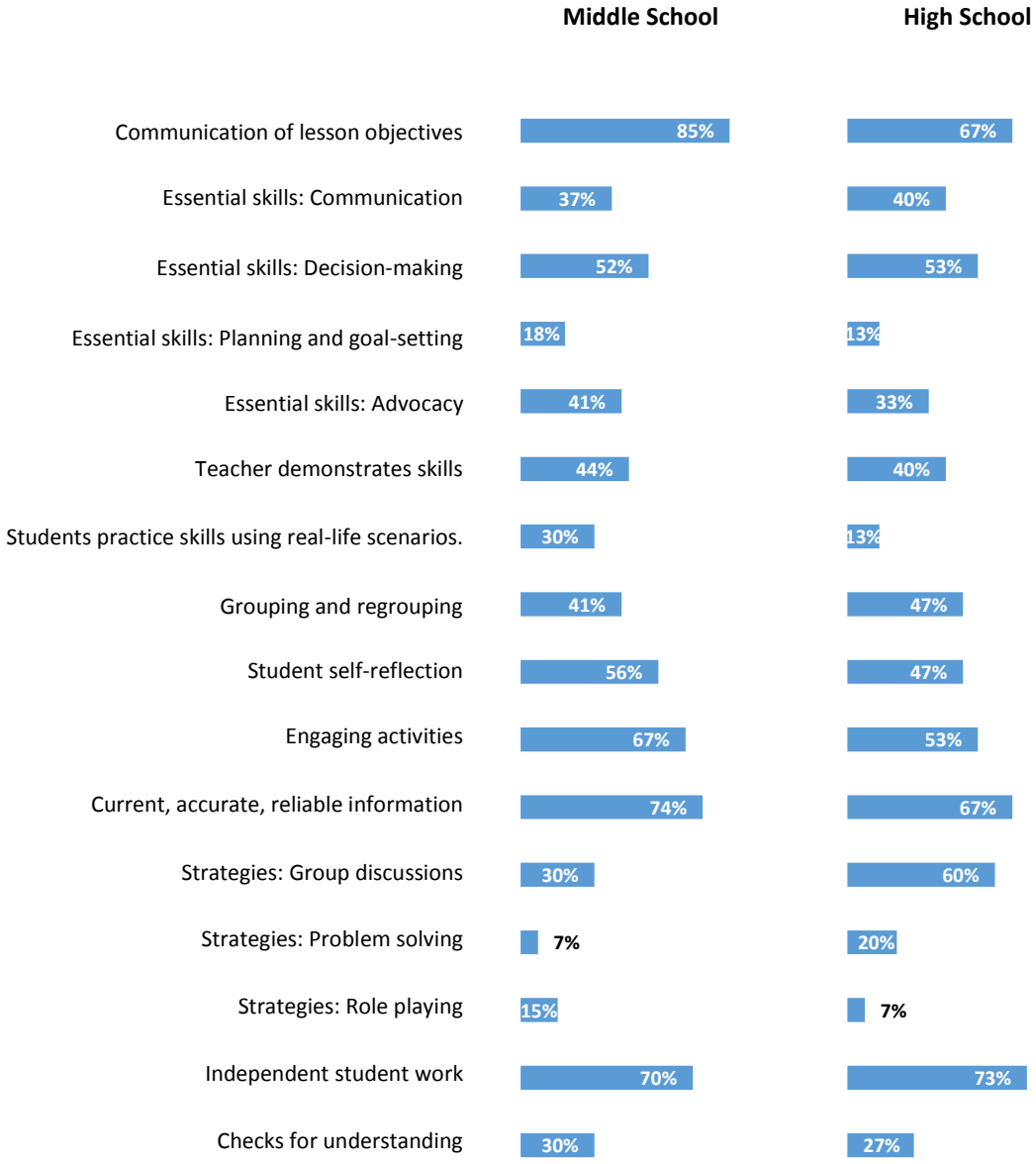
- **Objectives for lesson are communicated** in writing and/or orally. (85% effective in middle school observations, 67% effective in high school observations)
- The lesson provides **current, accurate, and reliable information** for usable purposes. (74%, 67%)
- The lesson includes **independent student work**. (70%, 73%)

The four items least likely to be rated *effective* were:

- The lesson facilitates the development of essential skills- **planning and goal-setting**. (18% effective in middle school observations, 13% effective in high school observations)
- Students **practice and rehearse skills** using real-life scenarios. (30%, 13%)
- The lesson includes instructional strategies and learning experiences that are student-centered, interactive, and/or experiential- **Problem solving** (7%, 20%)
- The lesson includes instructional strategies and learning experiences that are student-centered, interactive, and/or experiential- **Role playing** (15%, 7%)

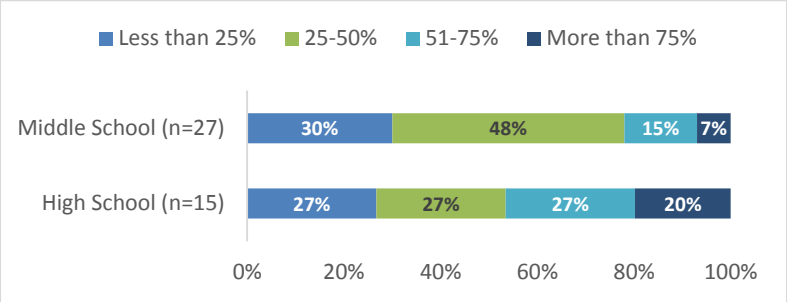
In all of the above cases, these items were far more likely to be rated *not observed* than *ineffective*.

Figure 9: Percentage Effective: Health Observation Items



Observers also noted the proportion of the lesson that was dedicated to whole class lecture. These results are shown in figure 10. Just under a third of observed classes at both the middle and high school levels included whole class lecture for under 25% of the class time, and around half of observed high school classes dedicated more than half the class time to whole class lecture.

Figure 10: Portion of the lesson dedicated to whole class lecture



The full report on results of the health instructional practices observations is available in **Appendix B6**.

Consistency of Health Instruction

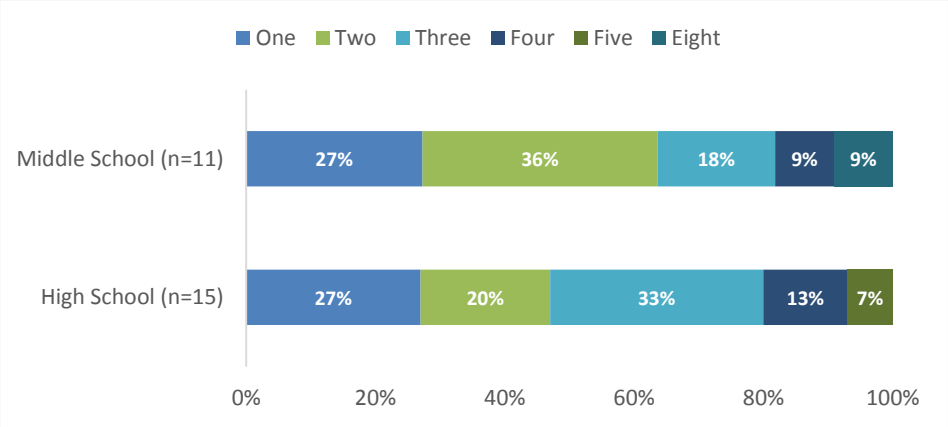
While it is the responsibility of the classroom teacher to provide health instruction at the elementary level, middle and high school students receive health instruction from their health and PE teacher during their scheduled health and PE class.

Scheduling of secondary health observations for this evaluation revealed inconsistency in the way health class is scheduled across schools and within schools. Middle and high school students are enrolled in one class called "health and PE," and there is no information within the student information system to specify on which days a student is receiving health instruction or PE instruction.

In order to complete observations in fall 2017 and winter 2018, Planning and Evaluation requested health schedules from each school. Even with this information available, 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 that time. Staff in the front office, who frequently assist observers in deciphering schedules for other content areas, were not able to provide information to observers about when health was being taught. Scheduling of health instruction appears to be continually coordinated among health and PE teachers throughout the school year. This makes it difficult to confirm how much time students receive health instruction within one school year.

One factor that affects scheduling of health instruction is availability of classroom space. Secondary administrators reported how many classrooms are used at their schools for health instruction; this varied widely and ranged from one to eight (figure 11).

Figure 11: How many classrooms are used for health instruction in your school? (Secondary Administrators)



In focus group discussions, students shared their perceptions of the health instruction they have received in APS – both time of instruction and topics covered.

Nine middle school students who had attended different **elementary schools** reflected on their health education in elementary school. Of those students, two recalled having a teacher other than their PE teacher for health education. In these students' memories, health class occurred on one or two days toward the end of the school year. Some other students said that a full day or two was set aside for health instruction, while others recalled health class being substituted for other classes such as math. They recalled learning about family life, drugs, and nutrition.

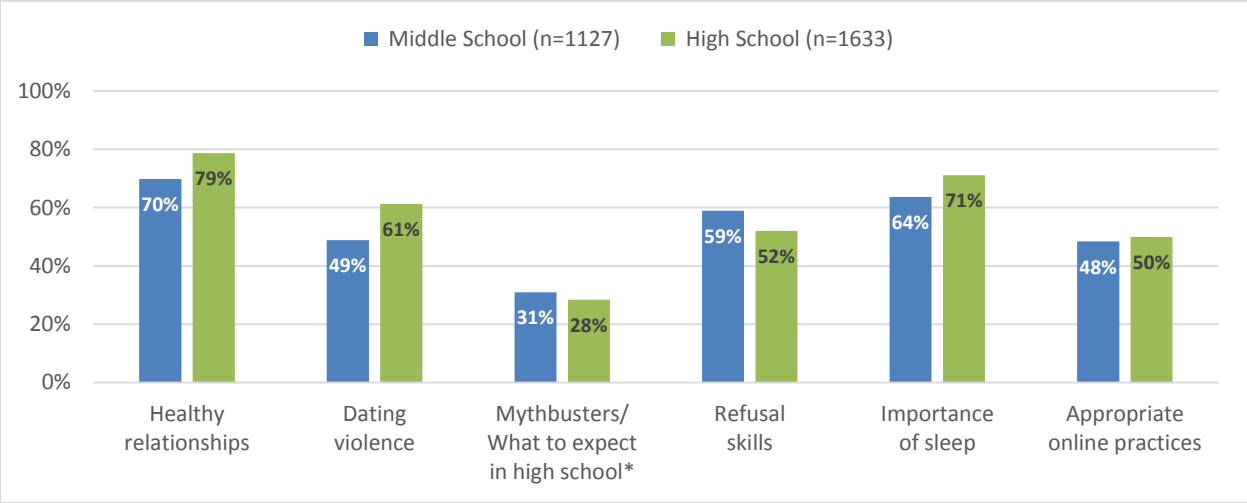
Another group of middle school students reflected on their current experience with health instruction in **middle school**. Most of those students said that health class lasts for about two to three weeks and occurs during the PE class time slot. It is unclear whether students meant two to three weeks total over the course of the year, or two to three weeks per quarter. When asked about what topics they learn about, they mentioned: how your body works/body systems, nutrition, drugs, alcohol, smoking, and bullying.

Most of the **high school** students said that they thought health takes up about one quarter of the school year. Some thought it might last different lengths of time for freshmen and sophomores. They recalled learning about: nutrition, drugs, smoking, alcohol, abusive relationships and relationships in general, sex education (including "how babies are made," sexually transmitted diseases), mental health, mental disorders, stress, body image, texting and driving, genetically modified organisms/food, health-related professions, body systems (such as "brain and nerves"), and first aid (including CPR and choking).

In spring 2018, Arlington Public Schools administered a new district-wide climate and assets survey, the **Your Voice Matters** survey. The secondary student version of the survey included a question about which topics students had learned about in their health class (figure 12). Both middle school and high school students were most likely to remember learning about **healthy relationships** in health class, followed by **importance of sleep**. Between 49% and 61% of students remembered learning about **dating violence** and **refusal skills**. Fewer students selected **Mythbusters**, a high school preparation program

offered in 8th grade only (responses from 6th and 7th graders were removed from the analysis for this topic).

Figure 12: Which of the following topics did you learn about in your health class? Please select all that apply. (Secondary Students)



*Middle school responses for Mythbusters includes 8th grade responses only, since this program is offered in 8th grade. The number of responses for this topic is 538.

Mental Health and Family Life Education Instruction

Elementary classroom teachers and middle and high school health and PE teachers are expected to provide instruction on mental health topics, including depression, anxiety disorders, eating disorders, substance use and mental health, self-esteem, positive self-image, acceptance of self and others, concerns for the needs of individuals with disabilities, suicide prevention, avoidance of self-harming behaviors, personal characteristics that can contribute to happiness for self and others, stress (stress management and stress reduction techniques), and risk factors for other self-destructive behaviors for mental health.

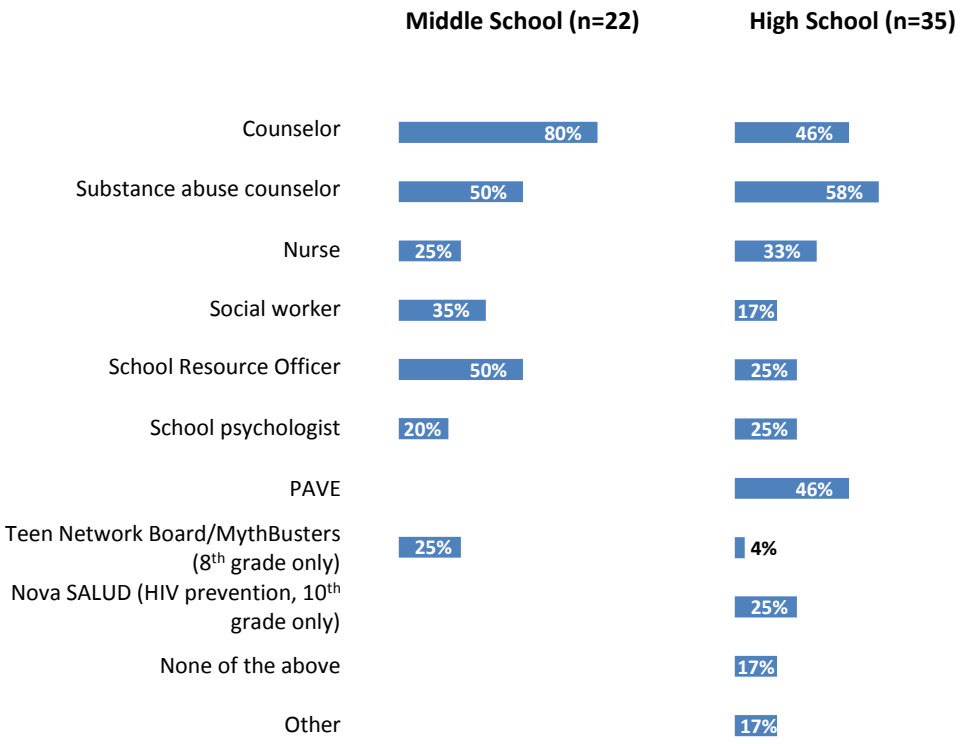
The same teachers are expected to implement the family life education curriculum to help students meet the following goals:

- Develop positive self-concepts and respect for others
- Form and maintain strong relationships with family and community
- Develop self-esteem, self-confidence, and responsibility
- Understand the importance of abstaining from sexual activity
- Manage stress and resist peer pressure
- Develop awareness and knowledge of mental health issues
- Prevent sexual assault and dating violence and recognize abusive relationships;
- Develop into responsible, productive and well-adjusted adults.

As part of the Health and PE evaluation, surveys were administered to school administrators and to health and PE teachers in winter 2018. One of the topics covered by the teacher survey was resources used to implement the **mental health** (figure 13) and **family life education/FLE** (figure 14) curricula.

Eighty percent of middle school teachers reported that they u se **counselors** to aid their mental health instruction, in comparison to 46% of high school teachers. Other popular resources included **substance abuse counselors** at both middle and high schools, **school resource officers** at the middle school level, and **PAVE** (Promoting Awareness Victim Empowerment) at the high school level.

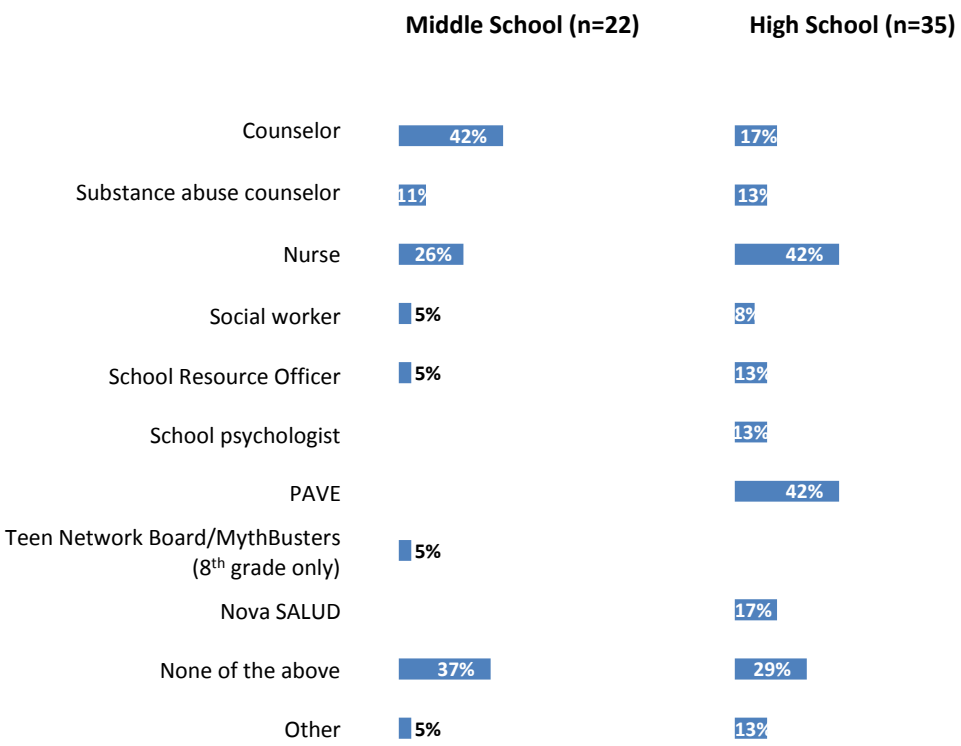
Figure 13: Which of the following resources do you use in your instruction of the mental health curriculum? Select all that apply. (Teachers)



Those selecting "other" indicated that they use resources from the National Alliance on Mental Illness (**NAMI)** in their mental health instruction.

As with mental health, middle school teachers were most likely to indicate that they call upon the **counselor** to aid in their instruction of the FLE curriculum, though at a lower rate than for mental health (42%). High school teachers were most likely to indicate they use the **nurse** and **PAVE** in their FLE instruction. Around a third of teachers at all levels selected **none of the above**.

Figure 14: Which of the following resources do you use in your instruction of the FLE curriculum? (Teachers)



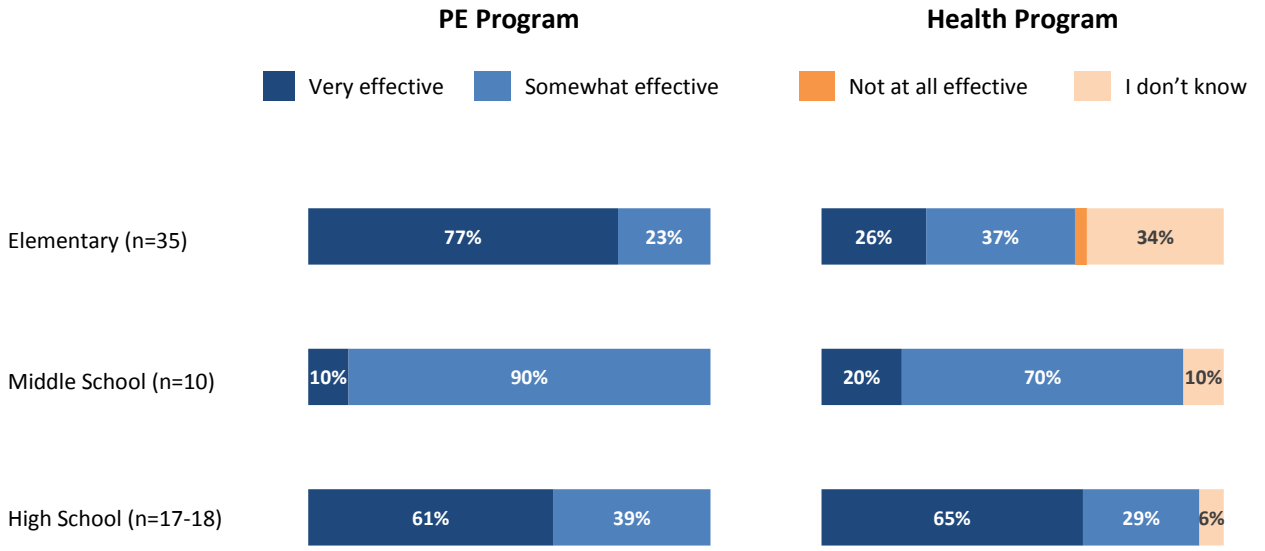
Among teachers selecting "other," resources cited included the APS FLE curriculum, elementary classroom teachers, the Health & PE Office, and the Safe Dates Curriculum.

The full report on health and PE surveys is available in **Appendix D1**. The full focus group report is available in **Appendix D2**, and the full report on Your Voice Matters survey questions is available in **Appendix E5**.

Effectiveness of Health and PE Program

Most administrators feel that the PE and health programs at their school are either *very* or *somewhat effective* (figure 15), though middle school administrators are more likely to feel that each program is *somewhat effective*. Unlike PE, there were administrators who responded *I don't know* when asked about the effectiveness of their school's health program, including around a third of elementary administrators.

Figure 15: How would you rate the effectiveness of your school's PE/Health program? (Administrators)



Administrator Reflections on their School's PE Program

In a follow-up open-ended question, most elementary and high school administrators who rated their school's PE program *very effective* cited **high quality teachers, instruction, and/or curriculum**; **high student engagement**; or **high levels of physical activity** among students. Some high school administrators also noted that their school's program offers a **variety of activities and student choice**.

Among administrators at all levels who rated their school's PE program as *somewhat effective*, many cited **concerns** about the **quality of teaching or the relationship between teachers and students**. Middle and high school administrators also expressed concern about **large class sizes and/or limited facilities**.

Another issue that came up among both middle and high school administrators was a concern about the **need for sensitivity to different students' needs and abilities**.

> *I'd like to see more offerings within PE to support all types of students. Right now, students are running a mile at least once a week, and I think there is a lot more to PE than running.*
>
> - *Middle school administrator*
>
> *Need to work on positively encouraging more students to participate. Need to be more flexible and sensitive to students' individual needs and behaviors (both instructors and curriculum/state requirements).*
>
> - *High school administrator*

Two elementary administrators who rated their PE program *somewhat effective* expressed differing concerns about the extent to which students at their school **enjoyed PE vs learned lifetime skills**.

> *I think the students and other teachers often see it as playtime, rather than learning real lifelong skills. I think there's much more that the teachers can do to take it to the next level.*

- *Elementary administrator*

The planning, technique and skill focus is there. We are working on building rapport with students and making it a fun experience and not strictly skill-based.

- *Elementary administrator*

Administrator Reflections on their School's Health Program

Both elementary and high school administrators who rated their school's health program *very effective* cited **high quality teachers and instruction** as a primary reason. Many high school administrators also shared that the health program at their school was **relevant to students' lives**.

Among elementary administrators who rated their school's health program *somewhat effective*, many noted that **health instruction is integrated with PE instruction or with other disciplines**. Not all saw this as a concern, but some mentioned that this model makes it difficult to implement or assess health instruction.

I think health is just integrated into some of the PE classes, but…there's more the teachers could be doing to promote life-long healthy habits.

- *Elementary administrator*

The health program is often integrated into other disciplines and not assessed as often as reading, math, science, and social studies.

- *Elementary administrator*

A few elementary administrators mentioned that health is not taught frequently at their sites.

Teachers attempt to teach health, but it often gets put aside for other academic subjects.

- *Elementary administrator*

We don't have a clear program.

- *Elementary administrator*

Most middle school administrators who rated their school's health program *somewhat effective* cited **concerns about the quality of instruction**, and most high school administrators who gave this rating noted **large class sizes and/or inadequate facilities**. Concerns about **lack of differentiation** were mentioned by both middle and high school administrators.

The full report on health and PE surveys is available in **Appendix D1**.

Factors Affecting Time of PE Instruction

Secondary PE classes are scheduled during class periods and therefore are consistent across schools and grades in terms of allotted minutes of instruction. At the elementary level, each school develops a master schedule, and delivery models vary in terms of allotted transition time and how students arrive to the gym (delivered by classroom/specials teacher or picked up by PE teacher). At the secondary level, time of instruction is also impacted by locker room clothing changes at most schools. This section

examines factors that affect time of PE instruction, including transition time, delivery of students, and use of the gym for non-instructional purposes.

Elementary Time of Instruction

The teacher survey included questions for elementary teachers about **prep time** in between classes (figure 16) and **instructional time lost to transporting students** (figure 17). Teachers were most likely to report that they have no prep time in between classes (40%), followed by five minutes (29%). Around a quarter of elementary teachers reported that they do not lose instructional time transporting students to/from class, but almost half said they lose between four to six minutes.

Figure 16: On average, how many minutes of prep time do you have in between classes? (Elementary teachers, n=35)

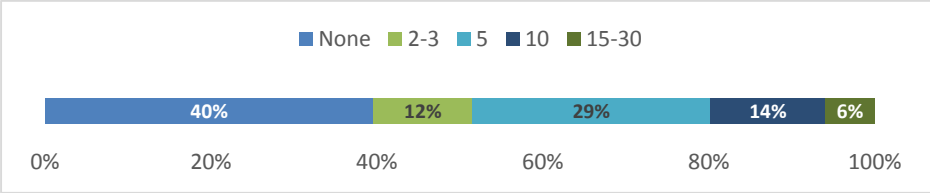
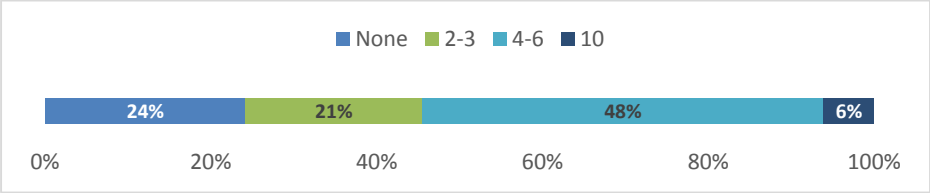


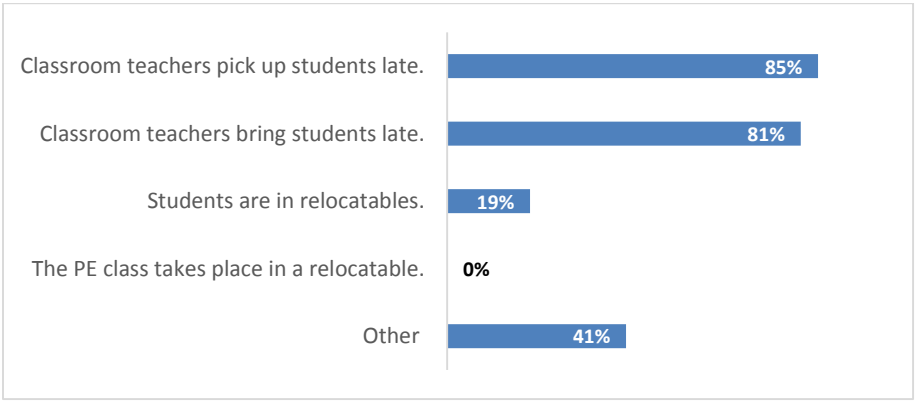
Figure 17: On average, how many minutes of instructional time are spent transporting students (in addition to the allotted transition time)? (Elementary teachers, n=33)*



*Two responses of "25" were omitted from this summary as they were deemed to represent a misinterpretation of the question.

Among teachers who indicated that they do lose instructional time transporting students, the most common reasons for this were that the classroom teacher **picks up students late** (85%) and that the classroom teacher **brings students late** (81%).

Figure 18: What are the factors that contribute to loss of scheduled instruction time for student transitions? Select all that apply. (Elementary teachers indicating a loss of instructional time, n=27)



Among those selecting "other," the primary contributor to loss of instructional time was **transitions with other specials teachers**.

The full report on health and PE surveys is available in **Appendix D1**.

Secondary Time of Instruction

Secondary observers were asked to note both the scheduled start and end times of each class, as well as the true start/end times (not counting locker room and attendance time). The goal of this item was to gauge the proportion of scheduled class time that is actually dedicated to PE instruction. Results are displayed in table 6. On average, classes scheduled for 45 minutes lost about 11 minutes of instructional time, and classes scheduled for 90 minutes lost about 18 minutes of instructional time.

Table 6: Average Duration of Secondary Classes and Average Difference in Duration from Scheduled Class Time*

Level/Schedule Type	Average actual class time	Range of actual class time	Average time difference between scheduled and actual class time	Range of time difference between scheduled and actual class time
Middle School (n=28)	32.3 minutes	25-40 minutes	10.9 minutes	3-18 minutes
High School Non-Block Scheduling (n=13)	34.0 minutes	30-42 minutes	11.2 minutes	3-15 minutes
High School Block Scheduling (n=9)	68.8 minutes	59-85 minutes	17.9 minutes	0-26 minutes

*For this item, observers were asked to note the scheduled class start time and the "true start time (not counting locker room and attendance time)."

Use of the Gym for Non-PE Purposes

The teacher survey included a series of questions about use of the gym for non-PE purposes. Teachers were asked to provide the average number of days their classes lose access to the instructional space or gym due to **assemblies**, **science fair**, **testing**, or **picture day**. These responses are summarized in table 7. Across levels, **assemblies** take up about 3-4 days on average, though there is a lot of variation from school to school. **Testing** has the largest impact at the high school level, with an average of 13 days lost, though this was the event with the highest variation from school to school.

Table 7: During a typical school year, on how many days do your classes lose access to the instructional space or the gym due to the following events? (Teachers)

Level	Event	N	Minimum	Maximum	Mean	Std. Deviation
Elementary	Assemblies	34	0	13	3.9	3.388
	Science fair	26	0	0	0.0	0.000
	Testing	26	0	0	0.0	0.000
	Picture day	32	0	2	0.6	.793
Middle School	Assemblies	22	0	10	3.5	2.385
	Science fair	21	0	2	0.5	.750

Level	Event	N	Minimum	Maximum	Mean	Std. Deviation
	Testing	20	0	12	0.9	2.739
	Picture day	22	0	3	1.3	1.041
High School	Assemblies	21	0	10	3.2	2.294
	Science fair	17	0	2	0.2	.664
	Testing	19	0	60	13.0	16.663
	Picture day	17	0	2	0.1	.485

Table 8 shows open-ended responses to the question, "**What other events cause your classes to lose access to the instructional space or gym, and for how many days during the year?**" Responses show a wide spectrum of non-PE related activities that take place in the gym.

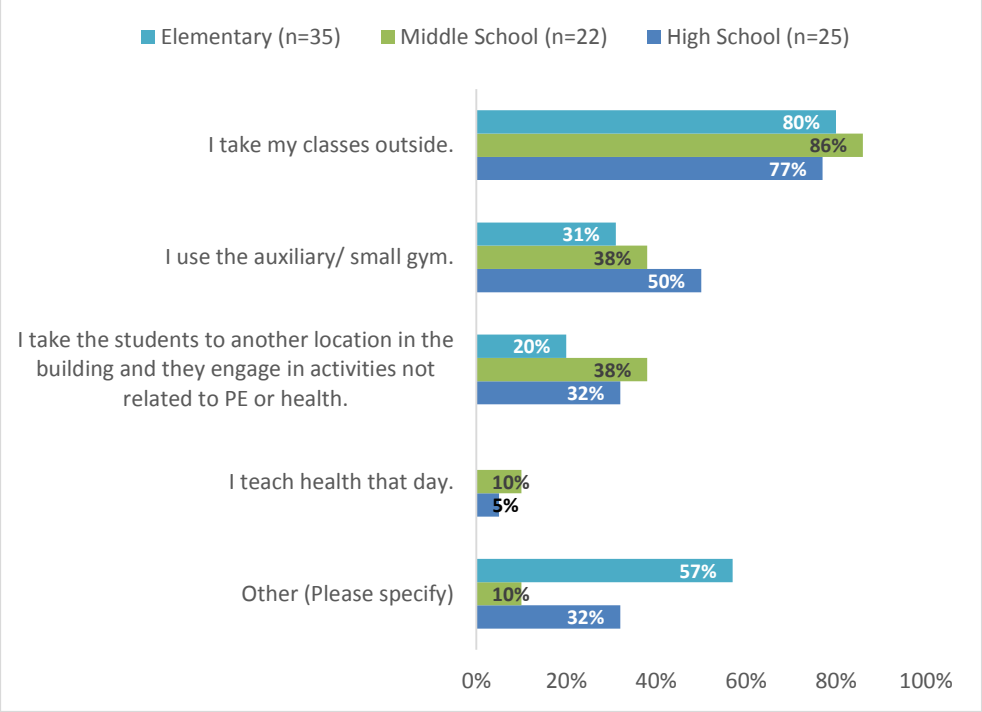
Table 8: What other events cause your classes to lose access to the instructional space or gym, and for how many days during the year? (Teachers)

Response Category	ES	MS	HS	Total	Sample Response
Election Day	13	0	0	13	• Voting days normally once or twice a year
Team sports set up/games	1	8	3	12	• Wrestling meet set up, basketball game set up • We don't have access to two smaller spaces during 2nd and one of the spaces during 3rd quarter because of sports.
None	7	3	1	11	• This is not an issue for us • None
Issues with the physical space	1	4	3	8	• Water damage to the gym floor • Rooms under maintenance • When the county sends people out to work on the baskets or bleachers during instructional time in the gym.
Rehearsals/Performances	3	1	3	7	• School play • Play staging area, rehearsals
Promotion	3	3	0	6	• 5th grade promotion/practice but to be fair if temperature is good we go outside
Lunchtime activities	0	0	4	4	• Lunch intramurals use half of our gym, often when we have four classes • Every day we lose half the gym during lunch so students eating lunch can play basketball.
Assemblies	3	0	0	3	• A few afternoons for large assemblies • We have morning meeting in the gym once a month
Senior Picnic Day	0	0	3	3	• Senior Picnic Day
Testing	0	1	1	2	• AP testing, SOL testing
Field trips	0	2	0	2	• Field trips meeting in the cafeteria
Other	0	3	2	5	• Counseling events

Response Category	ES	MS	HS	Total	Sample Response
					• Student surveys that are administered during their PE classes • Blood Drive (one day)

Almost all teachers at all levels indicated that one of the alternatives they employ when the gym or instructional space is not available is to **take their classes outside**, and between a third to a half indicated that they sometimes use the **auxiliary or small gym**. Between 20% and 38% of teachers indicated that one alternative they use is **to take students to another location in the building where they engage in activities not related to PE or health**.

Figure 19: Which of the following alternatives do you employ when the gym or instructional space is occupied by a non-PE related event? Select all that apply. (Teachers)



In open-ended responses, teachers listed a variety of other alternatives they use when the gym is not available (table 9). These alternatives include providing PE instruction in the **homeroom** (for elementary teachers) and **other spaces in the building.** Four teachers said that they may **cancel class**, and two teachers said they **double up with another teacher**.

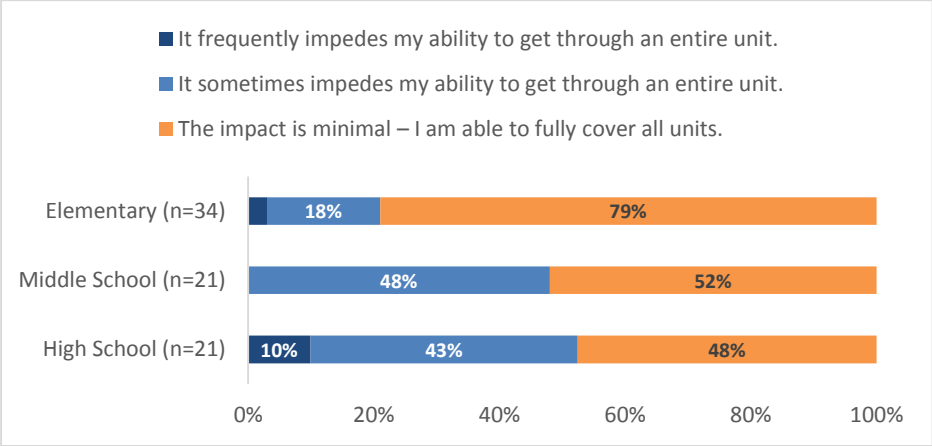
Table 9: Other Responses: Which of the following alternatives do you employ when the gym or instructional space is occupied by a non-PE related event? Select all that apply. (Teachers)

Response Category	ES	MS	HS	Total	Sample Response
Homeroom	10	0	0	10	• …in the classroom and do small space activities • Classroom activities (cup stacking)

Response Category	ES	MS	HS	Total	Sample Response
Other spaces in the building	3	0	4	7	• Hallway • Other spaces in the school for gym (ex. Wrestling room) • Use weight room, go outside if possible, use hallways
Go outside	3	1	2	6	• Weather permitting we go outside.
Cancel class	2	1	1	4	• Class is canceled • On picture day we are responsible for getting all of our classes through the picture line. No PE or Health this day • Every once in a while, they just don't have class because there are no options
Multipurpose room	3	0	0	3	• If the multipurpose room is available, I can use that space.
Cafeteria	2	0	0	2	• Cafeteria when there is no lunch
Double up in other gym space	0	1	1	2	• I push in with another teacher. • We just double up classes in the main and small gym

Around three-quarters of elementary teachers indicated that use of the gym for non-PE related activities has a *minimal impact* on their ability to delivery PE instruction. At the secondary level, this was closer to half.

Figure 20: Generally, how much of an impact would you say use of the gym for non-PE related activities has on your ability to deliver PE instruction? (Teachers)



Complete results from the PE instructional practices observation tool are available in **Appendix B4**. Health and PE survey results are summarized in **Appendix D1**.

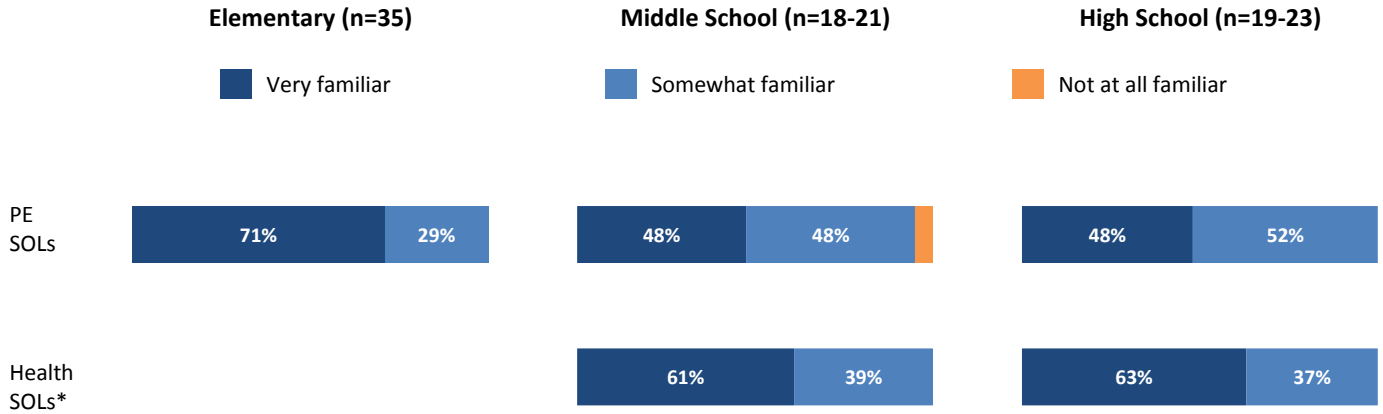
New Health & PE Standards of Learning

New Health and PE standards of learning (SOLs) were introduced in 2015-16, adding nutrition and healthy eating to the PE standards, and mental health concepts and safe dating/sexual assault

prevention to the health standards. The Health and PE Office offered a variety of professional learning focused on implementing the new standards during that year.

The teacher survey included a series of questions to gauge teachers' familiarity with the new SOLs. Almost all teachers reported that they are either *very* or *somewhat familiar* with the new SOLs. Elementary teachers were more likely than secondary teachers to indicate that they are *very familiar* with the PE SOLs. Secondary teachers were more likely to report that they are *very familiar* with the health SOLs than the PE SOLs.

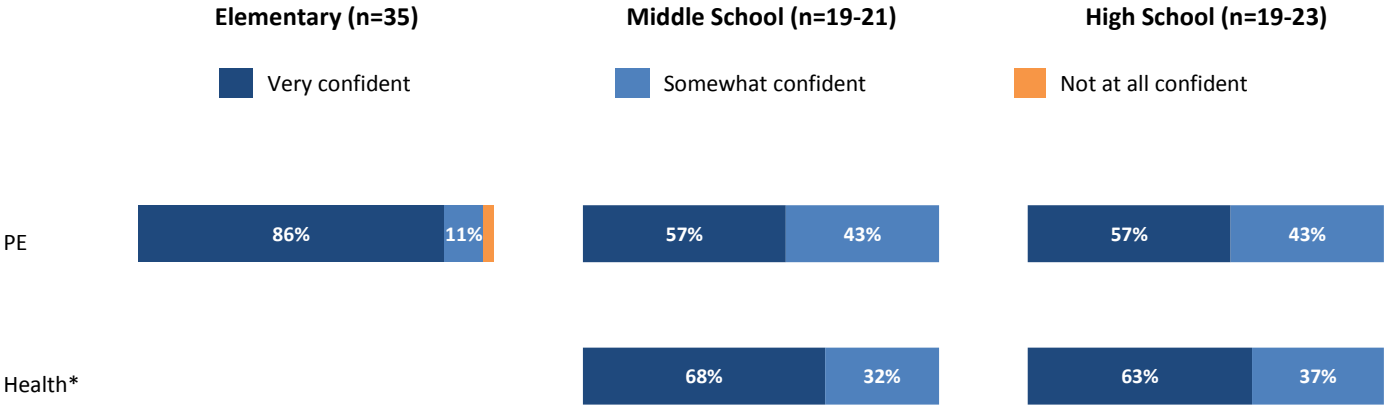
Figure 21: How would you rate your level of familiarity with the new PE/Health SOLs? (Teachers)



*This question was asked only of secondary teachers who indicated that they teach Health.

In terms of their confidence in their ability to implement the new SOLs in their PE or Health instruction, responses were similar to the above question. Almost everyone indicated that they are *very* or *somewhat confident*, with elementary teachers the most likely to indicate that they are *very confident* in their ability to implement the new SOLs in their PE instruction. Secondary teachers were more likely to indicate they are *very confident* in their ability to implement the new health SOLs than the new PE SOLs.

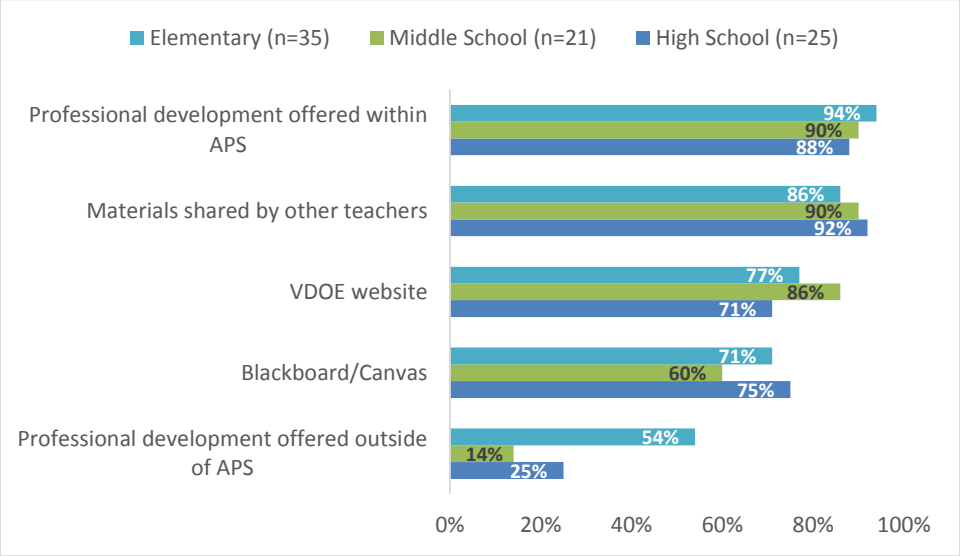
Figure 22: How confident are you in your ability to implement the new SOLs in your PE/Health instruction? (Teachers)



*This question was asked only of secondary teachers who indicated that they teach Health.

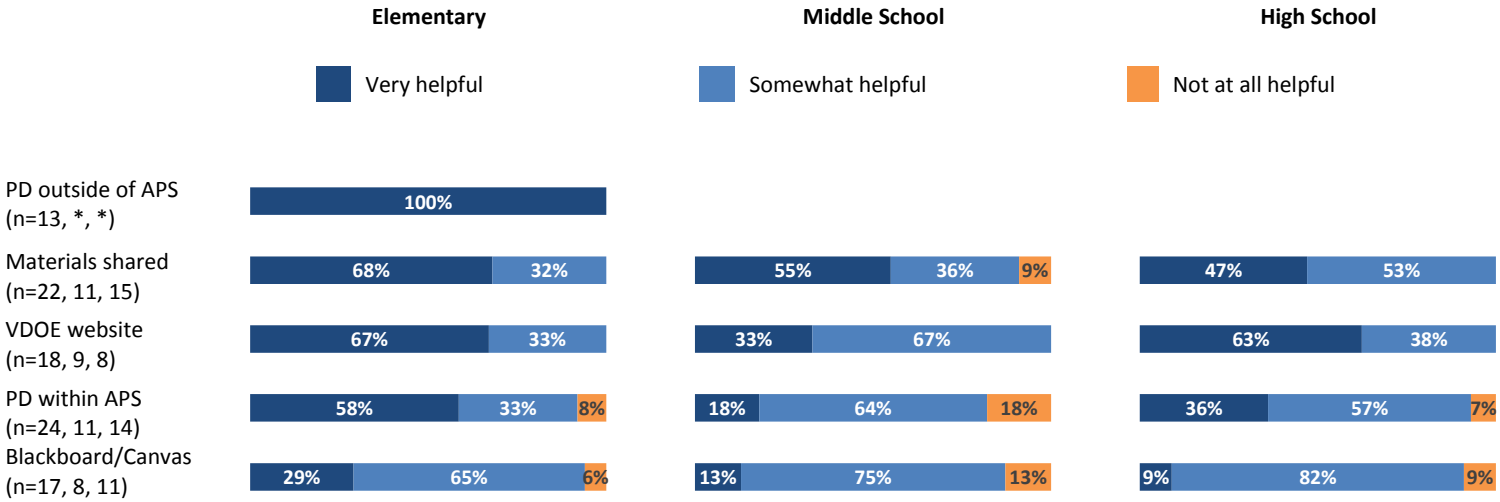
Across levels, almost all teachers indicated that they had familiarized themselves with the new SOLS through **professional development offered within APS** and **materials shared by other teachers**. Most teachers had also referred to the **VDOE website** and **Blackboard** or **Canvas**. Around half of elementary teachers indicated they had attended **professional development offered outside of APS**; this rate was lower among secondary teachers.

Figure 23: Percentage Selecting Yes: Have you used any of the following resources to familiarize yourself with the new SOLS? (Teachers)



Almost all teachers indicated that the resources they used to familiarize themselves with the new SOLs were either *very* or *somewhat helpful*, though there was variation across resources in the percentage of teachers selecting *very* over *somewhat*. Generally, teachers were most likely to indicate that **professional development offered outside of APS, materials shared by other teachers**, and the **VDOE website** were *very helpful*.

Figure 24: How helpful were these resources? (Teachers who used listed resources)



*n is less than five; results not included.

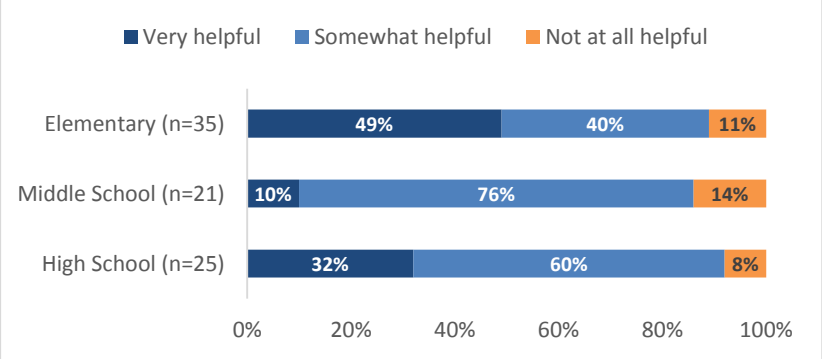
Asked what other resources they had used to familiarize themselves with the new SOLs, popular responses included **online resources**, **none**, or **help from colleagues**.

Table 10: What other resources have you used to familiarize yourself with the new SOLs? (Teachers)

Response Category	ES	MS	HS	Total	Sample Response
Online resources	7	1	0	8	• Online resources (PE Specialist, OPEN, etc.) • SHAPE America website and others • Researching and looking up on the internet
None	3	2	1	6	• None
Help from colleagues - discussion, shared lesson plans, etc.	1	2	3	6	• Discussions with colleagues • Lesson plans created by APS HPE employees • Collaborating with other HPE teachers on interpretation and projects/lessons to implement them
Having printed copy as reference	2	0	0	2	• Keeping a printed copy to refer to when needed
Other	3	3	0	6	• Attended Professional Conferences • Writing curriculum

Teachers were generally positive about the support they have received from the Health & PE Office in their implementation of the new SOLs. While almost all teachers indicated the support had been *very* or *somewhat helpful*, elementary teachers were again the most likely to select *very helpful*. Just 10% of middle school teachers found the support to be *very helpful*, and around a third of high school teachers selected this response.

Figure 25: How would you rate the support you have received from the Health & PE Office in your implementation of the new SOLs? (Teachers)



Asked what additional resources or support would further help them in their implementation of the new SOLs, popular responses included **more time for collaboration with HPE colleagues**, **lesson ideas**, **more professional development**, and **pacing guides or curriculum**.

Table 11: What additional resources or support would further help you in your implementation of the new SOLs? (Teachers)

Response Category	ES	MS	HS	Total	Sample Response
More time for collaboration with HPE colleagues	4	5	2	11	• Meeting more often to share resources with fellow PE teachers • It…would be nice to be given collaboration time, both with our schools and with other schools, to share ideas on how to implement the new standards
Lesson ideas	2	7	2	11	• Concrete, complete lesson plans and specific examples (not created by APS teachers). It's frustrating to always have to work on creating these things on our own. • It would be nice to be given ideas on lessons to do that use the new SOLs.
None/Not sure	4	2	0	6	• Not sure yet • None
More PD generally	3	1	1	5	• I would like to see more workshops offered to us • Continue more professional development sessions to use them
Pacing guide/curriculum	3	2	0	5	• A countywide pacing guide of what is to be visited throughout the year and how long. • There needs to be a standardized health curriculum
More PD: Outside experts or events	2	0	0	2	• More inservices led by outside resources
Specific resources for anatomy and energy balance	2	0	0	2	• More materials and lessons to support the energy balance and anatomical basis SOLs. Especially the harder to implement ones like macronutrients, food labels, RDAs, specific muscles etc.
Other	2	1	0	3	• Teachers either changed their classes to meet new SOL's or they didn't. I did, I'm frustrated that teachers that didn't never got pressured to do so.

Health and PE survey results are available in **Appendix D1**.

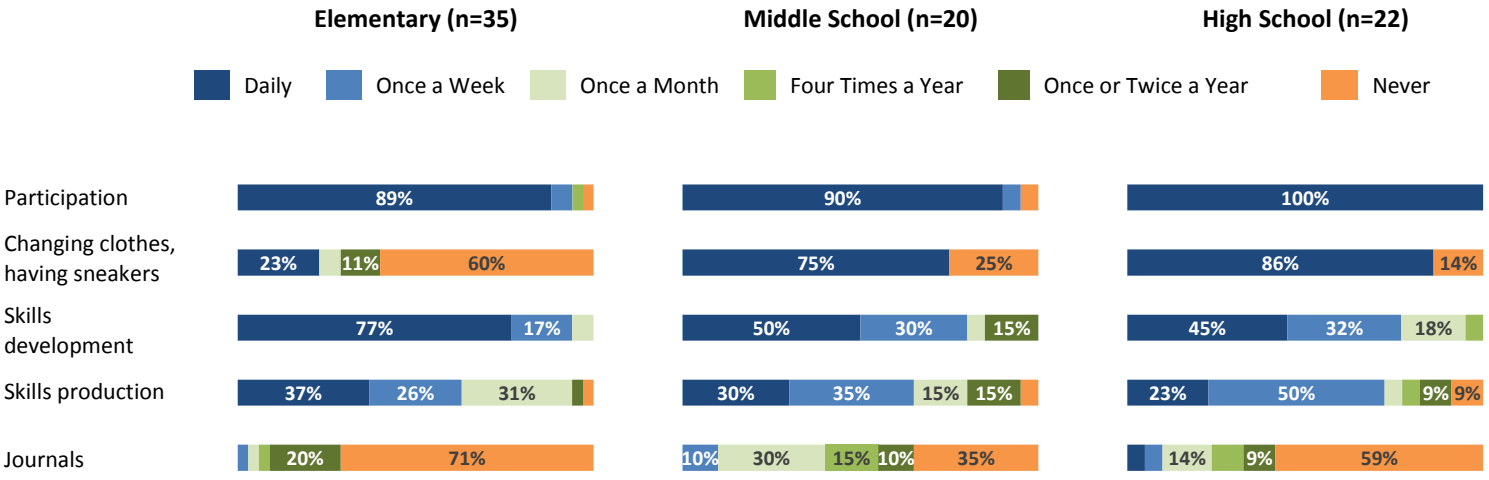
Assessment of PE and Health Knowledge and Outcomes

Health and PE teachers are expected to assess and document their students' progress daily. The teacher survey included a series of questions about how teachers assess their students' knowledge and outcomes, both for PE and for health.

PE Assessment

Across levels, the factor most frequently used to assess students' **knowledge of PE content** was **participation**. At the secondary level, teachers were also highly likely to report that they based their assessments of PE knowledge on students **changing clothes and having sneakers,** a practice which is not in alignment with guidance from the Health and PE Office. Most teachers also reported using **skills development** and **skills production** to assess students' knowledge either *daily* or *once a week*.

Figure 26: How frequently do you use the following elements to assess your students' knowledge of the physical education content that you teach? (Teachers)



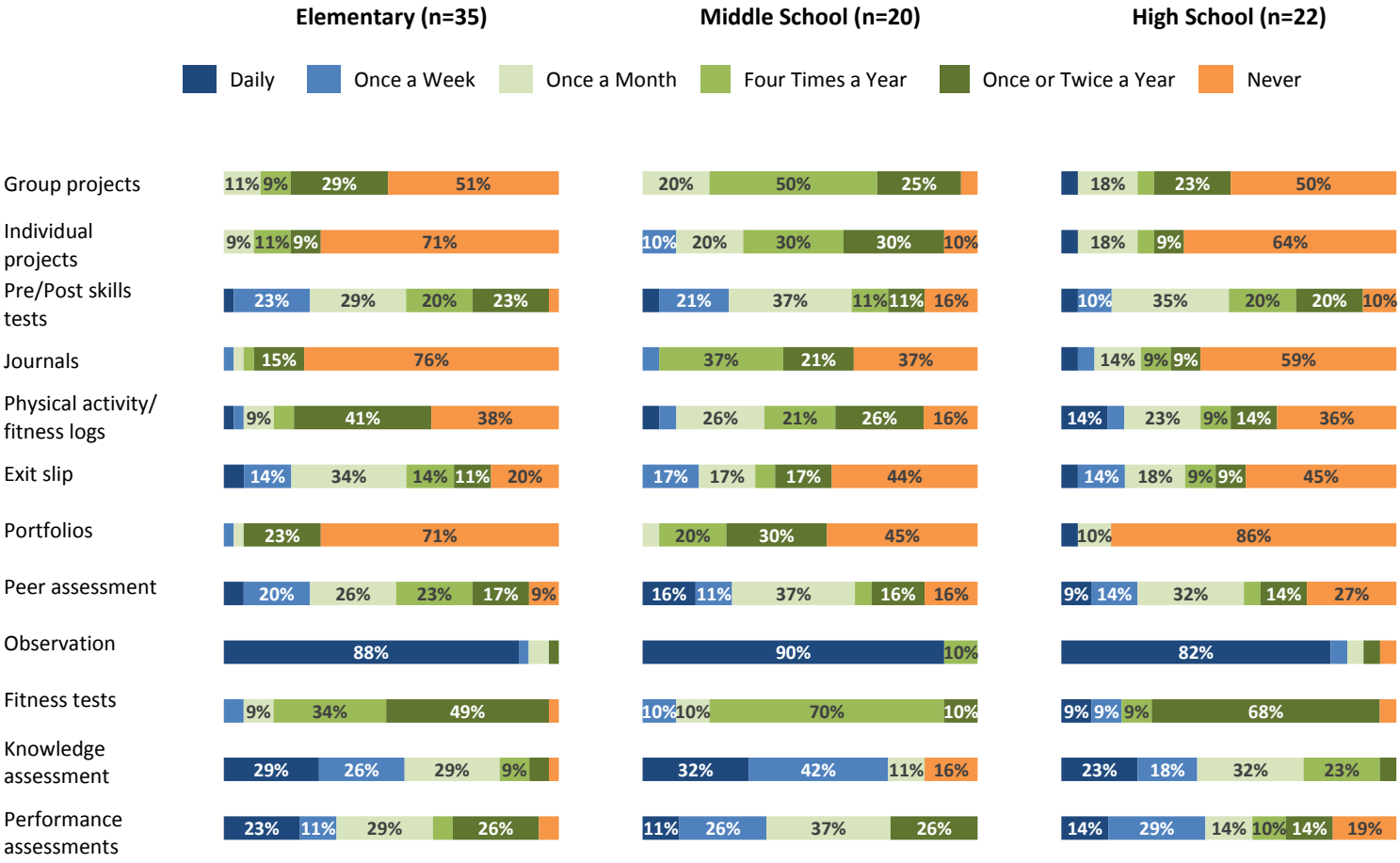
In open-ended responses, teachers listed other factors they use to assess students' PE knowledge. Popular responses included **informal assessments**, **assignments/formal assessments**, and **peer observation/assessment**.

Table 12: What other elements do you use to assess your students' knowledge of the physical education content that you teach? (Teachers)

Response Category	ES	MS	HS	Total	Sample Response
Informal assessments	18	2	4	24	• Exit slips, discussions, teacher observations • Closing circles, partner review Q & A, daily review of previous content at the start of lessons • Check off lists • Student's incorporation of skills taught and showing their knowledge of rules of play
Assignments/formal assessments	8	5	4	17	• Paper and pencil activities • Projects • Unit assessments • Quarter tests on PE SOLs
Peer observation/assessment	8	4	0	12	• Partner Check List • Partner assessments • Peer to peer feedback
Video analysis	5	1	0	6	• Video assessment • Video analysis
Activities	3	1	0	4	• We plan activities designed to test content knowledge. Venn diagram relay races for example. • Development of routines, games, etc.
Sportsmanship	1	1	0	2	• Effort, sportsmanship • Sportsmanship/Behavior
Other	2	0	2	4	• None • Self-evaluations

Across levels, the factor most frequently used to assess **PE outcomes** was **observation**, which most teachers report they do *daily*. Other relatively frequent types of assessment include **knowledge assessment**, with 55%, 74%, and 41% of elementary, middle school, and high school teachers reporting they do this *daily* or *once a week*, and **performance assessment** at 34%, 37%, and 43%.

Figure 27: How often do you use the following elements to assess your students' physical education outcomes? For example, fitness level, regular engagement in physical activity, skill development, etc. (Teachers)



Student Perceptions of PE Assessment

In focus groups, both middle and high school students said there were two consistent factors in grading: changing clothes, and participation/effort. At the high school level, there was variation in terms of whether traditional, pencil-paper tests factor into students' grades, with some teachers giving no tests or almost none and others doing so regularly.

Focus group participants were surprised at being asked how their PE teachers provide feedback and whether feedback is helpful to improve their grades and/or their performance in an activity. PE seems straightforward to them and success largely based on whether you change clothes and genuinely participate and try, so the question struck them as odd. Ultimately, both middle and high school students said that checking StudentVUE was the primary way that they knew how they were doing in PE class.

Nonetheless, after some thought, most could point to ways teachers give feedback. And, throughout the conversations, they gave examples of what they had learned in PE such as how to properly throw a football and proper weightlifting form to avoid injury.

> *My teacher will yell out your last name and make sure, like sit by you if you're not doing the push-ups right, or the sit-ups sometimes.*—APS HS PE Student
>
> *[My PE teacher will] tell you, "Hey, try a little harder." He'll just say like, "Try harder, or I'm not gonna give you a good grade for the day." Because usually your teacher would give you a grade for the day, or grade for a week, and if you don't try at all, then you get like a 50 out of 100, or like a 75.*—APS HS PE Student
>
> *Sometimes on StudentVUE, he'll put comments, in red, so you can see exactly what you're doing. Sometimes he'll put, "didn't try."*—APS HS PE Student
>
> *Yeah, I would say [teachers give feedback] a little bit. I wouldn't say the teachers pull [students] off to the side and just teach them, but [the PE teacher will] come over and give them pointers or something.*—APS MS PE Student

The sixth graders who reflected specifically on elementary school were also surprised at being asked how their PE teacher let them know how they were doing in PE. They said that they simply saw their grade on their report card when it arrived, or on a progress report if one was given. Many of them assumed everyone got an A or the rough equivalent of an A if letter grades were not being used for younger grade levels.

Student Feedback on Changing Clothes

Students at all grade levels consistently said that they have 5 to 7 minutes to change before and after PE. The boys unanimously said they have enough time to change, but several girls wanted at least the 7 minutes and a little more if possible. Additional changing time is especially needed on swimming days.

Among high school students, changing was regarded as generally unpleasant. For example, one student said she worries about being video-recorded in the locker room. Another considers the pool locker room gross and dislikes when children are present there. But, overall, high school students considered changing a necessary evil that is much better than “walking around all day smelly.”

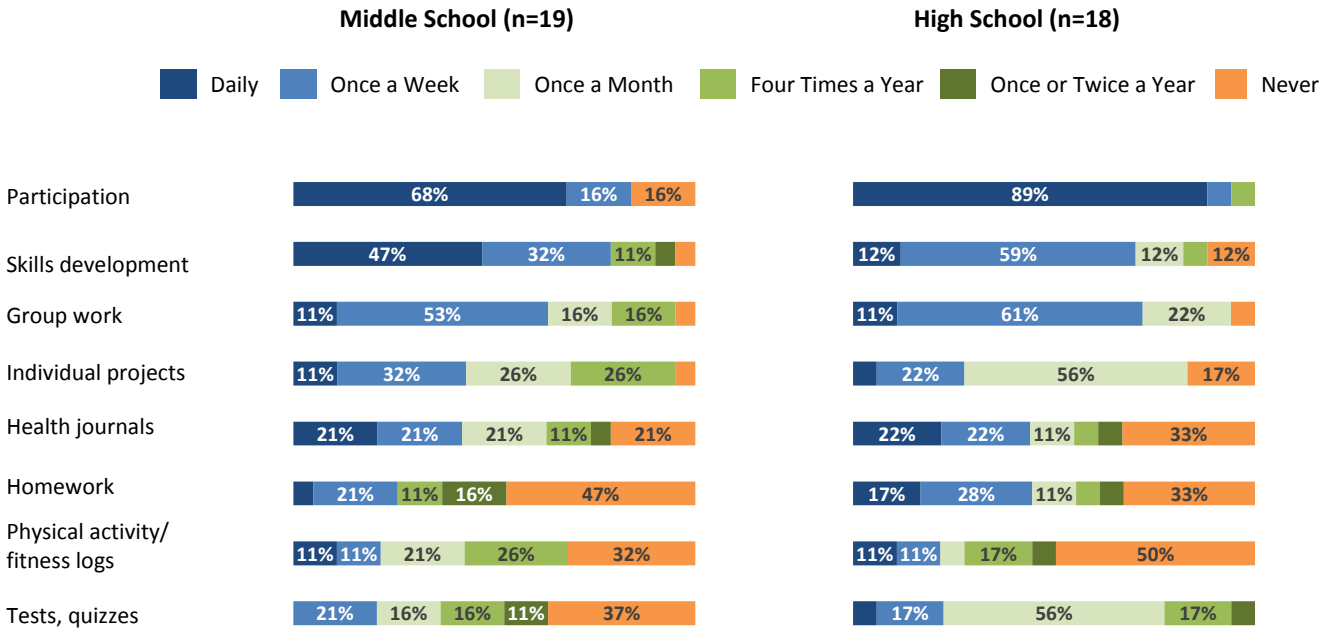
Middle school students disliked changing somewhat more than high school students. A few said that it is “the worst” and makes them dread PE. Still, none of the middle school participants said that they refused to change.

Both middle and high school students said that they are free to either wear the school uniform or their own athletic clothes in PE, which they appreciate.

Health Assessment

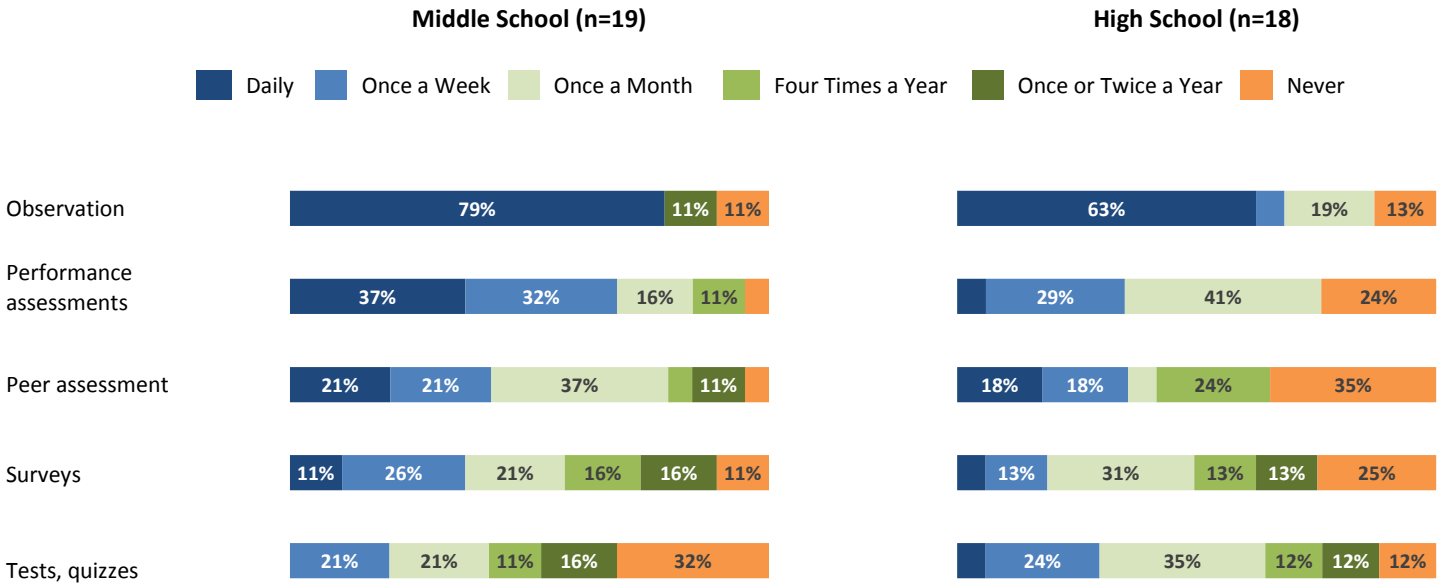
As with PE, secondary teachers who teach health were most likely to use **participation** to assess their students’ knowledge of **health content** *daily*. Other considerations that most teachers used either daily or once a week include **skills development** and **group work**.

Figure 28: How frequently do you use the following elements to assess your students' knowledge of the health content that you teach? (Secondary Teachers)



Again following the pattern with PE, the factor most frequently used to assess students' **health outcomes** was **observation**, which most teachers reported using for assessment on a *daily* basis. Over two-thirds of middle school teachers also reported using **performance assessments** either *daily* or *once a week*.

Figure 29: How often do you use the following elements to assess your students' health outcomes? For example, eating habits, healthy relationships, etc. (Secondary Teachers)

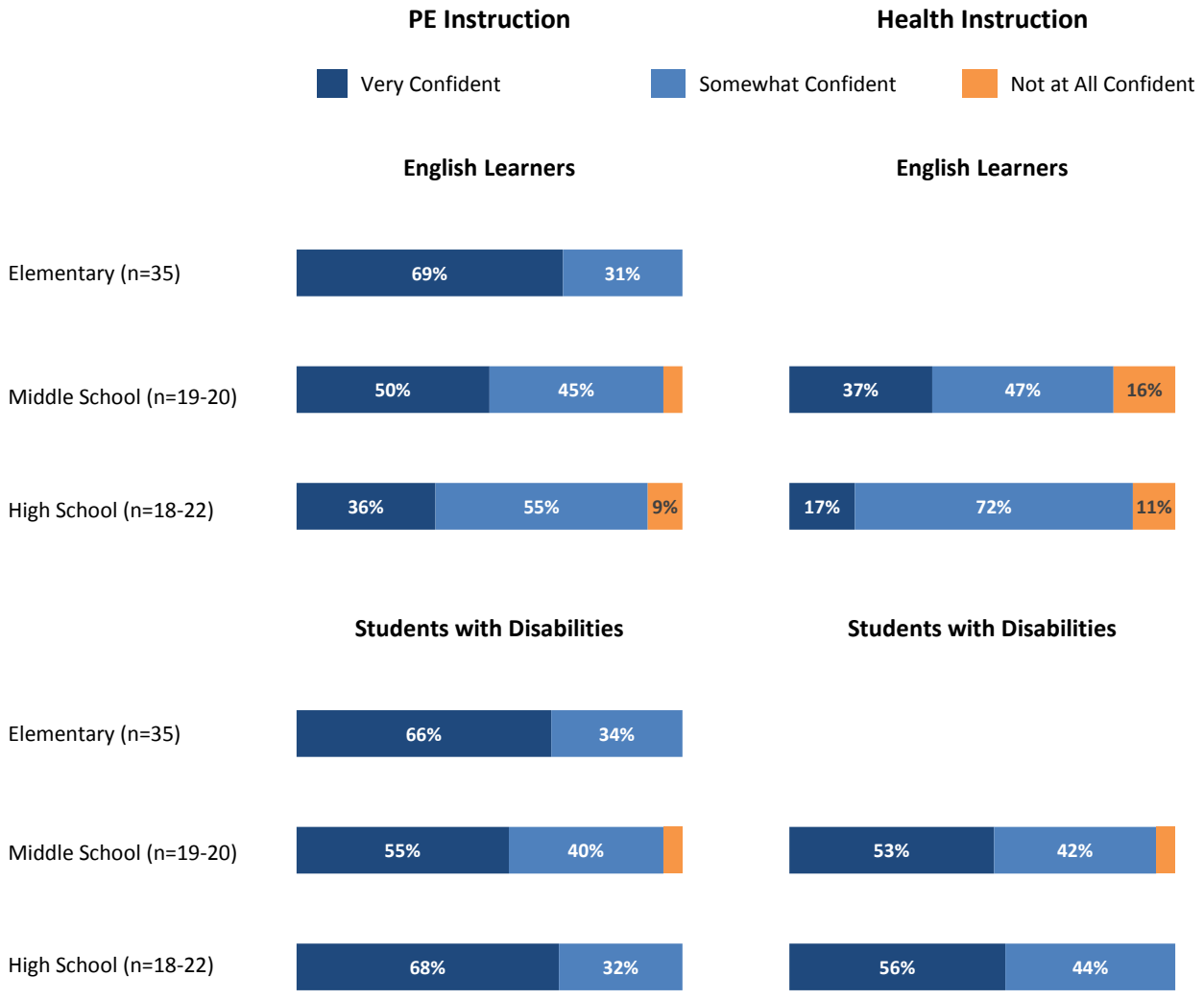


Full health and PE survey results are summarized in **Appendix D1**. Student focus groups are summarized in **Appendix D2**.

Support for English Learners and Students with Disabilities

Most health and PE teachers are *somewhat* or *very confident* in their ability to provide appropriate support to English learners and student with disabilities in their PE and health instruction (figure 30). Teachers 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.

Figure 30: How confident are you in your ability to provide appropriate support to English learners/students with disabilities in your PE/health instruction? (Teachers)

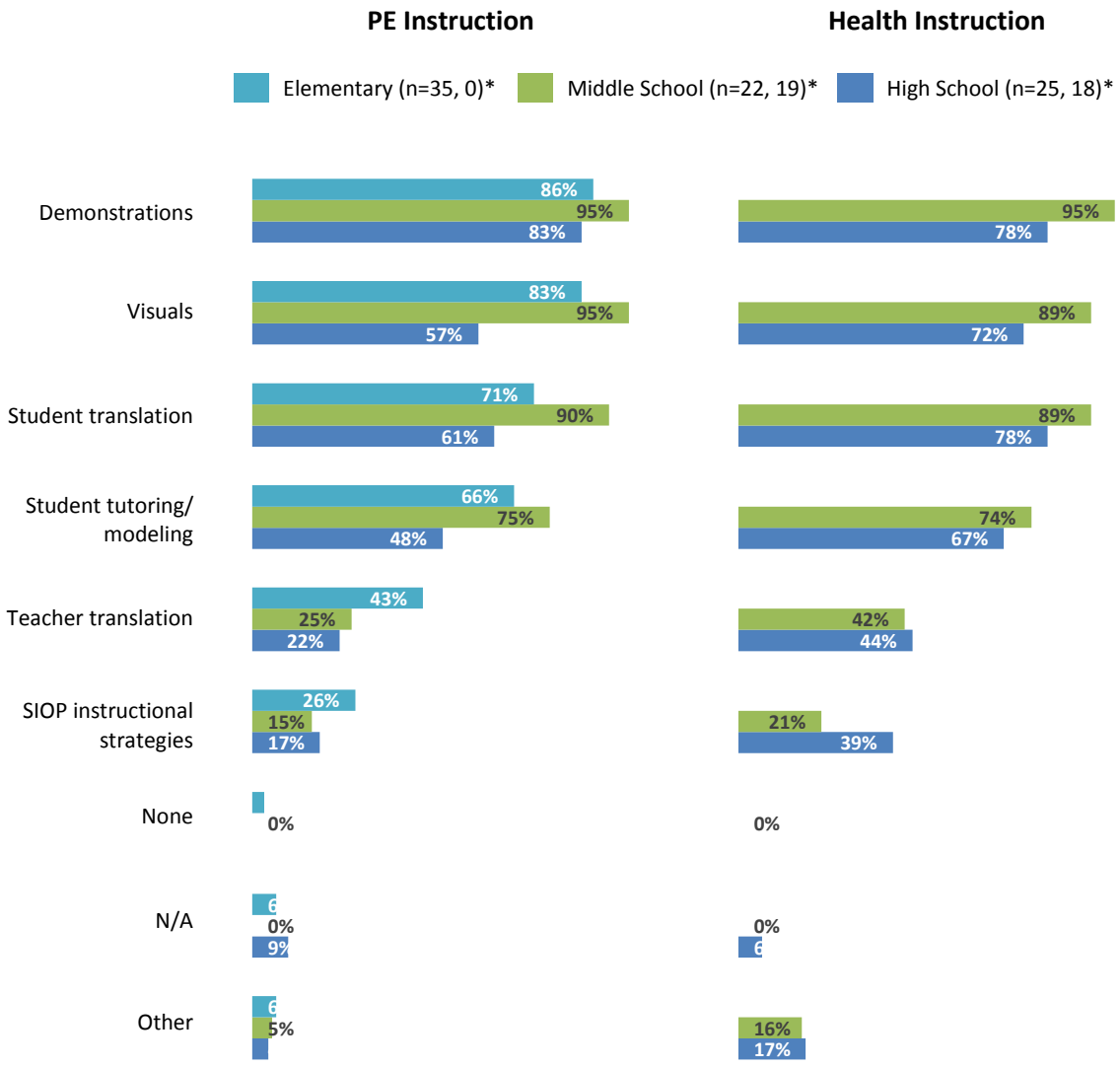


English Learners

Across levels and for both PE and health instruction, teachers were most likely to indicate that they provide the following accommodations to support their English learners:

- Demonstrations
- Visuals (e.g. posters, signage, videos, placards, pictures, etc.)
- Student translation
- Student tutoring/modeling

Figure 31: What accommodations do you make for the English learners in your PE/health instruction? Select all that apply. (Teachers)



* In this graph, the n represents number of survey responses for each question. For example, there were 22 responses from middle school teachers about PE instruction, and 19 responses about health instruction.

Teachers who selected "other" indicated that they use **google translate**, allow for a **reduced number of required responses**, and **modify grading** for English learners.

Secondary teachers are most likely to collaborate with **ESOL/HILT colleagues** at their school to support their instruction of English learners (figure 32). This is one of the most common types of support

indicated by elementary teachers as well, in addition to **instructional assistants** and **other school colleagues**. Generally, teachers are positive about how helpful these resources are (figure 33).

Figure 32: Percentage Selecting Yes: Do you reach out to or collaborate with any of the following staff to support your instruction of English learners? (Teachers)

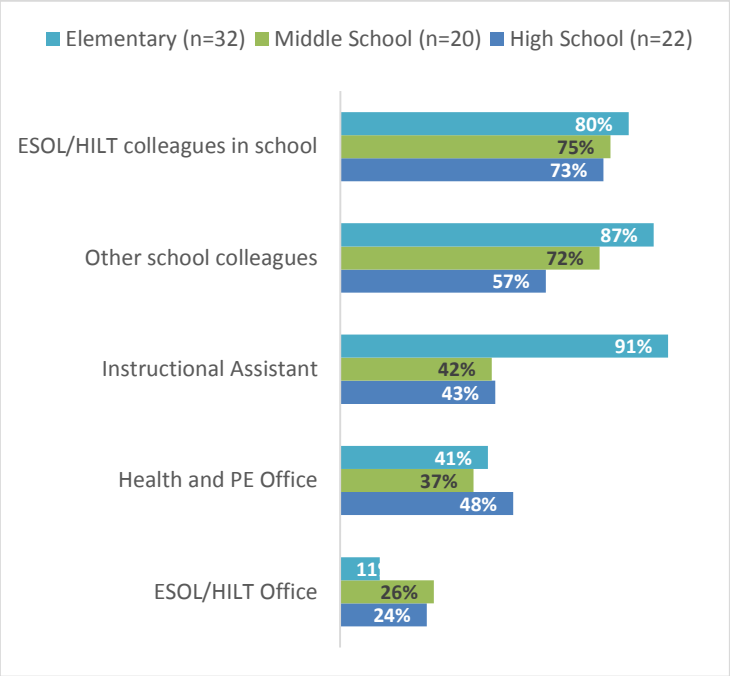
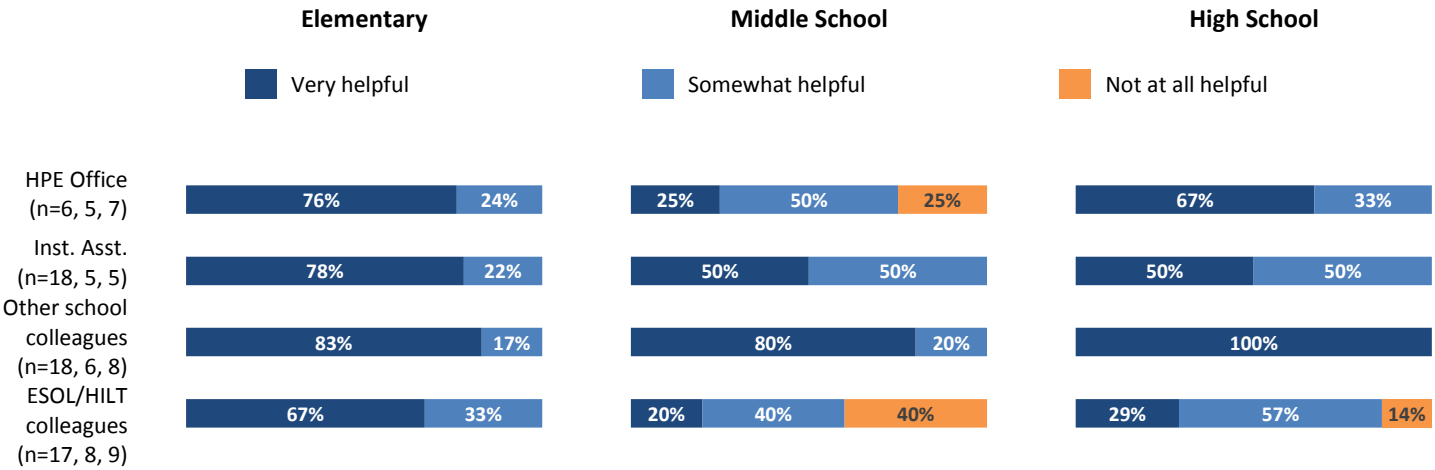


Figure 33: How helpful are these staff? (Teachers)



In an open-ended question, teachers indicated other staff they reach out to or collaborate with in order to support their English learners. These included:

- Classroom teachers (elementary)
- Other staff members who speak the student's language
- Bilingual family liaisons
- Counselors

- Administrators
- Spanish teachers

Table 13 provides a summary of open-ended responses about additional support that would further help health and PE teachers in their instruction of English learners.

Table 13: What additional resources or support would further help you in your instruction for English learners? (Teachers)

Response Category	ES	MS	HS	Total	Sample Response
Assistance from additional staff	1	5	0	6	• ESOL teachers attending class when a student is brand new to the school • Classroom Assistants for all SPED, 504, ESOL HILT...we are not always in compliance. • Spanish speaking assistant
None/Not sure	4	0	1	5	• Not sure • None
Materials in students' languages	1	2	2	5	• Using cue cards with the specific skills that are in the same language for the student to help them understand the skill. • Provide videos in their language for health topics • Having more access to health resources online...It is difficult to find, especially when talking about sex. To find sites that are completely in Spanish
Information on how to support English learners	0	3	0	3	• Ways to teach HILT learners to allow them to access the curriculum best • Examples of concrete lessons and units and how they are differentiated for English learners
Learn Spanish	1	0	1	2	• Learning Spanish!
Other	0	2	1	3	• A class with only HILT • Age appropriate HILT curriculum. Yes, they should be learning in English but the health information is very important and I don't care how they learn it (English or another language) as long as they learn it.

Feedback from English Learner Students

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. The latter really helps. They felt that their communication with PE teachers is largely successful.

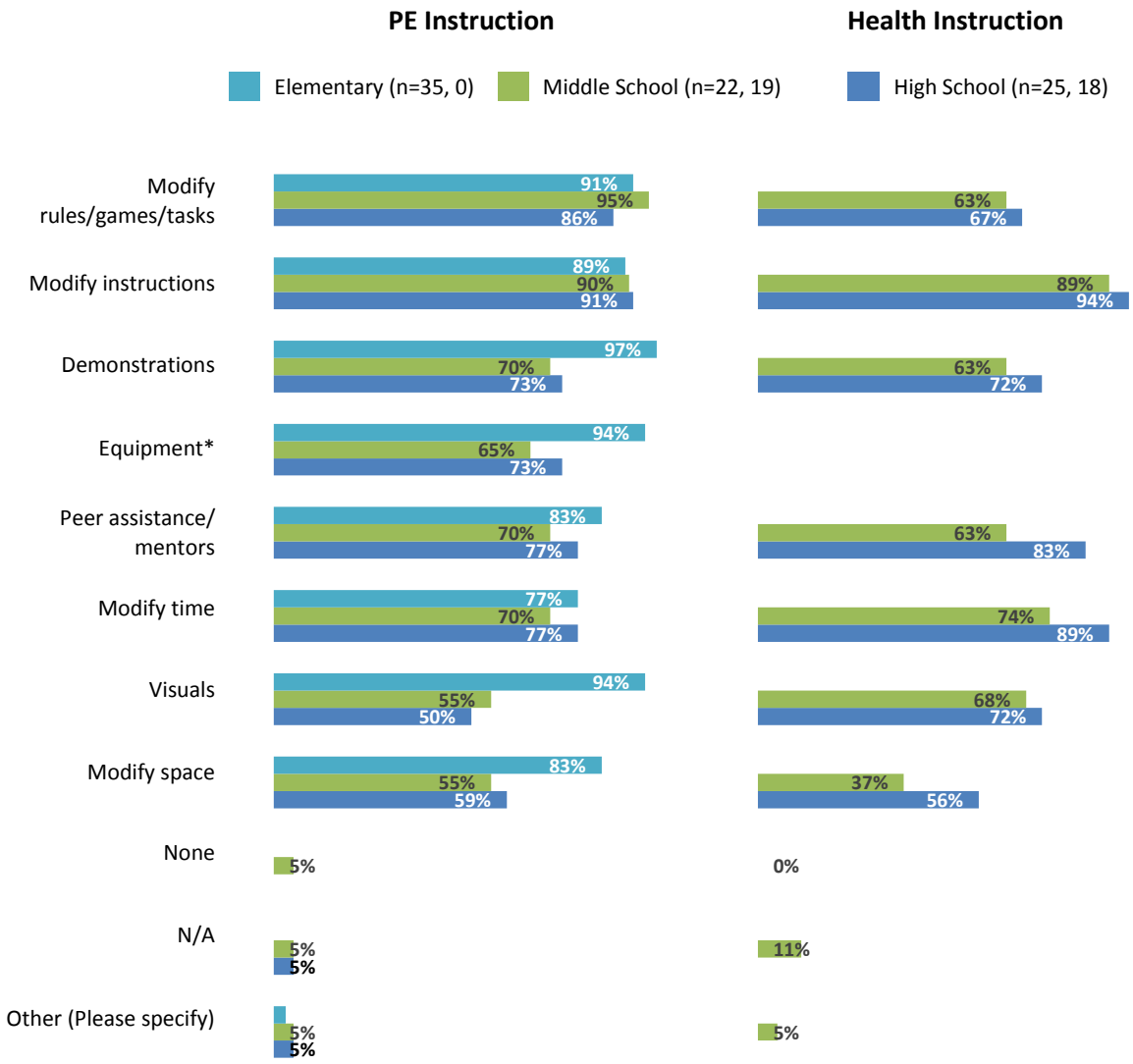
They also said that their teachers use the same strategies in health as in PE, specifically, demonstrating, enlisting the help of bilingual students to communicate with them, trying to speak some Spanish, and

explaining slowly. Generally, they felt that communication in health class is a bit more difficult than it is in PE.

Students with Disabilities

Teachers reported making numerous accommodations for their students with disabilities in both their PE and health instruction (figure 34). More than three-quarters of elementary teachers reported using each specified accommodation in their PE instruction. Secondary teachers were less likely than elementary to indicate that they **modify space** or **use visuals** in PE, and they were more likely to indicate that they use visuals for health instruction. Secondary teachers were also more likely to indicate that they **modify rules/games/tasks** in PE than in health.

Figure 34: What accommodations do you make for the students with disabilities in your PE/health instruction? Select all that apply. (Teachers)



Across levels, teachers are most likely to collaborate with **instructional assistants**, **other school colleagues**, and **special education colleagues** in their school to support their instruction of students with

disabilities (figure 35), although the percentage of teachers indicating they reach out to these staff was lower at the high school level. Generally, teachers are positive about how helpful these resources are (figure 36).

Figure 35: Percentage Selecting Yes: Do you reach out to or collaborate with any of the following staff to support your instruction of students with disabilities? (Teachers)

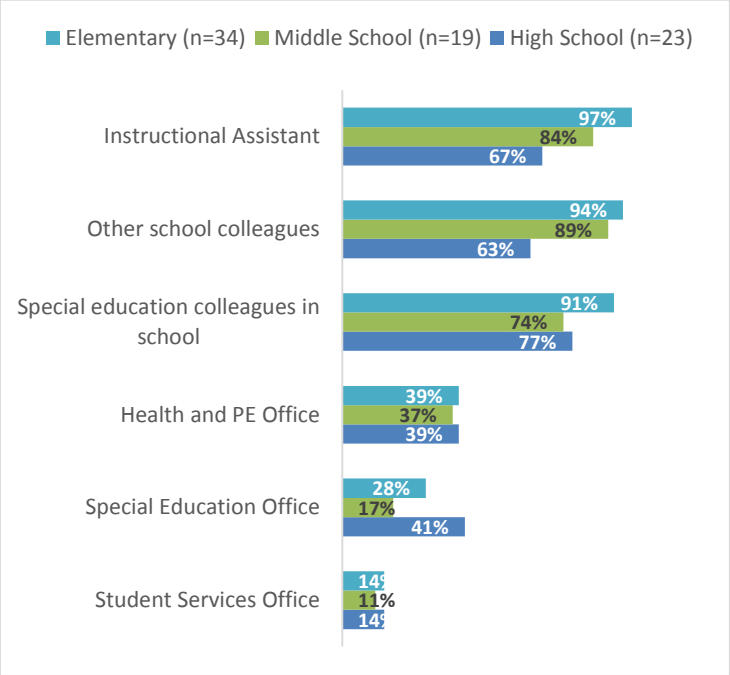
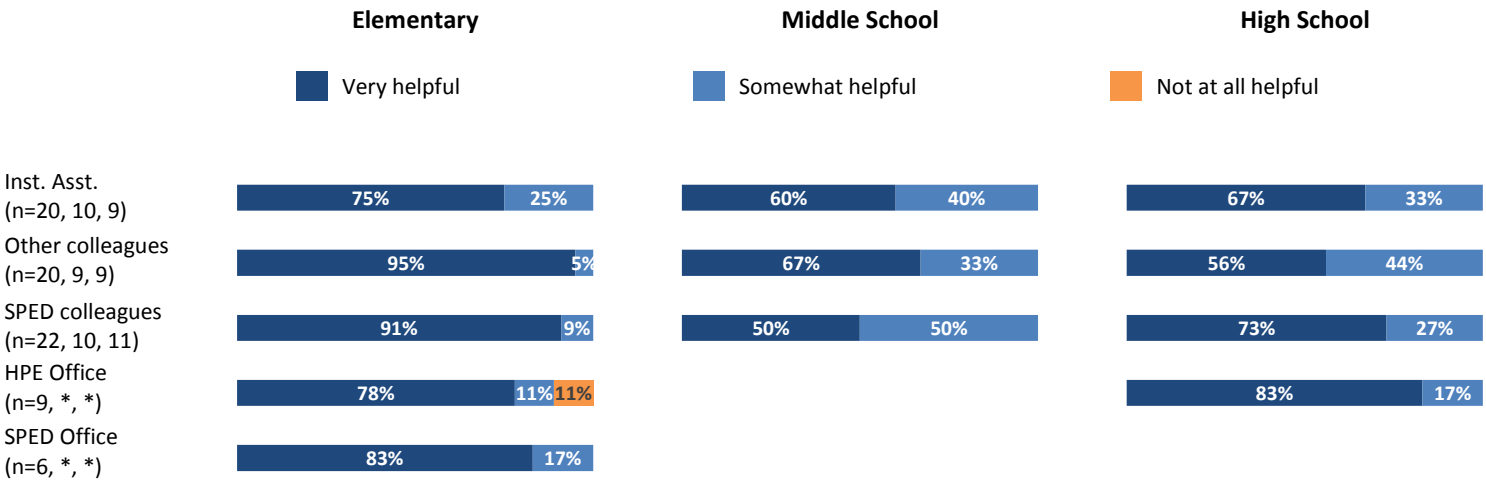


Figure 36: How helpful are these staff? (Teachers)



*Responses omitted when n is less than 5

In an open-ended question, teachers indicated other staff they reach out to or collaborate with in order to support their students with disabilities. These included:

- Special education service providers such as occupational therapists and physical therapists

- Health and PE colleagues in their school
- Students' parents

Table 14 provides a summary of open-ended responses about additional support that would further help health and PE teachers in their instruction of students with disabilities.

Table 14: What additional resources or support would further help you in your instruction for students with disabilities? (Teachers)

Level	Response
Elementary	An adaptive PE coordinator would be a nice thing for APS to have.
	Not sure/none (4 responses)
	Regular visits from Adaptive PE Specialists
	Provide more adaptive PE equipment, for example a ball that makes noise for students who are visually impaired.
	Adaptive PE workshops
	Adapted equipment
Middle School	I wish the Health and PE office would offer more learning opportunities related to SPED
	None
	Classroom Assistants
	Concrete examples of how to accommodate all the needs of student in a class period at the same time. How to give everyone the individual time needed to help master skills. An adapted physical education teacher is needed in every school.
High school	Designated space, which is not going to happen when there are 4 and 5 other PE classes occurring at the same time during the winter months
	More money for special equipment

Full health and PE survey results are summarized in **Appendix D1**. Student focus groups are summarized in **Appendix D2**.

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.

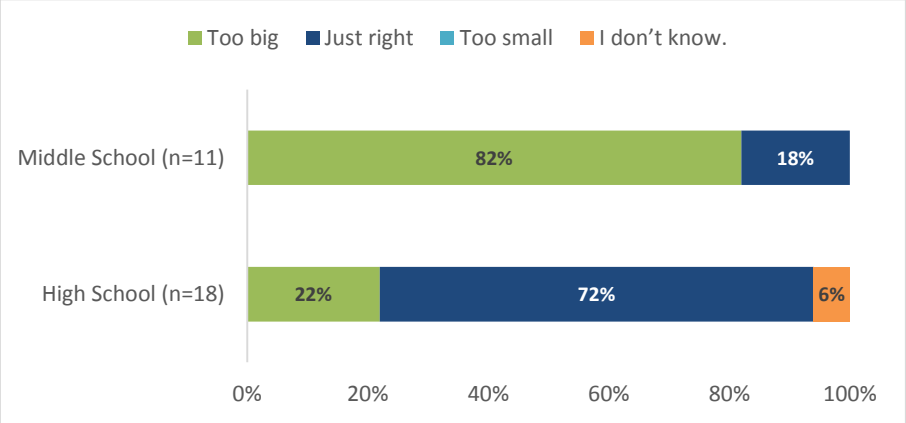
Teacher to Student Ratio

The Society of Health and Physical Educators (SHAPE America) recommends that PE teacher to student ratios be no higher than 1:25 at the elementary level, 1:30 at the middle school level, and 1:35 at the high school level.[5]

Secondary survey responses indicate that almost all high school PE class sections meet these guidelines, with just 4% of high school teachers reporting that their **largest class size** was higher than 35 students. On the other hand, almost all middle school teachers (93%) reported that their largest class size was higher than 30. Elementary class sizes align with homeroom class sizes.

Administrator survey responses reflect this difference between middle and high schools (figure 37). Most middle school administrators feel that class sizes are *too big*, while most high school administrators feel that class sizes are *just right*.

Figure 37: How would you describe the health and PE class sizes at your school (thinking of one class section/group of students assigned to an individual teacher)? (Secondary Administrators)



Administrators who indicated that class sizes were too big provided open-ended responses regarding the **challenges involved in scheduling health and PE classes** at their school. **Staffing** and **space** were seen as the largest scheduling challenges for health and PE, although responses differed in terms how much variation there is in class sizes across the school day:

> *I don't think it can be minimized with scheduling, given that it is an issue throughout the entire day.*
>
> *There are some periods that are too big and some that are on the smaller side. It seems like it can be dependent on the overall master schedule and how many classes are offered during a particular period.*

[5] https://www.shapeamerica.org/publications/resources/teachingtools/qualitype/upload/Teaching-Large-Class-Sizes-in-PE-2006.pdf

Most teachers indicated that their largest class size had a **negative impact on their ability to effectively teach both PE (figure 38) and health (figure 39)**. These sentiments were stronger regarding health than PE.

Figure 38: How much of an impact does your largest class size have on your ability to effectively teach PE? (Teachers)

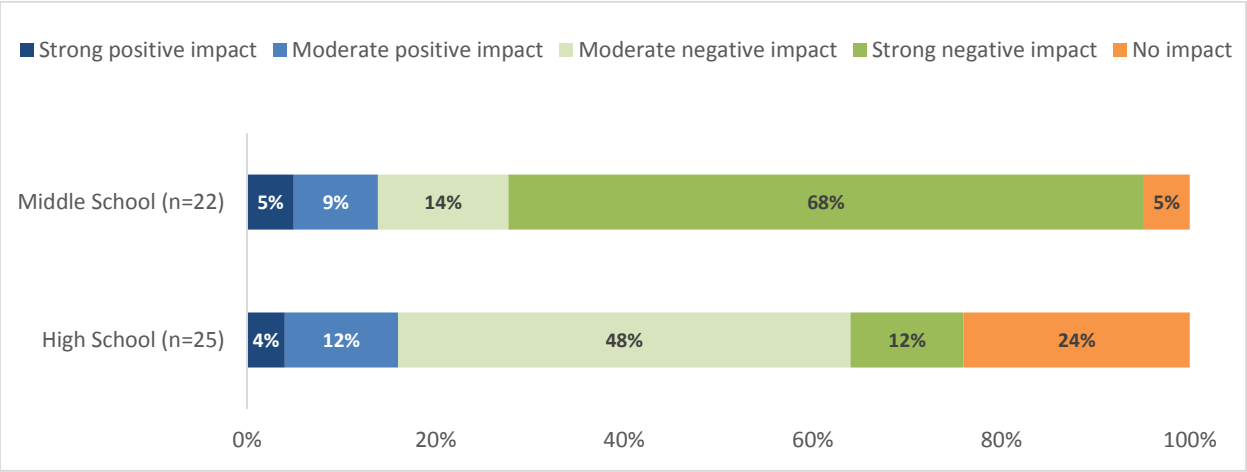
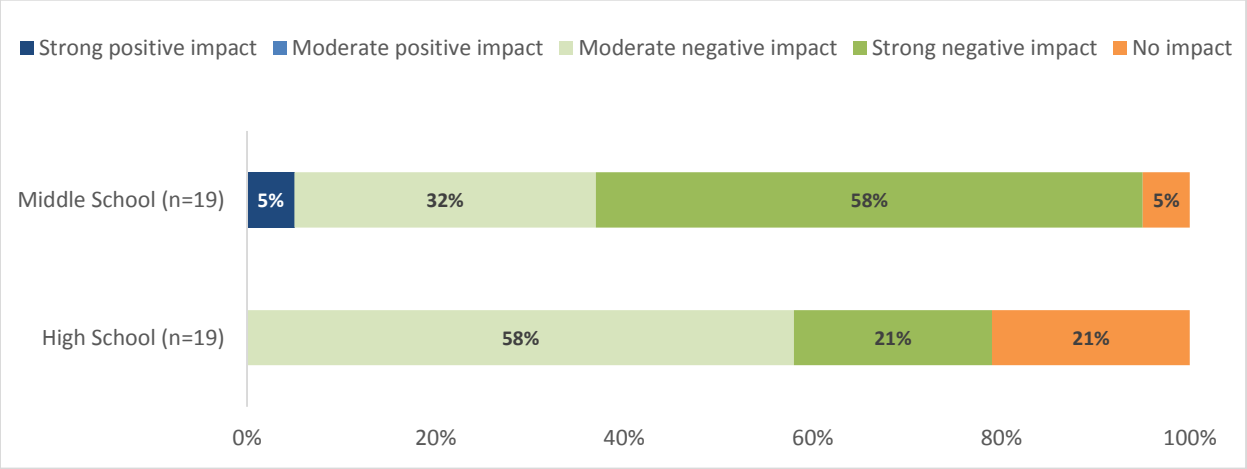


Figure 39: How much of an impact does your largest class size have on your ability to effectively teach health? (Teachers)



The most common themes in open-ended responses about the impact of class size on teachers' ability to teach **PE** effectively included **lack of space** in the gym, negative impacts on **student behavior**, difficulty of providing **individual attention to students**, and not enough **equipment**. Open-ended responses are summarized in table 15.

Table 15: All above responses except "no impact:" What is the impact of class size on your ability to teach PE effectively? (Teachers)

Response Category	ES	MS	HS	Total	Sample Response
Not enough space	12	8	3	23	• Limited space in the gym
Negatively impacts student behavior	12	4	4	20	• Distractions/Off task • Behavior management is incredibly difficult even with a group of generally well behaved students
Reduced one-on-one time with students/difficulty of differentiation, assessment	7	8	4	19	• With more students in class the less time you have to spend with each individual student. It turns from instruction to overseeing activities. • Makes assessment harder- getting around to all 60 kids to provide specific and helpful feedback is nearly impossible while still managing behavior/safe environment
Not enough equipment	12	4	1	17	• Less effective practice time due to having to take turns or share equipment • Equipment and space are limited
Negatively impacts safety	7	5	2	14	• Larger classes create more safety issues. • Difficult to safely monitor
Less instructional time (Longer transitions, more time spent on classroom management, etc.)	6	6	2	14	• Spend most of the time on classroom management than teaching • Spend a lot of time practicing transitions because so much time is lost during them • I lose time each day teaching trying to just get them focused or under control
Students spend less time being physically active	4	3	2	9	• There is more standing around waiting for turn in some activities. • Long wait times less movement time
Positive impact of large class size	2	1	2	5	• There are enough students to break the students up into two teams and get really involved in the activities. • Students have better mix of ability levels for activities.
Activities have to be modified	1	3	0	4	• You basically have to modify everything when it comes to units and instruction. • Less effective practice time due to…being forced to modify space significantly and to the point of changing the overall game or sport.
Other	0	0	2	2	• Having an even number helps to pair up students

Regarding their ability to effectively teach **health**, secondary teachers voiced similar concerns as with PE instruction, and one teacher expressed that large class sizes are a larger issue for health than for PE:

Large class size is a small issue in PE but a BIG issue in health. It is impossible to touch base with every student during class and help them out with an assignment.

Number of Students and Teachers Scheduled in the Gym during the Same 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 (table 16). At both the middle school and high school levels, the number of students scheduled in the gym can range from 15-29 students on the low end, to 195-246 on the high end, while the number of teachers or class sections scheduled in the gym ranges from 1 to 6, 7, or 8.

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. Notably, the minimum number of students scheduled in the gym has increased from 15-17 to 29.

At the high school level, the average number of students scheduled in the gym was highest in 2016-17 at 177.5, and decreased to 84.5 in 2017-18.

Table 16: Number of Students and Teachers Scheduled in the Gym at the Same Time

		Number of students scheduled in the gym at the same time		Number of teachers scheduled in the gym at the same time	
Level	**School Year**	**Average**	**Range**	**Average**	**Range**
Middle School	2015-16	58.6	15-240	1.7	1-7
	2016-17	75.8	17-246	2.1	1-6
	2017-18	108.4	29-225	2.8	1-7
High School	2015-16	99.4	19 -202	2.9	1-7
	2016-17	177.5	21-216	3	1-7
	2017-18	84.5	22-195	2.4	1-8

The number of students scheduled in the gym at the same time **varies greatly by school**. In 2017-18, the average number of students scheduled in a middle school gym at one time ranged from 58 at one school to 153 at another, and the maximum number of students ranged from 121 to 225. Among high schools, the average number of students scheduled in a gym at one time ranged from 37 to 166, and the maximum ranged from 57 to 195.

The teacher survey included a question to gauge how frequently PE teachers teach with multiple sections in the gym at the same time, and how many sections are typically in the gym during those times. Survey responses show that:

Each week, the average elementary PE teacher teaches:

- 6 classes with just **one class section** in the gym
- 17 classes with **two class sections** in the gym
- 2 classes with **three class sections** in the gym

Note that elementary teachers may teach the same group of students under different conditions throughout the week. For example, they may teach one group of students alone in the gym on Monday, and teach the same group of students together with another teacher's class on Tuesday.

At middle and high schools, this is not the case. If one class section is scheduled in the gym with another class section, that will be the case every day the PE class is scheduled. For this reason, the survey questions for secondary teachers asked teachers to reflect on their class sections, rather than the classes (lessons) they teach throughout the week. Secondary survey responses show that:

The average middle school PE teacher teaches:

- 0 classes with just **one class section** in the gym
- 1 class with **two class sections** in the gym
- 1 class with **three class sections** in the gym
- 2 classes with **four class sections** in the gym
- 3 classes with **five or more class sections** in the gym

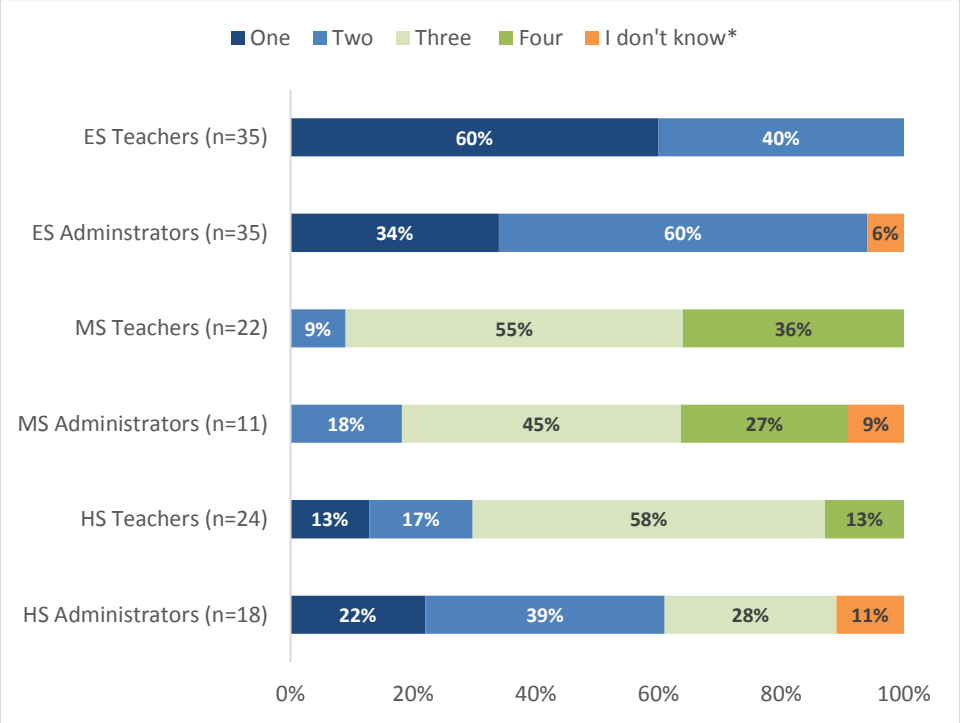
The average high school PE teacher teaches:

- 1 class with just **one class section** in the gym
- 0 classes with **two class sections** in the gym
- 1 class with **three class sections** in the gym
- 2 classes with **four class sections** in the gym
- 1 classes with **five or more class sections** in the gym

Teachers and administrators vary by level in terms of their perception of the ideal number of PE classes scheduled at one time (figure 40), which is likely related to the varying size of gyms and number of appropriate spaces for physical activity at different levels.

- Elementary teachers and administrators almost universally indicated that the ideal number of classes is either 1 or 2, which is in line with what occurs most of the time at that level.
- Middle school teachers and administrators tend to agree that the ideal number of classes is either 3 or 4. The average middle school teacher teaches three classes that surpass this ideal. (i.e. they teach three classes with more than 3 or 4 class sections in the gym)
- Most high school teachers preferred 3 classes scheduled at one time, while administrators were slightly more likely to express a preference for 2, followed by 3. The average high school teacher teaches three classes that surpass the ideal of 3 class sections scheduled at one time.

Figure 40: What is the ideal number of classes scheduled at one time to provide effective and safe instruction? (Teachers and Administrators)*



*The teacher survey did not include the response option of "I don't know."

In open-ended responses, teachers provided a variety of **reasons for their preference** of either 1, 2, 3, or 4 class sections scheduled at the same time. A couple of reasons were **common across preferences**:

- **Space**: Many teachers preferring either 1 to 4 sections in the gym noted that their preferred number of sections allowed enough space for students to move around the gym.
- **Differentiation, grouping, and choice**: Teachers preferring fewer sections in the gym at one time noted that this allows for more differentiation, while teachers preferring more sections in the gym at one time noted that having more students allowed for more choices in activities.

Other reasons were prevalent among teachers **preferring fewer class sections**:

- Safety
- Greater ability to provide individual attention to students
- Better student to equipment ratio
- Facilitates classroom management and creates fewer distractions
- More time for physical activity as less time is needed for transitions, explanation of activities, etc.
- More time for instruction or higher quality of instruction
- Positive impact on student behavior

Teachers who **preferred more class sections** primarily cited the following reasons:

- Facilitates larger group activities (large group games, tournaments)
- Benefits of team teaching such as sharing workload

Differences in Effectiveness of PE Instruction by Class Size

Observations of PE instruction indicate that class size seems to have an impact on instructional effectiveness. Effectiveness ratings were disaggregated by class size in the categories of *at or below average class size*, or *above average class size*. At the **elementary** level, the largest difference based on class size was for the item, "**Students engage in an instant activity upon entering class.**" This was rated effective in 50% of classes with average/below average class size, and just 26% of classes with above average class size.

At the **secondary** level, large differences emerged based on class size for most observation items, and in most cases, observations were more likely to be rated *effective* if the class size was average/below average.

The largest differences at the **middle school** level occurred with:

- The teacher **groups and/or regroups students** (79% effective in classes with average/below average class size, 38% effective in classes with above average class size)
- The teacher **moves around the class to provide feedback** to as many students as possible (90%, 50%)
- The lesson allows for opportunities for **practice of skills** (42%, 13%)
- The teacher addresses student learning objectives in the lesson through the **cognitive domain**. (58%, 25%)
- The teacher addresses student learning objectives in the lesson through the **affective domain**. (26%, 0%)

The one area that has a **positive relationship with larger class sizes** is **differentiation**. This item was rated effective in 75% of middle school classes with above average class size, compared to 32% of classes with average/below average class sizes.

The largest differences at the **high school** level occurred with:

- The teacher addresses student learning objectives in the lesson through the **psychomotor domain.** (90% effective in classes with average/below average class size, 18% effective in classes with above average class size)
- The teacher addresses student learning objectives in the lesson through the **cognitive domain**. (80%, 27%)
- **Objectives for lesson are communicated** in writing and/or orally. (80%, 36%)
- **Differentiation strategies** to meet the needs of students with varying abilities are evident in the lesson. (60%, 18%)

The one area that has a **positive relationship with larger class sizes** is, "**The teacher addresses student learning objectives in the lesson through the affective domain,**" which was rated effective in 64% of classes with above average class size, compared to 20% of classes with average/below average class sizes.

Health and PE survey results are summarized in **Appendix D1**. The full report on the number of classes scheduled in the gym is available in **Appendix C1**, and the full report on observations of PE instructional practices is available in **Appendix B4**.

Use of Resources

Use of Technology in PE and Health Instruction

Observers took note of the types of technology being used in both PE and health classrooms. Technology use was far more prevalent in health instruction than PE. Technology used by students during health observations is outlined in figure 41, and the quality of technology use is shown in figure 42. Technology use was observed in about half of middle school classrooms and about 60% of high school classrooms, and the most commonly observed technology was **iPads**. In cases where technology was being used, observers were most likely to note that the use of technology **actively engaged students in learning tasks**. Results for PE instruction are included in **Appendix B4**.

Figure 41: Technology that students used during the health lesson

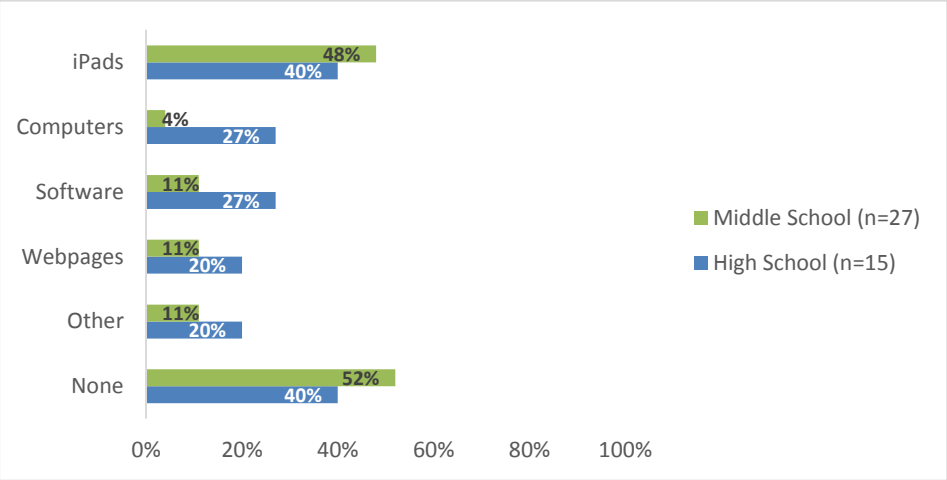
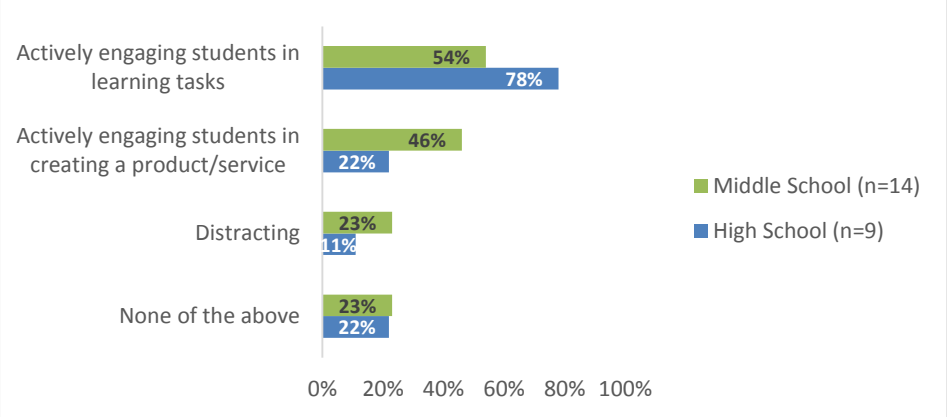


Figure 42: Use of technology is…*



*responses of N/A (no technology in use) were removed from these calculations.

In alignment with observations, survey responses indicate that use of technology is more prevalent during health instruction than PE instruction. Elementary teachers were more likely to report using any of the specified technology or equipment during **PE instruction**; more than half reported using **pedometers**, **heart rate monitors**, and **personal learning devices** (e.g. iPads) with some level of frequency. Middle and high school teachers were most likely to report using **online instruction** and **personal learning devices**.

In **health instruction**, most middle and high school teachers reported using personal learning devices and curriculum-approved websites either *daily* or *once a week* (figure 43), and, similar to PE instruction, the most commonly cited reason for using either was **to enhance knowledge** (figure 44).

Figure 43: How frequently do students use the following resources in your health classes? (Teachers)

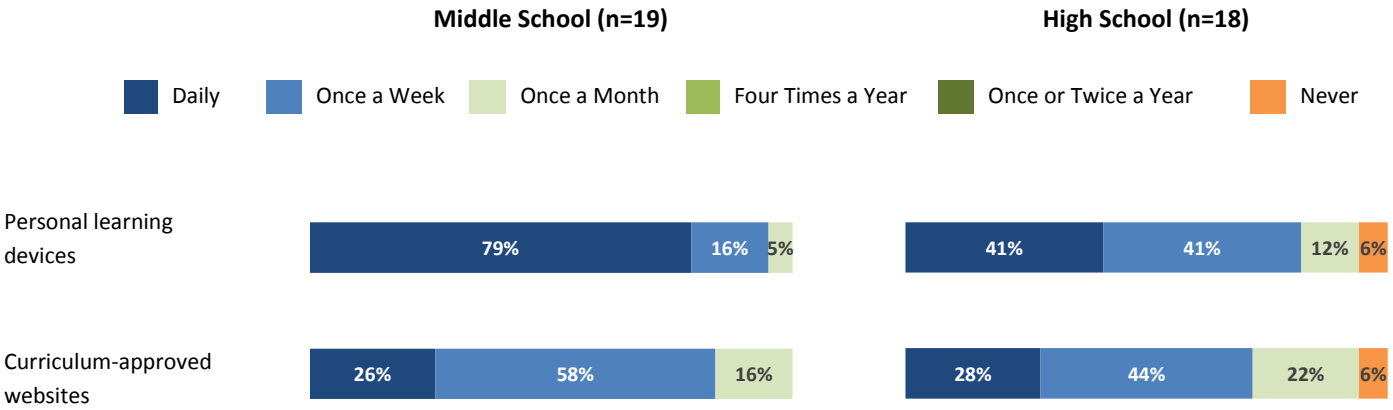
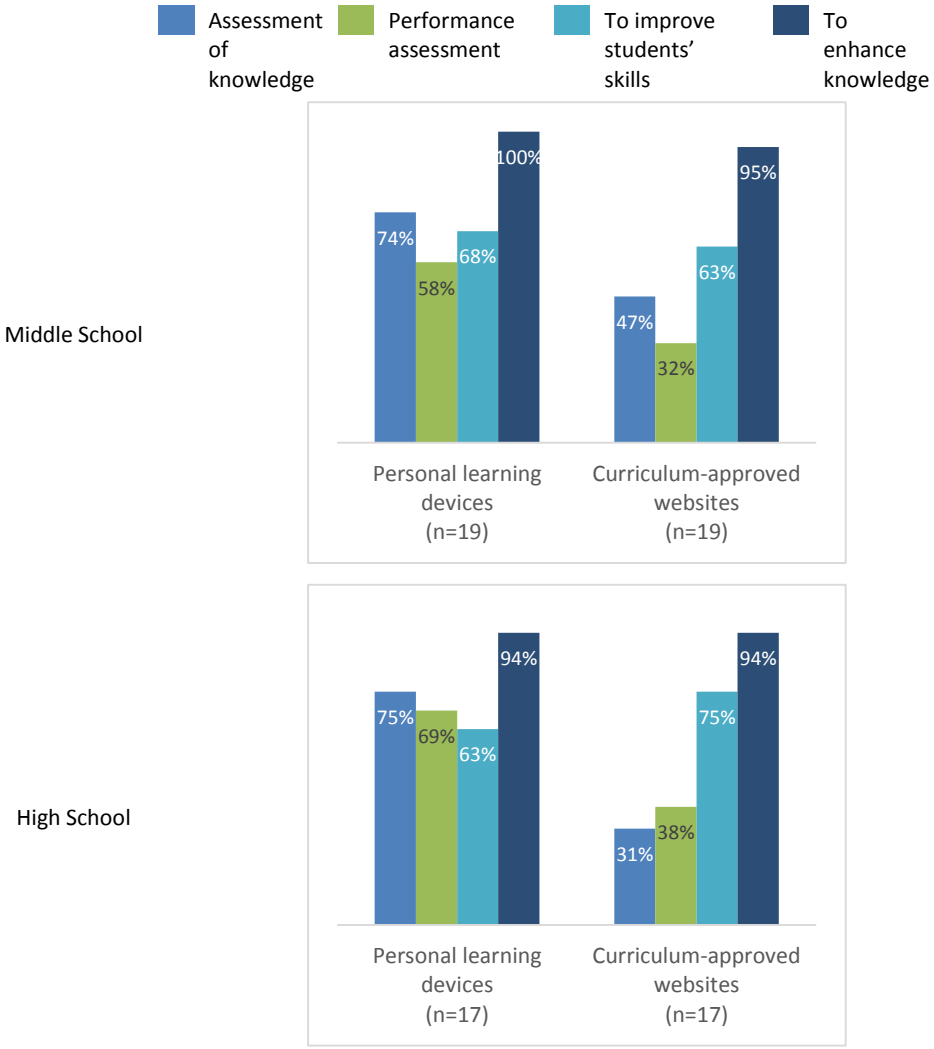


Figure 44: How are [Resource] used? Select all that apply. (Teachers)

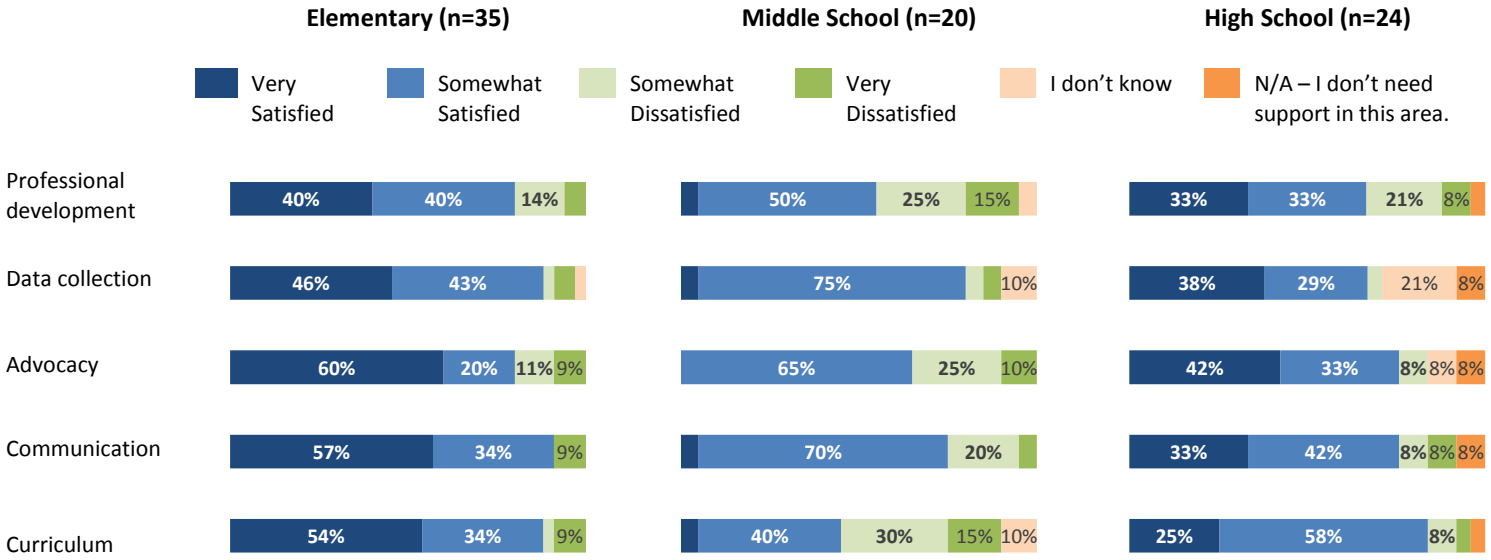


Full observation results are available for PE instructional practices in **Appendix B4** and for health instructional practices in **Appendix B6**. Health and PE surveys are summarized in **Appendix D1**.

Support from the Health and PE Office

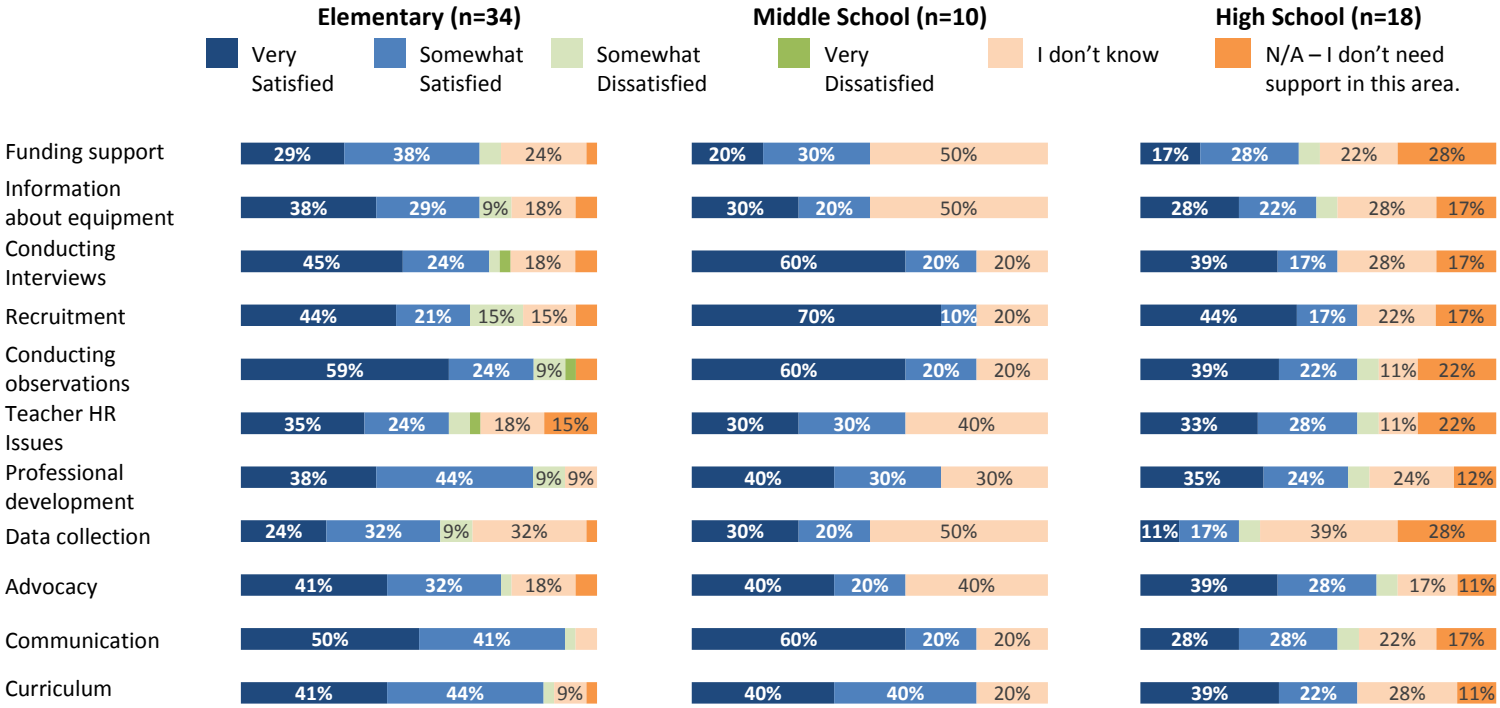
Most teachers expressed satisfaction with support from the Health and PE Office, though the degree of satisfaction varied by level and by type of support (figure 45). Middle school teachers stand out as being unlikely to select *very satisfied* and also generally having the highest rates of dissatisfaction. This was particularly true for the area of **curriculum** support, for which 45% of middle school teachers expressed dissatisfaction, in comparison to 12% each of elementary and high school teachers.

Figure 45: Please rate your level of satisfaction with division-level support for the following from the Health and PE Office. (Teachers)



Like teachers, most administrators expressed satisfaction with support from the Health and PE Office for a variety of types of support (figure 46). While their overall rate of satisfaction was lower than teachers', this was primarily due to a higher proportion of administrators selecting *I don't know* or *N/A*. Across levels, administrators seemed least familiar with support available for **data collection**, **funding**, and **information about equipment**, as indicated by responses of *I don't know*.

Figure 46: Please rate your level of satisfaction with division-level support for the following from the Health and PE Office. (Administrators)



Availability and Quality of Professional Learning Opportunities

The Health and PE Office provides a variety of professional learning opportunities to teachers every year. Table 17 shows the number of Health and PE professional learning topics offered over the past three school years as well as the number of teachers who participated. In 2015-16, new Health and PE standards were implemented, so professional learning focused heavily on the new standards and there were fewer topics overall.

Table 17: Participation in Health and Physical Education Professional Learning

	2014-15	2015-16	2016-17
Number of session topics	14	8	17
Total number of participants attending*	303	541	560
Number of participants attending at least one session	92	118	119

*Participants can attend more than one PL session and be counted more than once in total participation

Tables 18 – 20 show the variety of topics covered by professional learning sessions over the past three years.

Table 18: Professional Learning Course Names and Number of Participants, 2014-15

2014-15 PD Course	Number of Participants
Adapted Physical Education	43
ATOD (Alcohol, Tobacco and Other Drugs)	24
Cardio Fitness for Large Groups & Innovative Activities	8
Dance	36
Drug Enforcement Agency Museum Tour	36
Fitness Testing	12
Health and PE Professional Learning Community	13
Large Group Activities	16
Literacy Extensions	32
Middle and High School Health and PE Teachers: Electronic Cigarettes	26
New Health and PE SOLs	13
PE SOLs	4
Safe Dates Training	13
Youth Risk Behavior Survey (YRBS) Data	27

Table 19: Professional Learning Course Names and Number of Participants, 2015-16

2015-16 PD Course	Number of Participants
First Tee Golf Training	20
Focused Fitness / Five for Life Training	67
High School Physical Education in the Future	66
PE SOLs (multiple sessions)	173

Sexual Violence Awareness	22
Sharing Final Assessments (Health & Physical Education)	20
SIOP for Health & PE (Sheltered Instruction Observation Protocol)	39
Virtual APS Welnet	134

Table 20: Professional Learning Course Names and Number of Participants, 2016-17

2016-17 PD Course	Number of Participants
Aquatic Electives in High School	19
Competency Based Education	64
High School Health - Gender Roles	27
High School Online PE Courses and High School Power Standards	9
High School PE Modules	16
Let the Pictures Move You (Wolf Trap Presentation)	19
Middle School PE Modules	47
Middle School PE Power Standard Competencies	12
Middle School Substance Abuse Prevention Lessons	31
PAVE Presentation for High HPE School Teachers (Promoting Awareness, Victim Empowerment)	18
PE Modules	23
Risk Management	29
Risk Management/Substance Abuse Prevention Counselors Presentation	53
Sharing of Health Strands	48
Substance Abuse Prevention Counselor Presentation	18
Writing in Elementary Physical Education	43
Yoga	84

Feedback from teachers about professional learning opportunities is mixed. While most teachers indicated that they were *very* or *somewhat satisfied* with professional development offered by the Health and PE Office (figure 45), satisfaction tended to be lower for professional development than other areas of support. Professional development was the most common answer in open-ended responses about what other support teachers would like to receive from the Health and PE Office. Specifically, teachers requested:

- Professional learning that focuses on Canvas
- A focus on ready-to-use resources rather than work sessions to write curriculum
- More professional learning opportunities
- More guidance/training before being asked to implement things
- More choice in professional learning opportunities
- Improvements to professional learning such as greater relevance to curriculum

The full report on health and PE professional learning offerings and participation is available in **Appendix C3**, and the health and PE survey report is in **Appendix D1**.

Use of Shared Facilities by Non-APS Groups

According to School Board policy K-7, "the Arlington School Board encourages and allows the use of school buildings and grounds by the community for educational, recreational, civic and cultural activities to the extent possible under the law." This includes Arlington County Parks and Recreation programs, who can use APS facilities for free, and commercial groups serving the youth of Arlington, who pay a rental fee.

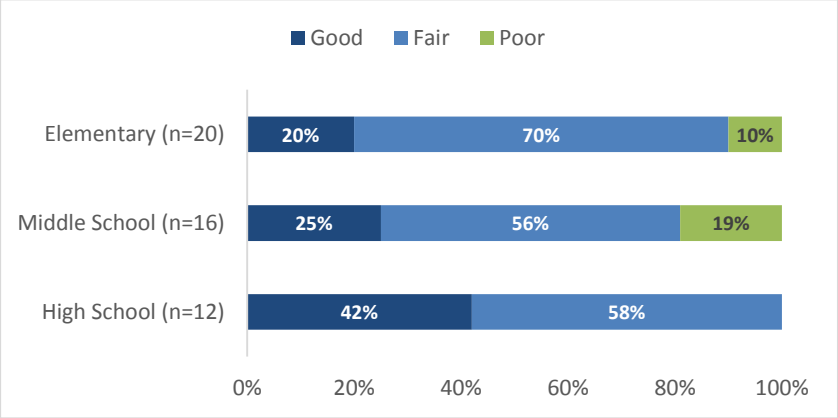
In addition, Arlington County and Arlington Public Schools collaborate on a number of joint-use facilities, including the Thomas Jefferson Community Center and swimming pools at the three APS high schools. The County's Department of Parks & Recreation (DPR) is given priority in using school facilities (after APS programs) for community programs.

Among teachers who indicated that they teach PE in a shared facility, most indicated that they need to at least make minor adjustments to the space after it is used by outside groups (figure 47). In response to the question, "**What condition is your instructional space in after its use by outside groups?**" teachers selected from among the following responses:

- Good – I can teach with no adjustments to the space.
- Fair – I can teach with minor adjustments to the space.
- Poor – I can't teach without modifying/cleaning the space.

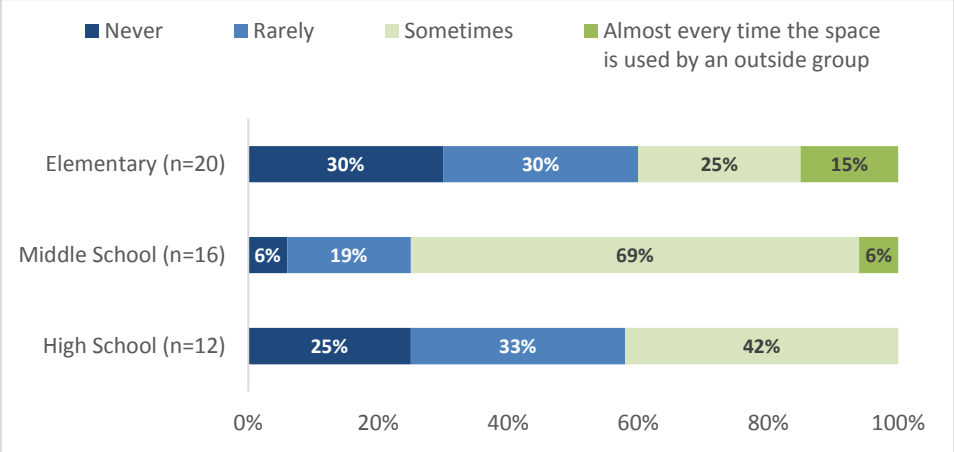
Across levels, most teachers selected *fair*, though a small percentage of teachers at the elementary and middle school levels selected *poor*.

Figure 47: What condition is your instructional space in after its use by outside groups? (Teachers who teach PE in a shared facility)



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* (figure 48).

Figure 48: How frequently do you find equipment missing after your instructional space has been used by outside groups? (Teachers who teach PE in a shared facility)



Evaluation Question #2: What were the outcomes for students?

Health and Fitness Measures

Fitness Skills Pre- and Post-Assessments

APS uses WelNet to record results from the Virginia Wellness-Related Fitness Tests. The software program can analyze scores, create reports, and prepare data for the state data submission. Students at each level perform five fitness tests. Their scores are measured against a national standard that increases in difficulty with age and differs by gender. Teachers can test as often as they want and the best score is submitted for the state data collection. Most teachers have pre (fall) and post (spring) testing. Teachers prepare students all year through a variety of fitness activities. Due to inconsistency in implementation and data entry for fall/pre assessments, this evaluation includes spring assessments only.

Across levels, most students were able to perform each tested skill 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 – **pacer – 15 or 20 meters**.

Figure 49: Percentage of Elementary Students Able to Perform Fitness Skill, Spring 2017

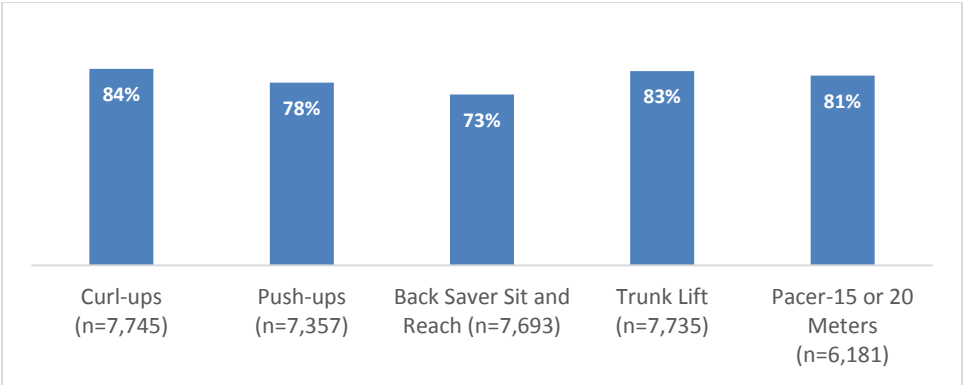


Figure 50: Percentage of Middle School Students Able to Perform Fitness Skill, Spring 2017

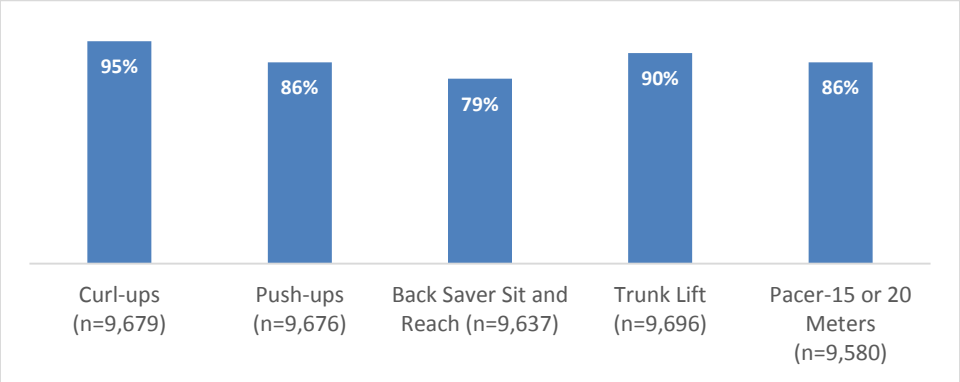
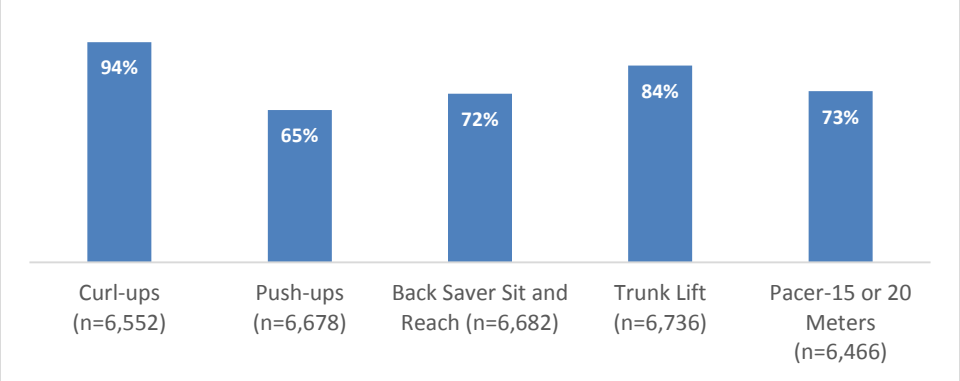


Figure 51: Percentage of High School Students Able to Perform Fitness Skill, Spring 2017



The full report on fitness assessments is available in **Appendix E1**.

Swimming Skills Pre- and Post-Assessments

Arlington Public Schools has a pool at each of the three comprehensive high schools, and the Health and PE program includes a swim unit at the elementary and high school levels. The elementary swim unit spans five days each in grades 3 and 4, and focuses on aquatic safety. The 9th grade swim unit includes training in CPR, automated external defibrillator (AED), and first aid, in addition to aquatic safety; and the 10th grade unit focuses on swim skill development, aquatic fitness, and activities such as kayaking and stand-up paddle boarding.

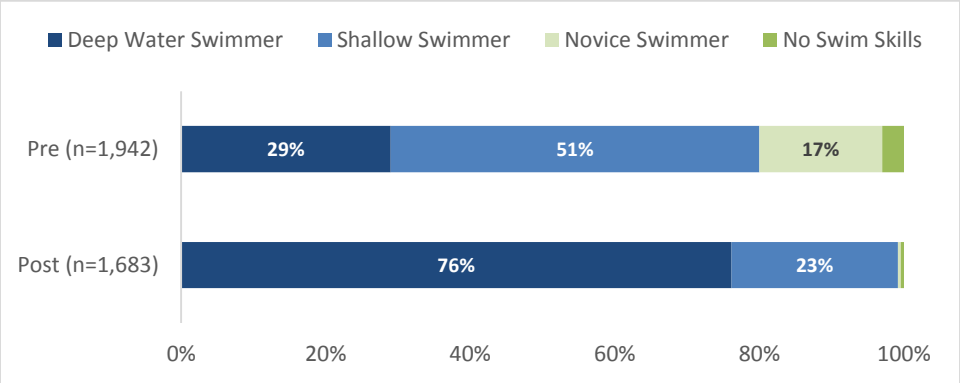
At each level, a pre- and post-test assesses whether or not students can perform certain skills and then assigns a level:

- **No swim skills**
- **Novice swimmer**: No exposure to the water, no and/or limited swimming skills
- **Shallow swimmer**: Has some swim skills but is limited to staying in the shallow water
- **Deep water swimmer**: Experienced and skilled swimmers, proficient swim skills

Elementary Swim Tests

According to available data[6], in 2016-17, most 3rd grade students fell into the *shallow swimmer* category on the pre-test, and the *deep water swimmer* category on the post test. Less than one percent of students fell into the *novice swimmer* or *no swim skills* categories on the post-test (figure 52).

Figure 52: Percentage of 3rd Grade Students by Swim Skill Categories, Pre and Post



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. Those who started out with no swim skills showed an average increase of 13 skills, novice swimmer increased 18 skills, shallow swimmers increased 12 skills, and deep water swimmers increased 2 skills.

Figures 53-56 show the proportion of students testing at each swim skill level by demographic categories. Students who were **limited English proficient (LEP)** or **economically disadvantaged** were far more likely to test at the shallow swimmer level on their pre-test than their non-LEP and non-disadvantaged peers, who tested at the deep water swimmer level more frequently. Post-test results show that students in all of these groups moved into the deep water swimmer level at fairly similar rates.

Asian, **black**, and **Hispanic** students were also less likely than their peers to pre-test at the deep water swimmer level, and black and Hispanic students were less likely to move into the deep water swimmer category on the post-test.

On the other hand, **students with disabilities** were more comparable to their non-disabled peers on the pre-test, though they were also somewhat less likely to move into the deep water swimmer category on the post-test. While the percentage of students testing at the deep water swimmer level increased by 51 percentage points for non-disabled students, it increased by just 41 percentage points for students with disabilities.

[6] Data entry was inconsistent across schools.

Figure 53: Percentage of 3rd Grade Students by Swim Skill Categories, Pre and Post, by LEP Status

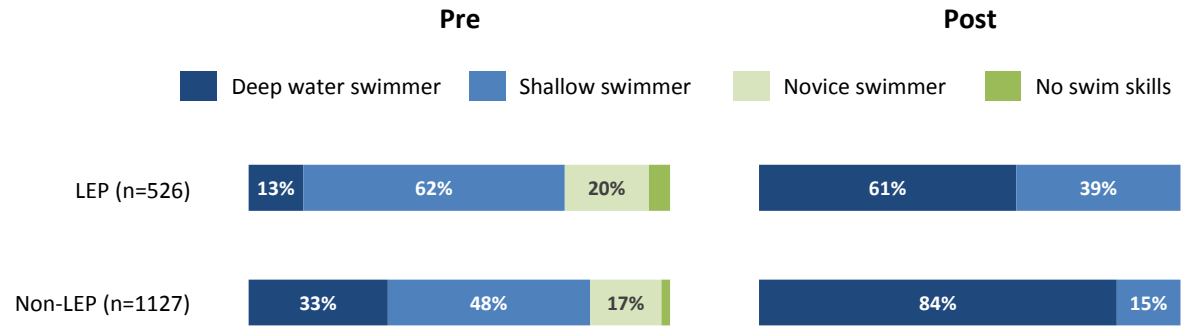


Figure 54: Percentage of 3rd Grade Students by Swim Skill Categories, Pre and Post, by Economic Status

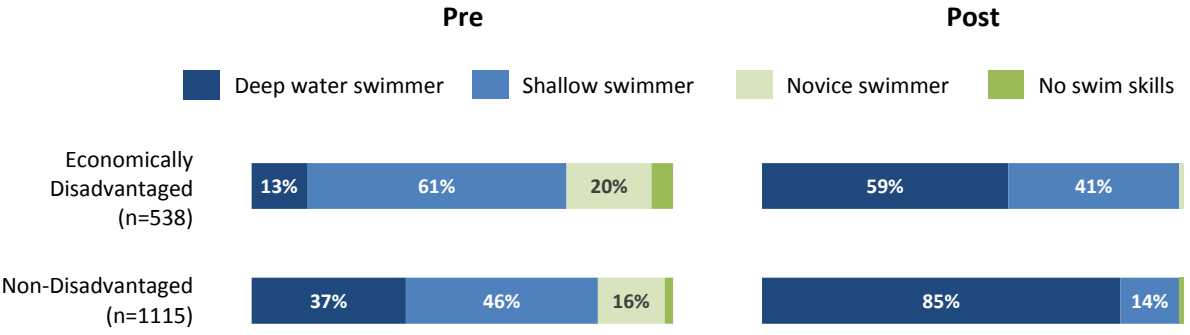


Figure 55: Percentage of 3rd Grade Students by Swim Skill Categories, Pre and Post, by Disability Status

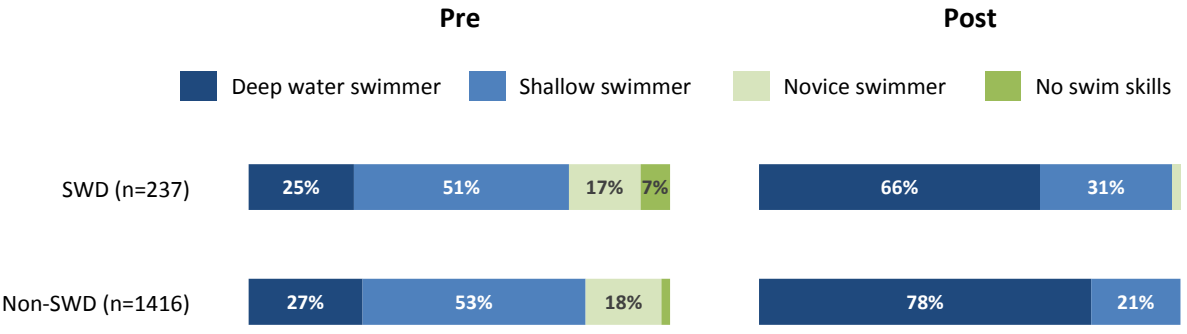
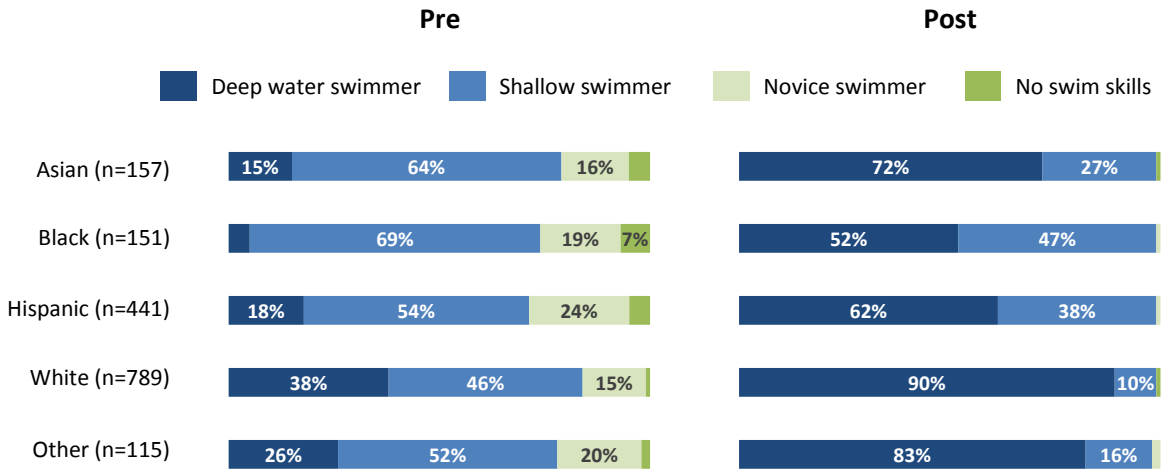


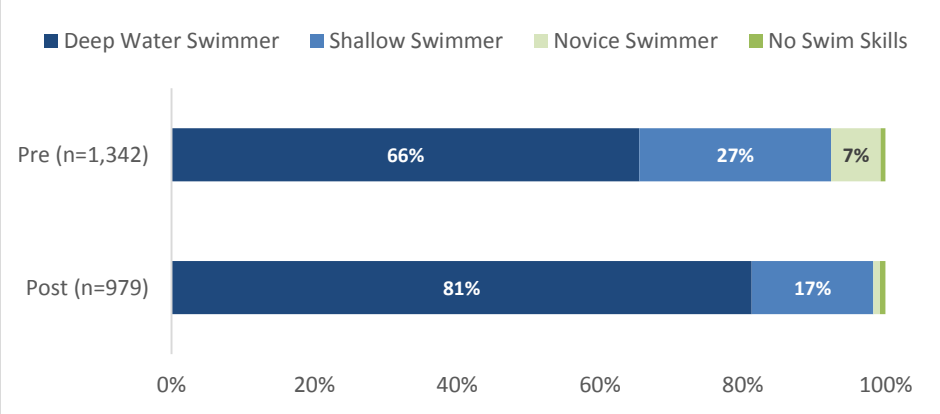
Figure 56: Percentage of 3rd Grade Students by Swim Skill Categories, Pre and Post, by Race/Ethnicity



High School Swim Tests

In 2016-17, 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. Less than 2% of students fell into the *novice swimmer* or *no swim skills* categories on the post-test (figure 57).

Figure 57: Percentage of High School Students by Swim Skill Categories, Pre and Post



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, with an average increase of 15 skills for novice swimmers and 9 skills for shallow swimmers. Of the seven students who tested at the *no swim skills* level, none showed an increase in skills on the post-test.

While high school students are generally more likely than 3rd grade students to pre-test at the deep water swimmer level, similar trends emerge across demographic groups (figures 58-61). Students who are **LEP**, **economically disadvantaged**, **Asian**, **black**, or **Hispanic** are less likely than their peers to pre-test at the deep water swimmer level, though they generally move into the deep water swimmer level at similar rates as their peers on the post-test.

Following the same pattern as third graders, high school **students with disabilities** are more likely to start out on par with their peers, and pre-tested at the deep water swimmer at a slightly higher rate than students without disabilities. However, they are less likely to move into the deep water swimmer category on the post-test. While the percentage of students without disabilities testing at the deep water swimmer level increased by 27 percentage points, the percentage of students with disabilities testing at that level only increased by 10 percentage points.

Figure 58: Percentage of High School Students by Swim Skill Categories, Pre and Post, by LEP Status

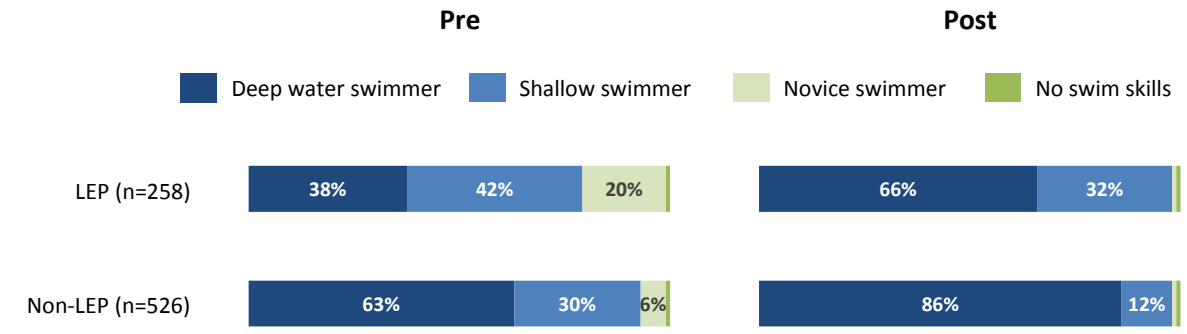


Figure 59: Percentage of High School Students by Swim Skill Categories, Pre and Post, by Economic Status

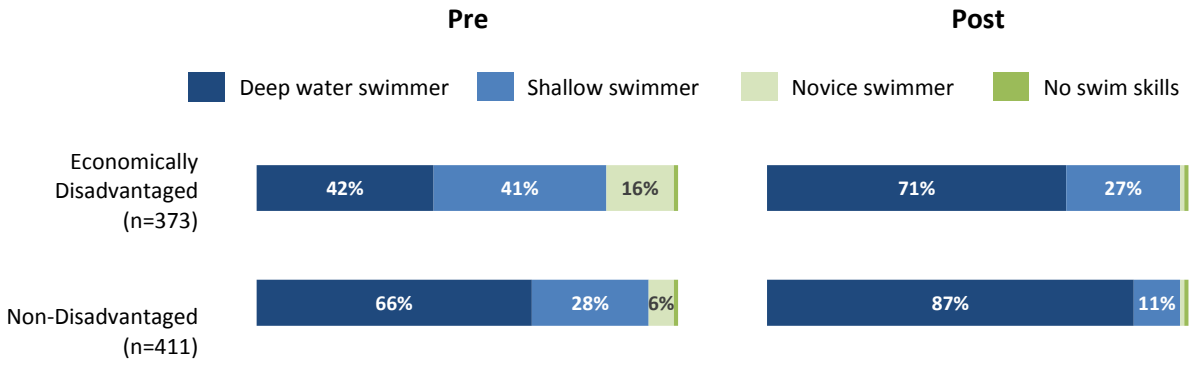


Figure 60: Percentage of High School Students by Swim Skill Categories, Pre and Post, by Disability Status

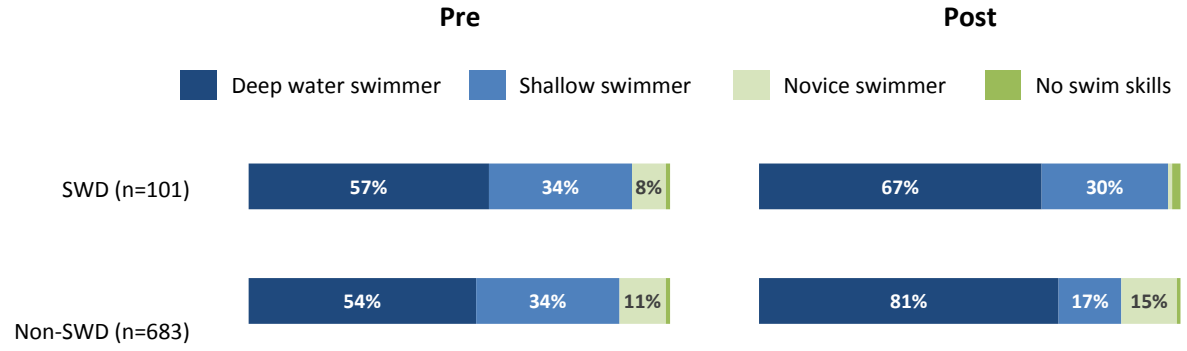
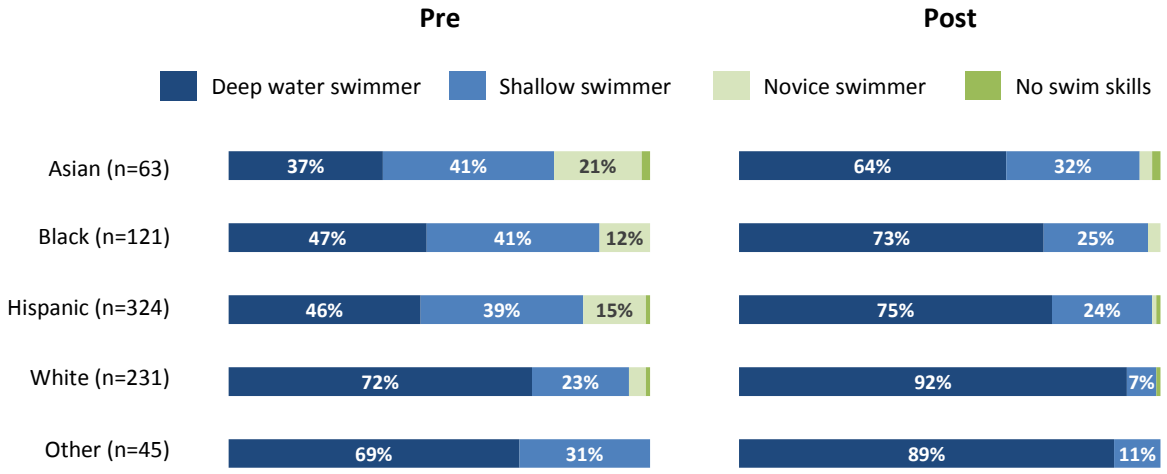


Figure 61: Percentage of High School Students by Swim Skill Categories, Pre and Post, by Race/Ethnicity



The full report on swim assessments is available in **Appendix E2**.

Student Perceptions of Impact of PE

In focus groups, students spoke highly of the impact that PE class has on their lives. Overall, PE was highly regarded by virtually all students in these groups. 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.

> *It's good to go outside, instead of staying inside and sitting down.*—APS HS Student
>
> *It's one of my favorite classes. One of my good classes. 'Cause it's fun. We don't get to have recess anymore. We don't get to go outside that much, unless it's sunny and we can sit out in the quad. Other than that, we don't really see [outside] or do [outdoor] activities.*—APS HS Student
>
> *It's kind of like you're actually doing something instead of being in a class and just sitting and writing stuff down. PE's different, 'cause you're moving around and you're actually using your energy.*—APS HS Student
>
> *It's basically just a free period almost, and time to relax.*—APS MS Student

Although it was not a widespread theme, several high school students noted that PE offers opportunities to experience the satisfaction of personal achievement, such as doing well in a sport or improving a running time or being happy about sore muscles the day after an activity.

> *I like my teacher and the personal accomplishment, I guess. Physically, sports-wise. I like that, and how excited people get when you kick a ball or something like that.*—APS HS PE Student

Among sixth grade focus group participants, elementary school PE was remembered especially fondly as being focused on fun and games. They said that the focus shifted from fun and games in elementary school to learning and trying specific sports in middle school. High school students said PE shifts again in high school to a greater focus on fitness.

[In middle school] I feel like [PE] was more revolved around sports. Here [in high school] it's more about your push-ups and cardio.—APS HS Student

But yeah, I have to agree with [name]. In middle school, they really care about you learning the sports. But now what they care about is how many push-ups, how many sit-ups, and stuff like that.—APS HS Student

Most students initially thought PE does not affect their lives outside of school. They were all hard-pressed at first to connect PE to life outside school. The idea had not occurred to them. Some said they are already very involved in sports and PE has no impact on that. Even when given examples like swimming, running, playing soccer or Capture the Flag, virtually all of them said that they do not use what they learn in PE outside of school. They indeed *do* these activities, but they do not connect that fact to PE.

However, some ways that PE impacts daily life occurred to many after they gave it thought. For example, a couple noted that they learned about weightlifting, which helped with proper form and, importantly, with "knowing what to do in the gym" (in other words, being competent working out at a local or school gym). Others noted techniques they had learned (e.g., how to properly kick a soccer ball) or said they had discovered a sport like soccer, track, or running for exercise through PE.

We did this weight lifting unit, and so I kind of learned what to do and what not to do. You grow up doing squats, right? But then till this year, he taught us the proper way of doing it. This certain way, so you're actually doing it right. I didn't know that until now.—APS HS Student

Yes. [I learned] how to use a gym, doing the weights. When you go to the gym, how not to smash yourself.—APS English Learner HS Student

[PE] has [impacted life outside school] for me. Like, before, I didn't like running. I hated it. I only liked playing games and sports. But once I started doing it like every day, I just saw how good I felt after. I'm just like, "Wow, I can start doing it more, and so, now, I just do it outside of school, because, like, I feel like it helps people ... some people don't even run or get out their house to go walk...—APS HS Student

They teach you to do things, and they either stick with you or they don't. So I remember when I was little in elementary school we had a soccer unit. That kind of stuck with me. Like how you kick a ball properly, 'cause you don't wanna [kick with the front of your toes].—APS HS Student

I guess [PE] also taught me what I can do over the years. I didn't know I ran fast a little bit. When your PE teacher's like, "Oh, you should ... Do you run track?" or, "You should run track." I kinda learned it. In sixth grade, I was like, "Oh, maybe I should try this more." So, yeah. Then I ran track.—APS HS Student

I *mean yeah. If it weren't for PE back in fourth grade I wouldn't have joined soccer.*—APS MS Student

Getting more specific, students were asked whether PE affects how active they are. They all agreed that they are more active because PE is built into their school day, but nearly all thought PE has no bearing on how active they are elsewhere. Most of the students who participated in these focus groups said that

physical activity is important to them. And, they see PE as giving students an opportunity to be active, especially those who would otherwise get no activity at all. Throughout the groups, students' comments revealed their knowledge that valuing physical activity is socially desirable and/or their genuinely positive thoughts about physical activity.

> *I feel like it helps people [to have PE class] ... Because some people don't even run, or get out their house to go walk, and things like that. So I feel it's really good for kids to do it here, because, some don't even move their body.*—APS HS Student

Student Perceptions of Impact of Health

Nearly all of the high school students who participated in the focus group discussions strongly believed that they had learned useful information in health class. For some topics, health class is the only place to learn about them, they said.

> *In health, like sometimes, I'll look back, and I'll think ... You know, or I'll be around things, and I'll know what they are, and like, I'll know things because of health class. Like drugs and stuff ... I know people who do drugs and stuff here, and I know, like, what the effects are, and stuff. I take it for granted, like sometimes I'll think, "What if I didn't have that class. I would know nothing about it." Because, my parents wouldn't tell me. They don't [know].* — APS HS Student

> *I think this year was my favorite health class. Out of all of the years I've had to take it, this one is ... I just guess I learned more important stuff that actually applied to me now, because in seventh grade drugs really didn't apply to me. [The experience of] my friends using drugs didn't apply. At that point, it's like, "Why am I learning this?" But now I get it. Yeah. Seventh grade you've never seen a drug, or you don't know what it is sort of thing. But now, to be honest, if you go somewhere like a party or something, you see something. You're like, "Oh, that's what [we learned about]...And now we know what [harm] it can do."*—APS HS Student

> *It's kind of getting you prepared for what's gonna come for you, 'cause there are some things that you're learning about now and what it can do to you and what can happen and all that. Maybe in a few months or a few years, you'll encounter that situation, and you'll be prepared.*—APS HS Student

In talking about health class in elementary school, the prevailing sense was that students indeed learn but the experience overall is awkward. In middle school, students said, health education gets repetitive (e.g., "drugs are bad, drugs are bad, drugs are bad") but several spontaneously acknowledged without being asked that the content advances. In other words, the general topic is the same, but students learn new age-appropriate information.

The full focus group report is available in **Appendix D2**.

Physical and Socio-emotional Outcomes for APS Students

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.

Arlington Public Schools collaborates with the Arlington Partnership for Children, Youth, and Families (APCYF)[7] to administer two student surveys:

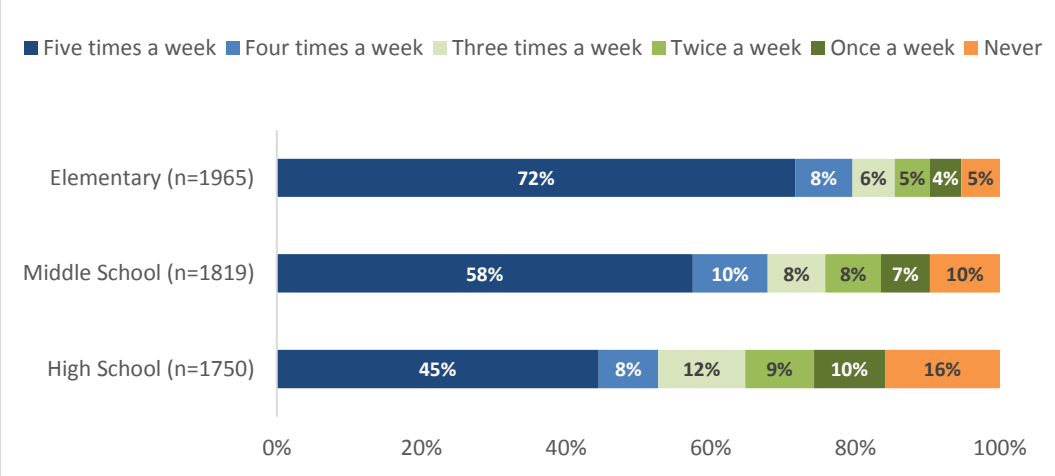
- The **Youth Risk Behavior Survey** (YRBS)[8] has been administered to students in grades 6, 8, 10, and 12 on a regular basis. Survey results serve as a gauge of trends in a variety of health behaviors among APS students.
- The **Your Voice Matters Survey** is a new collaboration between APS and APCYF and was administered for the first time in spring 2018. This survey covers a variety of topics including health and wellbeing, and the student version is administered in grades 5-11.

Highlights from these 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.

Nutrition

On the 2018 Your Voice Matters survey, the percentage of students reporting that they eat breakfast five times a week during a typical school week decreases as students get older (figure 62). Fewer than half of high school students report that they eat breakfast five times a week, and 16% report that they never eat breakfast.

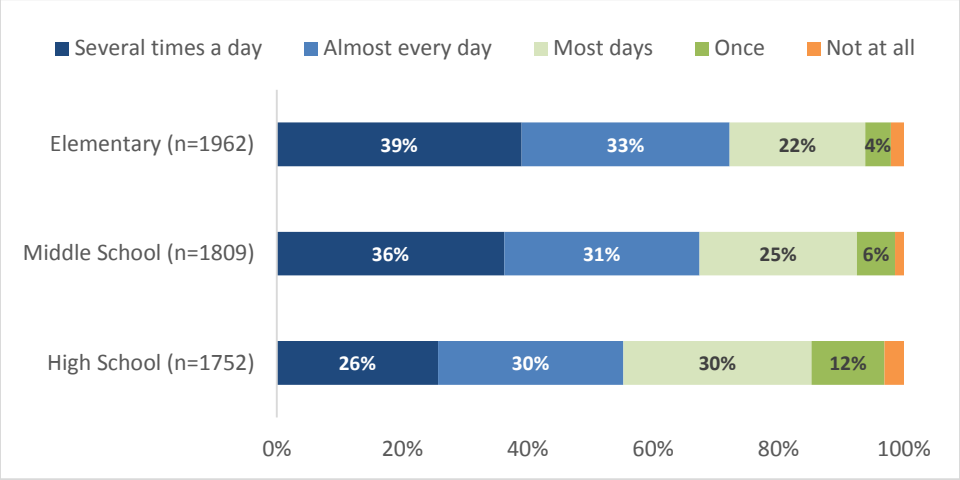
Figure 62: During a [elementary] regular/[secondary] typical school week, how often do you eat breakfast? (Students)



A similar pattern emerges with eating fresh fruits and vegetables. Across levels, most students report that they eat fresh fruits and vegetables either *several times a day*, or *almost every day*, but this percentage decreases from 72% at the elementary level to 56% at the high school level.

[7] https://apcyf.arlingtonva.us
[8] www.cdc.gov/healthyyouth/data/yrbs

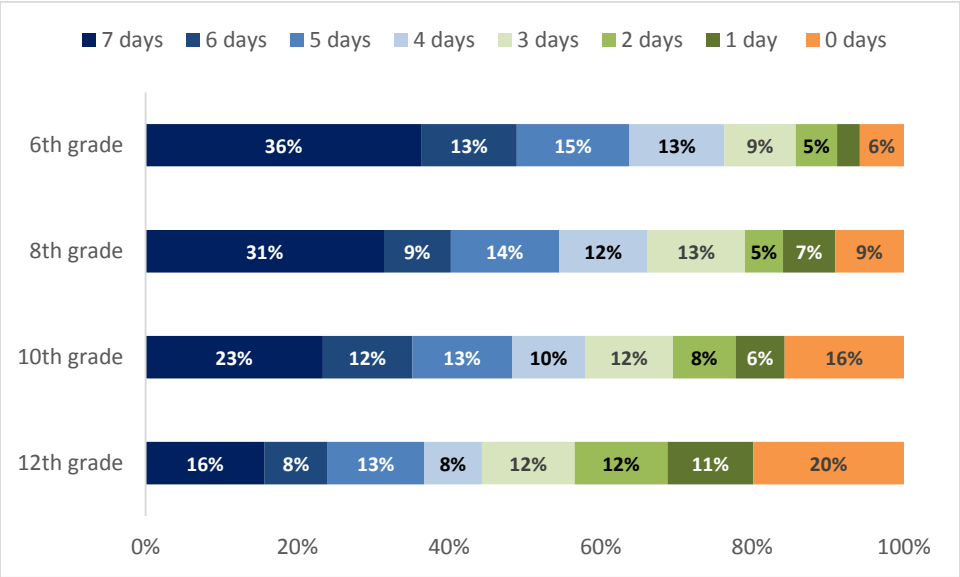
Figure 63: In the last week, how often did you eat fresh fruits or vegetables? For example, apples, bananas, carrots, and spinach are all fresh fruits and vegetables. (Students)



Engagement in Physical Activity

According to responses to the 2017 YRBS, APS students become less likely to engage in physical activity as they progress from 6th to 12th grade (figure 64). While three quarters of 6th 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 12th graders report this level of activity, and 20% reported that they were physically active on none of the last seven days.

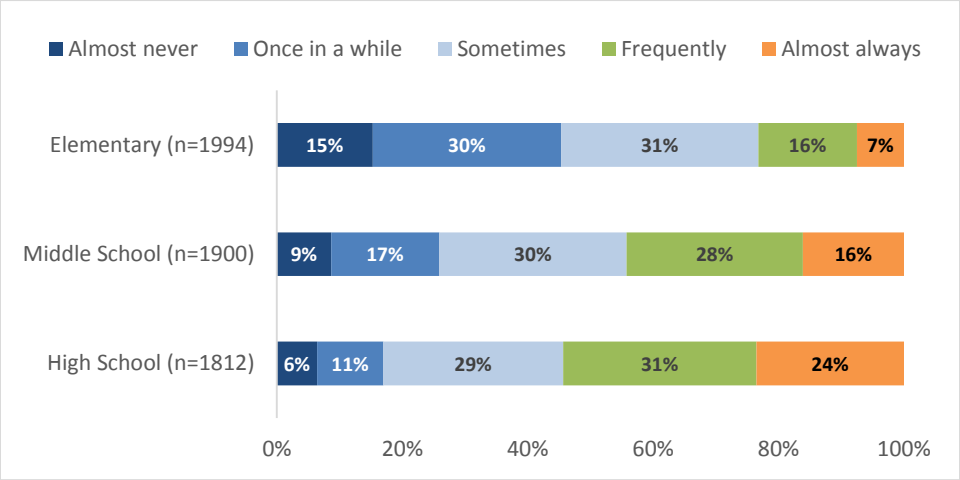
Figure 64: During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Students)



Mental Health

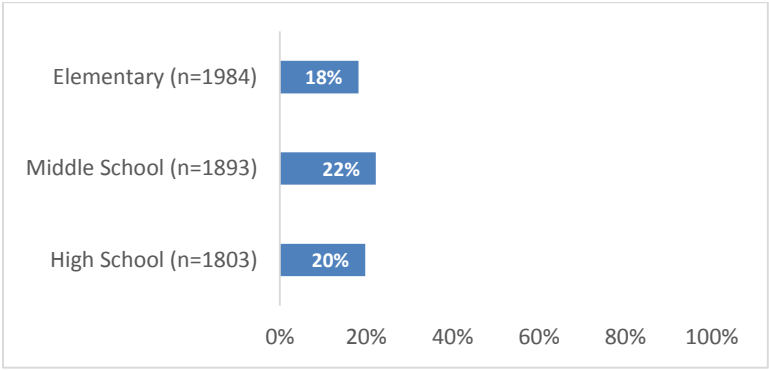
Responses on the 2018 Your Voice Matters survey indicate that stress levels increase as students get older (figure 65). By high school, around a quarter of students report *almost always* feeling stressed out.

Figure 65: How often do you feel stressed out? (Students)



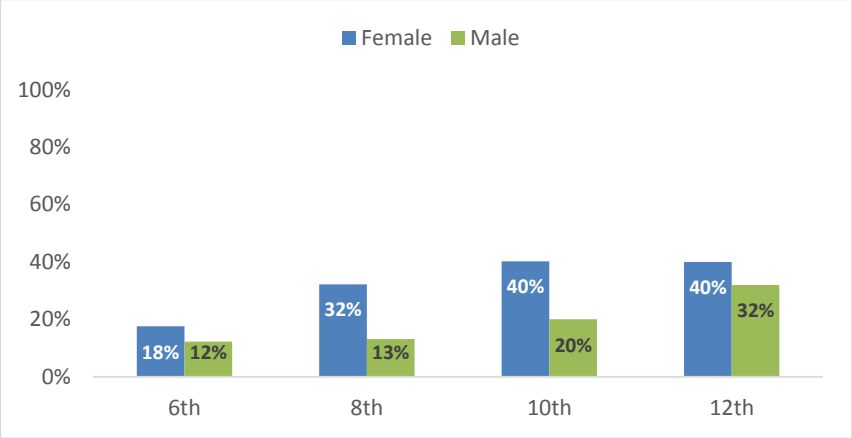
Around 20% of students at all levels indicate that they don't speak to anyone when they are feeling stressed out (figure 66).

Figure 66: Who do you talk to when you are feeling stressed out? Please select all that apply. (Percentage of students selecting "No One")



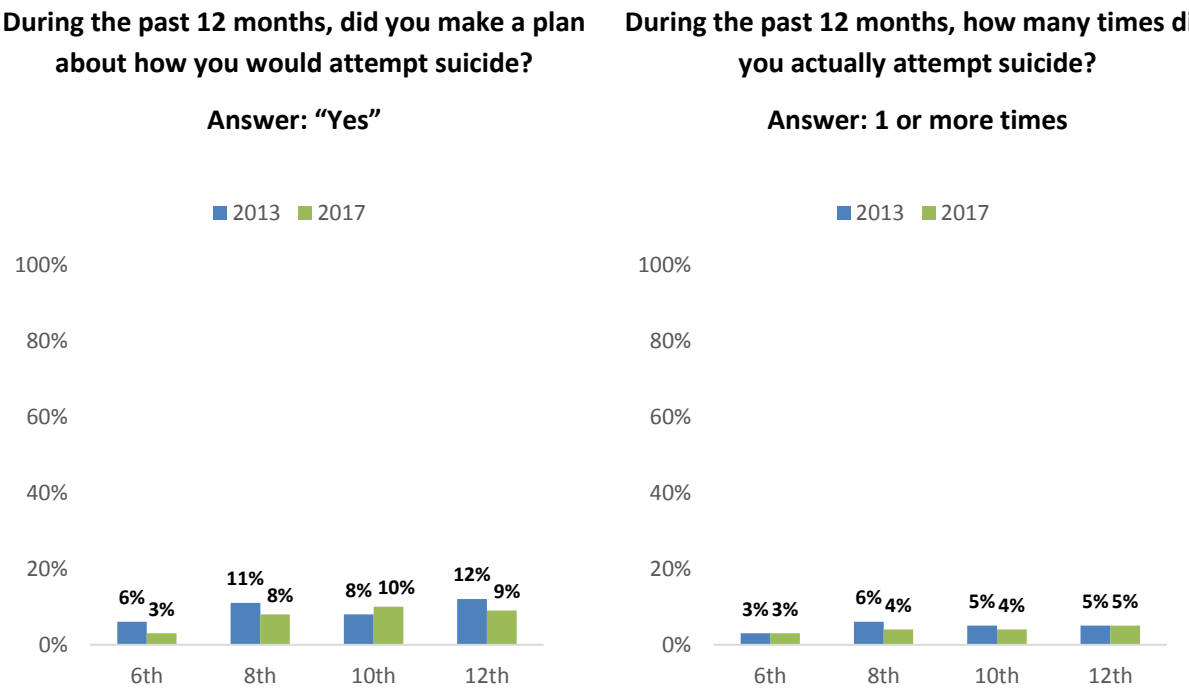
According to the 2017 YRBS, as students get older, they are more likely to exhibit signs of depression, and at all grade levels, this is more common among girls (figure 67).

Figure 67: During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities? (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% (figure 68).

Figure 68: Suicidal Thoughts and Actions (Students Responding Yes)

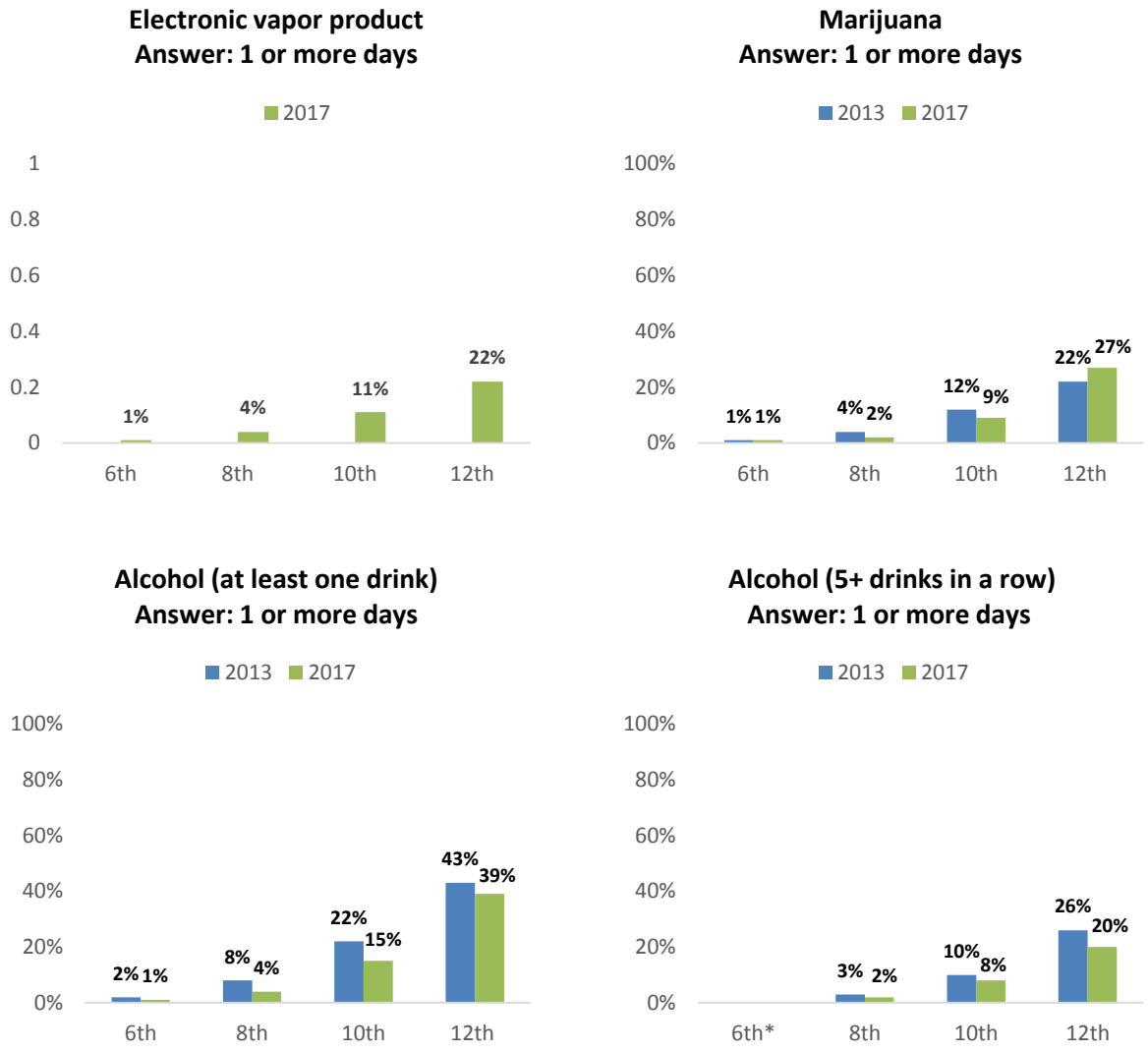


Engagement in Risk Behaviors

Use of alcohol has decreased across grade levels, from 2013 to 2017. In 2017, 39% of 12th 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 10th graders and increased among 12th graders, with 27% reporting having used marijuana in the past 30 days in 2017. A

new question was added to the YRBS in 2017 about e-cigarettes (electronic vapor products). Almost a quarter of 12th graders reported having used an e-cigarette at least once during the past 30 days.

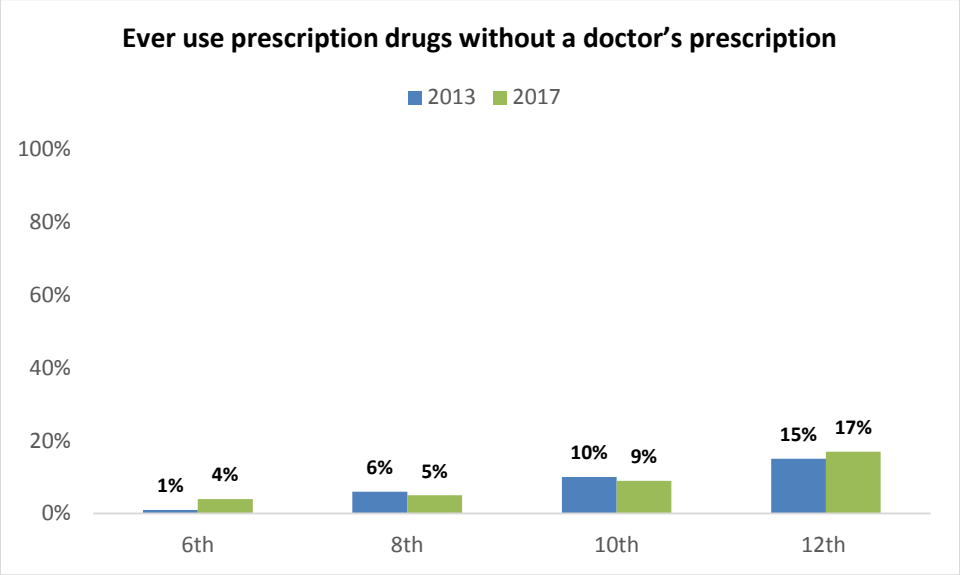
Figure 69: During the past 30 days, on how many days did you use/have…(Students answering 1 or more days)



*This question was not included in the 6th grade survey.

The percentage of students reporting that they have taken prescription drugs without a prescription increases by grade level and was 17% for 12th graders in 2017.

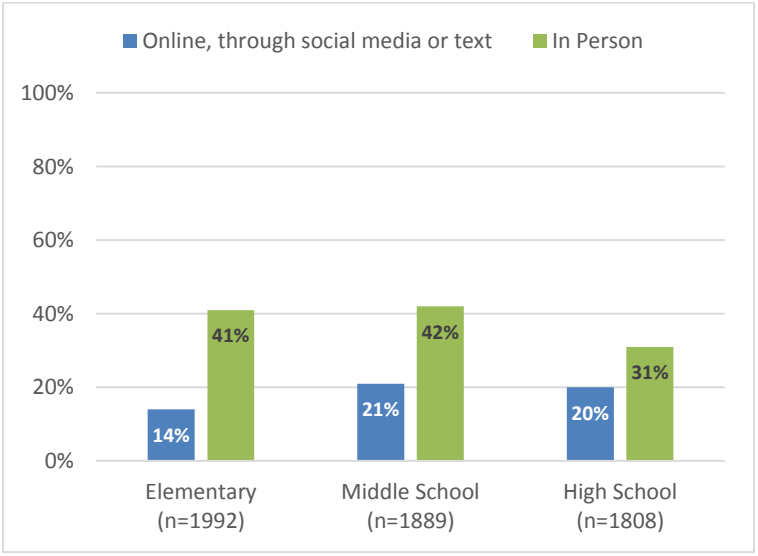
Figure 70: During your life, how many times have you taken prescription drugs without a doctor's prescription? (Students answering 1 or more times)



Bullying

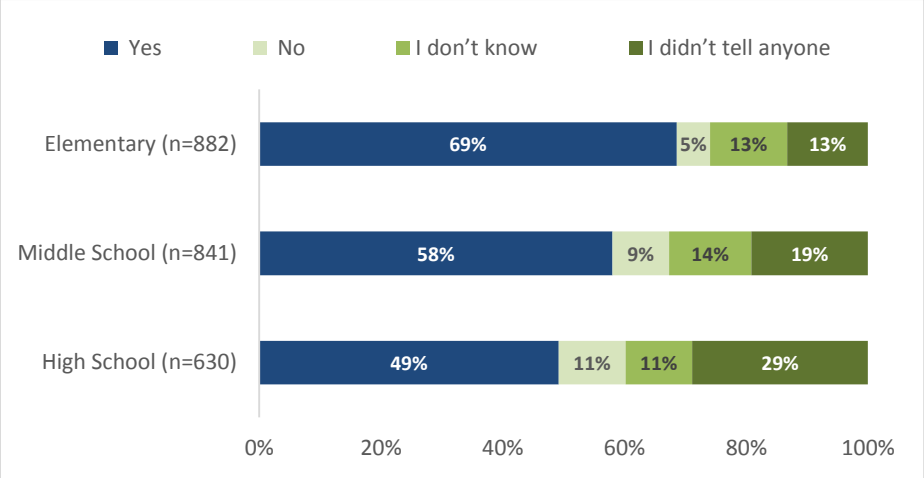
According to responses to the 2018 Your Voice Matters survey, students are far more likely to be bullied in person than online, through social media or text (figure 71). Around 40% of 5th grade and middle school students reported having been bullied in person, and this decreases to 31% in high school. Conversely, the percentage of students having been bullied online, through social media or text increases from 5th grade (14%) to middle and high school (20-21%).

Figure 71: Have you ever been bullied…(Students)



Students who reported having been bullied were asked who they told about the bullying, along with a follow-up question, “Did that person help?” Figure 72 shows the percentage of students responding yes decreases by level, while the percentage of students reporting they didn’t tell anyone increases by level.

Figure 72: Did that person help? (Students who have been bullied)



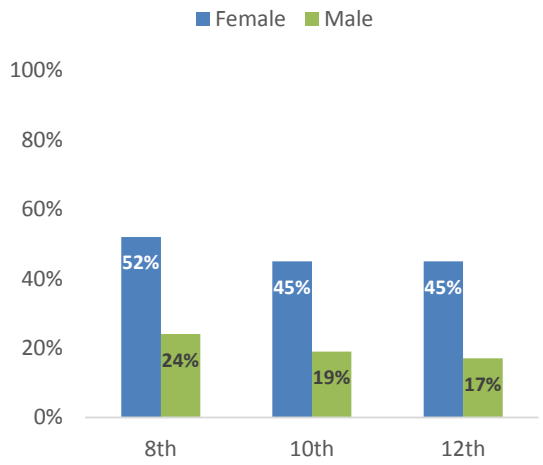
Healthy Relationships

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.

Figure 73: Sexual Harassment and Assault (Students)

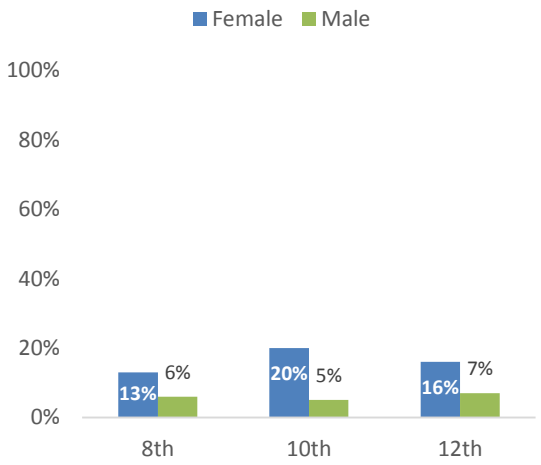
During the past 12 months, how many times did another student make unwelcome sexual comments, jokes, or gestures that made you feel uncomfortable on school property?

Answer: 1 or more times



During the past 12 months, how many times did someone do sexual things to you that you did not want? (Count such things as kissing, grabbing or touching without your informed, voluntary and active consent/permission.)

Answer: 1 or more times



Select results from the Youth Risk Behavior and Your Voice Matters surveys are available in **Appendix E4** and **Appendix E5**.

SECTION 2: RECOMMENDATIONS AND NEXT STEPS

Connections 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.

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.).	Physical Education – develop and implement assessment tools and procedures to measure physical education knowledge and skills. Health Education - develop and implement assessment tools to measure health knowledge and skills.	Rubrics Checklists Tests Quizzes Exit slips Project-Based Learning	• 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 • Work with teachers to create effective assessments to measure the knowledge and skills in the unit plans • Work with teachers to ensure accurate and consistent data entry • Pilot the assessments in schools at each level • Evaluate effectiveness and efficiency of new assessment tools

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.

Action Plan for Recommendation #2			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
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	• Continue to work with school leadership teams on scheduling • Discuss concerns with school leadership teams to identify factors that affect scheduling and determine possible solutions • Meet with Supervisor and Directors of Counseling to determine class size recommendations aligned with best practices • Meet with Directors of Counseling to create a master schedule that equals the number of spaces available for health and PE instruction

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

Action Plan for Recommendation #3			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
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	• Use the curriculum writing process to develop units of study for all K-12 Health and PE courses • Work with school leadership teams, counselors, and teachers to determine the delivery schedule for health lessons
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	• Discuss concerns with teachers and school leadership teams to determine possible solutions
c) Monitoring implementation of curriculum and time of instruction	Schools will deliver effective health lessons	Observations of health lessons Reliable information about health schedules	• Ensure that each school provides a schedule of health lessons • 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

Action Plan for Recommendation #3			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
			specific dates for substance abuse and mental health lessons • Observe instruction and provide feedback to teachers

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 LGTBQ+.

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 LGTBQ+.	Create supplemental instruction and interactive lessons for the following topics: • Mental health • Substance abuse prevention • LGBTQ awareness	• Interactive and engaging lessons • 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.	• Continue to collaborate with Student Services to present lessons at all levels • Utilize local resources to provide professional learning opportunities for staff • 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 • Observe instruction and provide feedback to teachers

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.	Create supplemental instruction for small groups and individual students Investigate the need for assistants to accompany students to health and PE classes	Success of all students in health and PE classes Guidelines for the role of assistants in health and PE for ESOL/HILT students and students with disabilities	• Use the curriculum writing process to develop units of study for all K-10 health and PE courses that include core and intervention lessons • Continue to work with ESOL/HILT and Special Education staff to develop instructional strategies to support all learners • Meet with Directors of Counseling to create a schedule that ensures student access to courses as needed • Utilize APS resources to provide professional learning opportunities

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	Key findings on student surveys, including the *Your Voice Matters* and *Youth Risk Behavior Surveys* will show an improvement in daily physical activity levels Observations indicate occurrence of MVPA	• Work with health and PE teachers to identify lesson components and activities that can increase MVPA • Include exemplar lessons in unit plans