

# Parkland Magnet Middle School for Aerospace Technology Case Study

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The Maryland State Department of Education  
Study of Adequacy of Funding for Education in the State of Maryland

By

Amaya Garcia  
Maryland Equity Project

**Under supervision of Picus Odden & Associates.**

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### *Executive Summary*

Parkland Magnet Middle School for Aerospace Technology is an example of the second category of schools – a high growth school.

Parkland Magnet Middle School for Aerospace Technology is located in one of the economically disadvantaged areas of Montgomery County Public Schools. The school has a diverse student population – 44 percent of students are Hispanic, 25 percent are African American, 18 percent are Asian, and 10 percent are white. Fifty-two percent of students are eligible for free and reduce-priced meals (FRPM).

Between 2007 and 2012, Parkland saw significant gains in student achievement on the Maryland State Assessment (MSA), particularly for subgroups. During this time period, the proficiency rates of FRPM eligible students rose by 20 percentage points and the performance gap between them and their more affluent peers decreased from 12 to seven percentage points. MSA proficiency rates for English language learners and special education students also increased by 34 and 21 percentage points respectively.

Interviews with staff members, the school's instructional leadership team, and the principal point to several factors that have contributed to these increases in student achievement:

1. Supporting teachers. The school's large instructional and support staff, combined with adequate resources and a strong focus on professional development have helped increase teacher retention at the school.
2. Focus on teacher collaboration and professional development. Teachers meet for collaborative planning and professional development every other day. Moreover, they participate in instructionally related activities every other day and have team meetings three times per month. Teachers' professional development is led by a staff development teacher and is focused on building teachers' knowledge and skills of Culturally Relevant Instruction (CRI) and Universal Design for Learning (UDL).
3. Instructional models aligned to student needs. The school used root cause analysis to determine which students or learning areas required the most support. Given the large number of minority students – and the persistence of the achievement gap – the school is implementing two new instructional practices better aligned to student needs. CRI places emphasis on teachers' use and integration of instructional resources and materials that reflect students' cultures. UDL provides students with multiple ways to learn and demonstrate their learning and is a tool for boosting student engagement.

4. Multiple interventions. Parkland offers a multitude of interventions to provide students with extra support and help. After-school tutoring programs are available for struggling and special education students. LEP students are required to participate in Saturday school (off-site) and receive double periods of instruction during the regular school day. There is a Scholars Coordinator who is charged with monitoring and supporting 60 minority students and moving their performance up. Students with behavioral issues are provided with supports and strategies in a stand-alone Alt 1 classroom. Finally, the school provides wraparound services through the Linkages to Learning program and initiatives such as Family Market Day that provides families with free food.
5. Positive school climate. The principal and school staff have built up a positive learning environment for students using a variety of motivational strategies. Students who earn good grades participate in an ABC party and those who are on the honor roll or earn straight A's receive VIP privileges. Positive Behavioral Interventions and Supports (PBIS) rewards students' positive behavior with Panther Paws that can be used to purchase items from the school store. Teachers respect one another as colleagues and as one administrator shared, "This is Parkland. This is different. It's this atmosphere, it's kind of like a party".
6. Specialized programming. Parkland is an aerospace magnet school and sets high expectations and rigor for students. Students take two science courses a year and are offered the chance to earn high school credits throughout grades six to 10. Additionally, they are afforded the opportunity to take multiple science electives in the area of robotics, engineering, astronomy and principles of flight. The school accepts students via lottery, but does not have admission requirements. Much of the science curriculum is crafted in-house and students view the school as a stepping-stone for getting into specialized high schools.
7. Strong school leadership. The school has benefitted from continuity in leadership and the development of a shared vision. The principal has a positive outlook and places emphasis on pushing all students and teachers to their potential. He is purposeful in his hiring and equally purposeful in creating a positive and rewarding learning environment. Importantly, the principal trusts his leadership team and staff to "do what they do best" and "run" with initiatives or programs they believe will be beneficial for the school.

*Introduction*

Parkland Magnet Middle School is located in Wheaton, which is one of the economically disadvantaged places of the Montgomery County Public Schools district. Wheaton schools have the highest FRPM rates and the highest percentage of Title I schools in the district. In fall 2014, Parkland enrolled 883 students in grades six to eight. Overall, core class sizes averaged 25 students, with the following average class sizes by grade-level and subject shown in Table 1:<sup>1</sup>

**Table 1**  
**Parkland Magnet Middle School Class Sizes**

<b>Grade-level and Subject</b>	<b>Class Size</b>
Grade Six	
English	25
Math	23
Science	27
Grade Seven	
English	26
Math	24
Science	26
Grade Eight	
English	25
Math	21
Science	28

The school offers a wide variety of core courses and electives. There are five English/language arts classes offered: Developmental Reading, Read 180 (remediation), Reading, English, and Advanced English. The number of sections for each class varies by grade-level. A variety of math courses are available within each grade-level including, Algebra (six, seven, and eight), Honors Geometry (seven and eight), Honors Algebra (eight), Math Investigations (six and seven), Math (six and seven), and Algebra Prep (eight). Students are offered a robust science program with courses in astronomy, robotics, aeronautics, and space. Some advanced and remedial courses include mixed grades. For example, one section of algebra has students from grades six, seven, and eight.

Parkland is an aerospace magnet school that draws in students from across the district. It is part of [the Montgomery County Public Schools Middle School Magnet Consortium](#) originally created in 2004 with a grant from the U.S. Department of Education to help retain students. The

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<sup>1</sup> Given the variety of offerings, average class sizes were calculated using the following rules: course could not include mixed grades and special education/resource classes were not included because they generally only contained five to eight students.

consortium includes three middle schools (Parkland, Argyle, and Loiederman) that have different areas of focus but share common goals. These goals include improving student performance, increasing student choices in middle school programs, and decreasing student socioeconomic isolation.

Many students take the bus to school, while the 20 percent of students who attend from outside of the consortia (i.e. do not live within the residential boundaries of the three schools) must rely on their parents to transport them. The school does not have a selective application process. Any student who is interested in the program may apply and be admitted via lottery. School enrollment has grown steadily over the years, from a low of 560 in 2005 to 883 in 2014.

The student body is 44 percent Hispanic, 18 percent Asian, 25 percent African American, and 10 percent white. Students come from many different countries. For example, in one class alone there were 14 different languages spoken among the 34 students. The majority of Hispanic students are from El Salvador. The school’s demographics have changed in recent years, with a doubling of the Asian population and an increase in the rate of students eligible for FRPM.

Table 2 shows the number of students by student subgroup attending Parkland.

**Table 2  
Parkland Magnet Middle School Student Characteristics**

Student Characteristics	Percentage of Parkland Student Population
Race/Ethnicity	
American Indian/Alaska Native	-
Asian	18
Black/African American	25
Hispanic/Latino	44
Native Hawaiian/Pacific Islander	-
White	10
Two or more races	3
Students eligible for free or reduced-priced meals (FRPM)	52
Limited English Proficient (LEP) Students	11
Special education students	10

A “-” indicates either no students or the number of students was suppressed due to too few students in the category.

Fifty-two percent of students qualify for FRPM compared to the average of 34 percent in the district’s other middle schools. Eleven percent of students have limited English proficiency. This percentage has increased over the past couple of years and is slightly higher than the district rate of nine percent.<sup>2</sup> Ten percent of students receive special education services, which is lower than the district rate of 11 percent. Starting in 2007, Parkland Middle School saw consistent improvements in student achievement across the entire school population and for many subgroups.

This case investigates how Parkland achieved the observed growth in student achievement. The report has 11 sections: 1) school performance, 2) school staffing, 3) goals, 4) school schedule, 5) curriculum and instructional program, 6) assessments, 7) interventions and supports, 8) collaborative teams and professional development, 9) school culture and leadership, 10) summary, and 11) degree of alignment between the school’s strategies and the school improvement strategies embedded in the evidence-based (EB) funding model.

*School Performance*

Table 3 shows the composite data used to select Parkland Middle as a case study site. The percentage of students who are proficient or advanced across all subjects (reading and math in grades six through eight, and science in grade eight) was averaged to produce a number – percent proficient/ advanced – for each year from 2007 to 2012.

**Table 3  
Magnet Middle School Performance, Maryland School Assessment (MSA), 2007-2012**

<b>Average School-Wide Percent Scoring Proficient/Advanced in Reading, Math and Science</b>								
<b>Performance Level</b>	<b>MSA 2007</b>	<b>MSA 2008</b>	<b>MSA 2009</b>	<b>MSA 2010</b>	<b>MSA 2011</b>	<b>MSA 2012</b>	<b>MSA* 2013</b>	<b>MSA* 2014</b>
All Students	66	73	76	81	78	81	81	77
Free and Reduced-Price Meals (FRPM) Students	54	58	63	71	70	74	NA	NA
LEP Students	18	25	35	30	41	52	NA	NA
Special Education Students	36	46	54	64	57	57	NA	NA
Non-White/Non-Asian Students	58	65	69	75	73	76	NA	NA

A “-“ indicates either no students or the number of students was suppressed due to too few students in the category.

<sup>2</sup> The district rates presented are for middle schools only.

\*Assessment data by student subgroup for 2013 and 2014 were not available at the time this report was written.

For 2013 and 2014, only “All Students” scores were available. During this latter two-year time period, the state’s curriculum standards changed, but the test did not. Statewide test score results dropped over these two years. Schools that had a drop of less than one standard deviation were given preference for being included as a case study. Parkland’s composite test scores did not drop in 2013 (remaining at 81 percent), but did drop to 77 percent in 2014.

The data demonstrate the growth that has taken place over the past several years. In particular, the MSA scores of students eligible for FRPMS increased by 20 percentage points between 2007 and 2012. Similar gains were made for special education students (21 percentage points) and larger gains were made in the test scores of LEP students (34 percentage points) and minority students (39 percentage points). These statistics are notable given the persistently large academic achievement gaps often seen for these subgroups.

This case attempts to tell the story of how Parkland produced these improvements in student performance. It draws on interviews with the school principal, classroom teachers, school administrators and support staff. Documents, such as the school schedule and school improvement plan were provided by the principal and supplemented with materials available on the school website and Maryland State Department of Education (MSDE) website.

### *School Staffing*

The principal has been leading the school for the past eight years (2007 to 2015), so there has been consistent school leadership. One of the first initiatives he undertook as principal was to change hiring practices and to “choose good people.” As he shared, “One of the most important things I do is hire good people and that’s [why] hiring can be so stressful.” He noted that “as [he] surrounded [himself] with a good team, everything [started] getting done.” Now multiple staff members participate in teacher interviews and they “check everything [...] we want to know about the candidate.”

But hiring good people is not enough. The principal places a strong emphasis on providing the support necessary to keep them at the school. New hires are made “to feel at home” and provided with support from the staff development teacher during their first year. Teachers are provided with ample time for collaborative planning and professional development (PD) – they get one to two full 84-minute periods per day for this work.

Another initiative the principal undertook was to change the school climate, which in those years was quite negative and reflected by a teacher turnover rate of over 30 percent. That figure has now dropped to below 10 percent each year. The principal has transformed the culture into one where teachers feel supported and valued and enjoy working collaboratively. The principal emphasized that teachers’ “close bond [was] a secret to part of my success for turnover” and that

he did not tolerate staff members not getting along. “We don’t need that discourse here. We have enough to deal with the kids and the parents...[than the] mucky muck of staff not getting along well.”

Table 4 shows the school’s staff by full-time equivalent (FTE) position. Parkland’s administration includes a principal, an assistant principal, an assistant school administrator, and a magnet coordinator.

**Table 4**  
**Staffing in Parkland Magnet Middle School**

Category	FTE
<i>Administration</i>	
Principal	1.0
Assistant Principal	1.0
Assistant School Administrator	1.0
Magnet Coordinator	1.0
<i>Clerical/Support Staff</i>	
School Secretaries	3.75
School Financial Specialist	1.0
Instructional Data Analyst	0.75
Building Maintenance	8.0
Security Assistant	2.0
<i>Main Program</i>	
Core Teachers	34.0
Elective Teachers (Music, Art, Physical Education, and World Languages)	13.0
Instructional Coaches	3.4
Special Education Resource	2.5
Special Education	4.5
Limited English Proficient (LEP) teachers	1.2
Interventionists: Alternative Programs, Reading Specialist, Academic Intervention	2.8
Compacted Instruction	0.2
Focus Teacher	1.8
Media Specialist	1.0
<i>Educational Assistants</i>	
Paraprofessional	0.5
Paraprofessional Special Education	4.375
Media Assistant	0.875
<i>Pupil Support</i>	



Category	FTE
<i>Licensed</i>	
Counselors	4
Nurse	1
Speech Pathologist	0.8
Auditory Teacher (Deaf/Hard of Hearing and Vision Office)	1.0
<i>Non-licensed</i>	
Lunchroom Staff: Manager, Workers and Aide	4.875

The staffing arrangement highlights not only the core teaching positions, but illustrates the role that teacher leaders and specialists play in supporting student learning. Table 9.3 shows that the school has 34 core teacher positions for 883 students in grades six through eight, which translates into an average class size of 25.97 students.

Team leaders are in charge of all the teachers who teach a certain grade. The school has six team leader positions and three are used to support specific programs at the school. For example, one team leader runs the school’s [Positive Behavioral Interventions and Supports](#) (PBIS) program, another coordinates the LEP program, and another serves as the Scholars Coordinator. The Scholars Coordinator provides support to 60 minority students (with grade point averages between 2.5 and 3.5) via weekly meetings that cover test-taking skills and study skills. Team leaders monitor student data; help with behavior; and organize events and field trips for the whole grade-level, town hall meetings, field trips, and school committees. Team leaders also teach classes (one less period than their colleagues). The principal stated the programs supported by team leaders “really add to the school.”

Content specialists are classroom teachers (they teach one less period than their colleagues) who are in charge of all the teachers in a certain content area. Content specialists have several roles, including working with teachers to implement instructional programs and conducting informal and formal observations of teachers to provide them with feedback and coaching. Team leaders and content specialists were positions created under former Superintendent Jerry Weast’s middle school reform plan.

Focus teachers support a certain focus or need of the school. The 0.2 FTE staff allocation for compacted instruction is designated for supporting advanced grades four and five students who come to Parkland from other schools in order to take a compacted math course. Compacted instruction provides these students with accelerated math courses that condense the content (the content of six marking periods is condensed into four marking periods).

Assuming a six-period day, a standard formula for determining the number of elective teachers is to have the number of elective teachers equal to 20 percent of the number of core teachers, which

would equal 7.48 positions for this school ( $0.2 \times 34$ ). The total at Parkland is 13 FTE (there are a total of 14 elective teachers, 12 are 1.0 FTE and two are part time). But Parkland has a block schedule that requires 33 1/3 percent elective teachers over core teachers, equaling 11.3 ( $0.333 \times 34$ ), which is slightly less than the actual FTE of 13.

The school has several teachers who provide instruction and support to special education students and to other students requiring extra support. There are self-contained special education classes in math and English that include no more than 13 students. The school also offers inclusion classes where the special education teacher and a paraprofessional co-teach with the classroom teacher. A resource class is also available and provides students with homework support and organization and study skills. They have one reading specialist, one teacher charged with academic intervention and a 0.8 FTE teacher who works in the school's Alt 1 classes, which are for students with behavior issues.

There are 1.2 FTE LEP teachers for the school's 97 LEP students. Students classified at LEP levels 1 and 2 receive a double period of LEP instruction. Students in LEP levels 3 to 5 receive one period of instruction. LEP class sizes are small and range from three to 11 students.

Parkland has four counselors who are charged with helping students with bullying, scheduling, and social emotional learning. Additionally, the school has a speech pathologist (0.8 FTE), one auditory teacher (1.0 FTE), and one nurse (who is not paid out of the school's budget).

Teachers were regarded as the number one resource in the school. As one member of leadership team said, having more teachers leads to smaller and more manageable class sizes. Multiple staff members reiterated that financial resources can only be stretched so far, "I need funds to have staff do the job," and that they had to be deliberate about what investments to make.

### *School Goals*

Rather than discussing specific goals, the principal shared Parkland's mission statement:

At Parkland, we believe that every student regardless of socioeconomic status, ethnicity, past history, and academic background should have access to opportunities for success socially and academically in our unique whole school magnet program. We have an obligation to provide the support necessary for every student to succeed. We believe...  
"Every Student, Whatever it Takes!"

The principal's vision and mission for the school is epitomized in a saying that all teachers have embraced, "Every student, whatever it takes!" The school culture is to do whatever it takes to help students succeed.

School improvement plans are generated using root cause analysis and a close examination of student data. In recent years, the data showed large gaps in achievement by race, especially for

Latino students. According to the assistant principal, data analysis revealed that only 20 percent of students taking advanced courses were Latinos. This subgroup also had the lowest grades, “Parkland had been doing well numerically ... that is what our success was based on, did you pass the MSA? The numbers were glaring: 57 percent of Latino students had a D or an E in a class. When we looked at the data in science and math classes [students were] passing the test but not passing the class.” In response, the school adopted culturally relevant instruction (CRI) in the 2013-14 school year. The principal framed the impact of CRI as this: “Every time we make a decision we ask ourselves: ‘How are we helping our minority population and how are we complementing their culture?’”

The 2014-15 school improvement plan focuses on three core areas: 1) adapting and aligning instruction to the Maryland College and Career-Ready Standards, 2) social emotional learning objectives, and 3) the implementation of professional development related to culturally relevant instruction. Work in the area of the state standards includes implementing professional development on how to develop rigorous content and engaging lessons, using data to inform needed to adapt instruction, and analyzing teacher observation data for evidence of student engagement. Four social emotional learning objectives (SELO) have also been established, for example, valuing and respecting diversity and differences or building resiliency. Students develop their own SELO objectives aligned to these broader ones. Essentially students are given a prompt such as “what can you do this year to have respect diversity and differences? How can you learn about a different culture?” and write an SELO objective in response such as “I am going to meet someone this year that is different from my race and culture.”

Applied broadly, these strategies have focused the school on using data to make instructional decisions and identifying the kinds of supports that students need. It has resulted in streamlining the number of interventions used in the school. Before the move to CRI, the school had, “Lots of interventions for students, before-school, after-school, reading, math interventions during the day... which helped our neediest students... [but we] realized that in that process we were focusing on a small portion of our population.” They purposefully switched from a heavy focus on intervention to talking about what was happening in the classroom on a daily basis. Professional development is focused on data analysis, how students perform in the classroom, identifying students’ strengths and needs, and supporting student learning.

Beyond the use of CRI, the school is in the process of adopting instructional methods – Universal Design for Learning – designed to boost student engagement. The school also uses PBIS to encourage and reward positive behavior. Taken together, these programs encourage school leaders and staff to be reflective about their own practices and intentional about trying new strategies.

### *School Schedule*

The school day begins at 7:55 a.m. with an 11-minute homeroom period. The first bell of the day sounds at 7:45 a.m. – the warning bell – to ensure students enter class on time. The instructional

day is six hours and 30 minutes, running from 8:10 a.m. to 2:40 p.m. The length of the lunch period is 30 minutes on average. All in all, students receive six hours of instruction daily.

Parkland has four periods a day, but uses a block schedule with 84-minute periods that alternate every other day.

In other words, the school has eight total periods that are divided into blocks of four periods that alternate daily:

Day One	Period 1	Period 3	Period 5	Period 7
Day Two	Period 2	Period 4	Period 6	Period 8

Educators teach either two or three 84-minute periods per day depending on their schedule. On an odd day a teacher might teach three periods (for a total of 4.2 hours) and have one period free for collaborative professional development. On even days a teacher might teach only two periods (for a total of 2.8 hours) and have one 84-minute period free for individual planning and one 84-minute period free for an instructionally related activity (IRA). IRA's includes working with colleagues on school leadership/parent activities, or supporting the school's multicultural initiatives or even on social emotional learning.

### *Curriculum and Instructional Program*

#### **Instructional Models**

The school's leaders and teachers placed a strong emphasis on the role of culturally relevant instruction in pushing student achievement. CRI has been described as a method of exploring "ways that teaching can better match the home and community cultures of students of color who have previously not had academic success in schools (p. 466)."<sup>3</sup>

At Parkland, CRI has been used as a vehicle for administrators and staff to examine their own cultural biases and develop an understanding of how "abilities, ideals, and experiences of color effect the students you are teaching." Some members of the school participated in a study circles group, which was a two-day retreat designed to help people understand other's perspectives. Implementation began in the 2012-13 school year with the school's leadership team and in 2014-15 became the focus of activities and work conducted during teachers' professional development time.

CRI also encourages teachers to integrate ideas and materials that reflect students' culture into their lessons. The staff development teacher provides teachers with strategies on how to integrate

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<sup>3</sup> Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32, 465-491.

CRI aligned practices into their classrooms. As the principal said, teachers at Parkland have always been interested in knowing where their students were coming from (culturally, socioeconomically) and developing trusting relationships. CRI builds on this by having teachers reflect on how their own expectations and biases might influence student performance.

Another initiative being implemented at Parkland is [Universal Design for Learning \(UDL\)](#), which comes out of the district's High Incident Accessible Technology (HIAT) office. As described by school staff, "UDL is process for teaching the students...giving them choices on how they learn, what they learn and how they show that they have learned."

Implementation of UDL began in 2013 with eight to 10 teachers getting training and course work for the full year. It was implemented school-wide in 2014. To make sure the staff does not feel overwhelmed, UDL will be introduced over a two-year period and teachers are encouraged to take "baby steps," that is, to incorporate one new UDL strategy into their instruction each semester.

UDL was a good fit for Parkland because it addresses student achievement and engagement. "In years past we just made kids stay after-school and do, do, do more work [...] but now we try to get more kids engaged during class [...] Interventions did a great job [but] only took us so far [...] [UDL gives] kids an opportunity to show school is fun." Moreover, the program encourages students to be reflective about their decisions in order to help them identify the best ways for them to learn. For example, students could choose to do a skit rather than write a paper to demonstrate their understanding of a topic and at the end of the project they would be asked to reflect on whether it was a good choice and how much they learned.

UDL looks very different within each content area and across all teachers. One teacher noted that she gives students different ways to access the content (video, online, textbook, lecturing with teacher, working with other kids) and demonstrate their learning (e.g. Podcasts or Prezi).

The link between UDL and CRI was also emphasized, "Some kids come from a culture where group learning is a better way to learn than individual. [CRI and UDL are] not mutually exclusive. [They] work hand in hand to meet the needs of every student in the building."

## **Curriculum**

### ***Reading***

Parkland offers reading courses in every grade (e.g. Reading 6, Reading 7, and Reading 8) that utilize a district-developed curriculum. These are not popular courses, according to the principal, and students often ask him, "Can you get me out of reading?" Students who read above grade-level (as measured by MAP-R) do not have to take the school's reading class and instead can choose to either take world language or a science elective.

Parkland uses the Read 180 program to support students who enter the school reading below grade-level. The program is geared towards grade six students, but there are also a few sections offered to grades eight and seven students.

Read 180 utilizes three main components: 1) whole group instruction, 2) three station-rotations between instructional technology, independent reading and small group, and 3) whole group instruction (5-10 minutes).

This program also provides support for students who read on or about on grade-level, but who are struggling in content area classes. Some of the skills emphasized are how to make meaning from text and writing strategies (e.g. thesis and claim statements). Teachers described the role of the program as being “to help [students] get skills they need to show learning in other content area classes.”

Teachers also mentioned a new curriculum called “Digital Literacy,” which is a self-paced and self-guided curriculum. “Students are given the opportunity to choose an area of study, and they find the text, they learn it, they read it and they present it at the end. The reading teacher becomes a true facilitator of learning...”

### ***Math***

The school relies on the district’s math curriculum (Curriculum 2.0, which is aligned to the state standards) and uses textbooks approved by the district. No one interviewed could name a commercial math program beyond interventions such as Study Island or Khan Academy.

Math courses accommodate a range of student abilities. There are grade-level courses such as Math 6 or Math 7 and courses geared to students at risk of academic failure, such as Math Investigations. Grade eight students can take Algebra Prep, Algebra I, Honors Geometry, or Algebra II-B.

According to teachers, the district’s curriculum is strategy-based and the students choose which strategy is most efficient for them. Students learn different ways to do things through technology and manipulatives. Formative assessments are used to track student performance and many teachers use daily assessments (formal or informal) to guide day-to-day instruction and determine what to re-teach.

### ***Science***

Parkland is an aerospace magnet school and thus places a heavy emphasis on science instruction. In fact, the school has 16 science teachers on staff and offers 15 science courses. Every student takes two science classes a year and has the option to take more science courses as electives. Some of the electives offered include robotics, principles of flight, astronomy and engineering (offered through Project Lead the Way). In fact, the school condenses three years of science into two years so that grade eight students can potentially take a high school level science class.

As the magnet program coordinator explained, “The middle school curriculum put out by the state had to be covered in grade seven and eight,” which forced the school to develop its own program model and adjust the district’s curriculum to fit within the aerospace theme. For example, biology is integrated into the course Human Space Exploration by examining what happens to the human body in space, while the course Unmanned Space Exploration integrates aspects of chemistry and physics.

Grade eight students can take Honors Physics as a one-credit high school course, but are required to take algebra as a pre-requisite. For students who do not satisfy the algebra pre-requisite, the school offers an earth science course called Investigations in Earth Space Systems. Honors Physics and Earth Science draw directly from the district’s science curriculum. Other science courses rely on commercial textbooks from Prentice Hall and resources developed by universities (for example, the Honors Physics course used simulations from the University of Colorado).

Teachers acknowledged that, “having [students take] two science classes is rigorous” especially considering that these students are coming from elementary schools where science was a small, supplemental component of the curriculum. Every year, students also must complete a milestone project in which they pose a testable question, develop an experimental design, conduct the experiment, and then analyze the data to form conclusions to prove or disprove the topic’s hypothesis. The purpose of the project is to help students learn to apply scientific inquiry and to frame their education within the big picture – a practical application of what they are learning in school. The program is equally rigorous for teachers who must collaborate on developing the curriculum without support from the district.

### **Advanced Instruction**

Students are offered advanced courses across the content areas. The school offers Advanced English, Honors Geometry, Honors Algebra II, Honors Physics, Advanced Comparative Planetology and Orbital Mechanics, Advanced Human Space Exploration, Honors Spanish, Honors French, Advanced World Studies, Advanced U.S. History, Advanced Orchestra, and Advanced Band.

### *Assessments*

In the 2014-15 school year, Parkland made the transition from the MSA to the Partnership for Assessment of College and Career Readiness (PARCC). The PARCC is a summative assessment conducted in two parts: 1) the Performance Based Assessment (which focuses on skill application) and 2) the End-of-Year Assessment (which focuses on comprehension and understanding). Teachers viewed the test with both optimism and trepidation. As one shared, “CCSS and PARCC are truly asking kids to develop the skills they are going to need later.” Another teacher offered a different take, “We run testing from January through June and PD gets shut down. What brings Parkland attention is we have good test scores, but I don’t know if it improves how kids did academically in their core classes. Did it improve their critical thinking?”

Did it prepare them to go to college? No...unless you become creative with your scheduling as we're trying to do, it shuts down instruction.”

Parkland uses MAP-R (Measures of Academic Performance of Reading) and MAP-M (Measures of Academic Performance of Math) – which are computer-based assessments administered three times a year to all students in grades three through eight in the district – to gauge whether students are on grade-level *and* their growth over the year. As the principal said, “the beauty of the MAPS tests is they are longitudinal” and allow teachers to see “where the kid went throughout the year.” For example, the MAP-R looks at students’ ability to comprehend, analyze, and interpret text. A student’s MAP-R score is one of the data points used to determine grade-level reading placement at the beginning of the year.

Parkland also utilizes formative and summative unit assessments. Students take a total of four formative assessments and two summative assessments each quarter. Teachers develop their own formative assessments since many of Parkland’s courses are designed in-house. The summative assessments are developed by the district (e.g. MCPS) and can be factored into a student’s grade for the quarter. Teachers expressed some concerns about the district-developed tests, noting that it was very hard to get a good score on them and questioning the equity of these assessments. Many teachers saw more value in the in-house assessments.

The unit assessments are aligned to the state standards and reflect the transition to the next generation PARCC assessment. These tests allow students to develop the skills they are going to need later, such as pulling information from a variety of sources or analyzing texts and making claims.

Teachers acknowledged that there are a variety of ways that students can demonstrate their learning (daily summarizers, test/quizzes, and district assessments) and that they do not rely on data from one source to assess students. “[They’re] all pieces of a puzzle that fit together and work together in order to get our kids to where they need to be.”

Additionally, some staff commented that, “The people here are very committed to understanding the student as a whole – really trying to understand who they are as a student rather than just focusing on the data.” In other words, assessments are a useful tool, but not the only thing that drives instruction.

### *Interventions and Supports*

Parkland has multiple interventions for students at risk of academic failure or those that require additional supports. Several interventions target students who are not performing well in class (as measured by their grades) or on assessments (such as the MAP-R or MAP-M). Additional interventions target English language learners, special education students, and students with behavioral concerns. The school also provides some wraparound programs, including a family market and the Linkages to Learning program.



Interventions for students who are struggling academically include a mandatory math detention, extended learning after-school, help from teachers during lunchtime, a Latino mentoring program, and summer school:

- Students who perform poorly on a math test, fail to turn in a series of their math homework, or are earning low grades in math (Ds and Es) must attend a math detention. It is held every Friday and students are provided with support to help them catch up;
- Parkland Plus is an extended learning program offered after-school two days a week for a period of three months. It is geared towards students who are struggling in English and math (as shown on MAP-R and MAP-M assessments). As the principal shared, “We’ll be all over your case if you don’t go.” When that program ends, students start working on algebra support;
- students can receive extra help from teachers over their lunch hour and some teachers even give their cell phone numbers to students. The only caveat is that students must ask for this help ahead of time – it’s not like office hours when they can just drop in;
- low-achieving Latino students are matched with a higher achieving Latino student who provides them with tutoring help in all subject areas;
- as previously noted, the Scholar’s Coordinator works with a group of 60 minority students (targeted based on their GPA) to help move their grades up. This group meets once a week after-school and students receive help with their study and test skills; and
- Parkland has the largest summer school program in the district. Summer school placement is also based on MAP-R and MAP-M test scores. The school receives a certain allocation from the District and they always fill it. Additionally, summer enrichment camps are offered in robotics, astronomy, world languages and more.

Students are eligible to exit these interventions if they “score better.” The principal emphasizes that students need to show him that they are working hard to improve and that his role is to help “get [their] butt in gear.” The principal leverages academic ineligibility as a motivation tactic for students, “Maintain above a 2.0 GPA now [and] then I will let you play soccer.” He framed it as “wheeling and dealing” to help “put a fire” under students to perform better academically.

The primary intervention for LEP students is Saturday school, which is provided at an off-site location. The George B. Thomas Sr. Saturday School provides tutoring and mentoring in reading, language arts, and mathematics. Classes are held from 8:30 to 11 a.m. from September through May. It is marketed as providing an “extra day of instruction.”

The only intervention mentioned specifically for special education students is a homework club that meets three times a week after-school.

Students whose behavior negatively impacts their academic performance are placed into the Alt 1 classroom. The program was characterized as an alternative class for “kids who’ve had issues.” Students are placed in the Alt 1 classroom based on a variety of criteria including documented

behavior issues over time (evidenced by numerous referrals to the office) with minimal improvement. They must receive a functional behavior assessment and also have a Behavioral Intervention Plan (BIP) in place. Alt 1 provides students with mentoring, help with schoolwork, and strategies they can use to improve their behavior. Students are referred out of Alt 1 when they have demonstrated improvement in their behavior and academic performance. One teacher said that the program was helping. “One kid had a lot of referrals last year and this year has had a lot less – he’s doing remarkably better than last year.” However, the principal also noted that some students “fall flat on their face” when they exit Alt 1 because they struggle to work independently after receiving so much support.

Beyond addressing the academic and behavioral needs of students at risk of academic failure, the school provides programs that support their families. Family market day provides families with free food donated by the Capital Area Food Bank. Our visit to the school happened to coincide with family market day and there were several hundred people lined up to collect fresh vegetables, and canned and boxed foods. The school holds regular academic achievement nights that are designed to give parents information about how they can support their child’s learning. Additionally, the school has a free breakfast program (through the state’s [Maryland Meals for Achievement](#) program).

Finally, Parkland has a [Linkages to Learning](#) program, which is sponsored by the district, and provides health, mental, and social services to children and families in elementary and middle schools with the highest percentage of FRPM students. The program has its own room in the school with dedicated staff. Some of the services provided include family case management, mental health services such as therapy and diagnostic evaluations, and educational support such as adult education classes in LEP or literacy. All of the services are free, with the exception of mental health services (fees are on a sliding scale for those that lack insurance and may also be covered by Medicaid).

### *Collaborative Teams and Professional Development*

#### **Collaboration**

The school’s schedule provides teachers time during the school day to collaborate with their colleagues. This collaboration takes place in multiple ways. First, teachers are given time (84 minutes) for professional development with their content area colleagues every other day. Second, teachers also get 84 minutes to work with colleagues on instructionally relevant activities that support the school overall. For example, planning school-wide award ceremonies.

Moreover, special education inclusion classes use a co-teacher/paraprofessional model. Teachers must meet and plan collaboratively, and as the principal said, “You don’t see that at a lot of schools. Sometimes co-teachers just show up and there is no room or space for common planning.”

The focus on collaboration and support was reiterated by everyone interviewed: “We are like a family at this school. Not everyone sees eye to eye, but in the end we love each other and we support each other. We are going to do what we need to do to support the kids that are in our building.”

The time built into the day for planning and collaboration is very intentional. Two years ago, the school leadership team acknowledged that teachers could not be forced to stay after-school to plan or collaborate. So, scheduling changes were made to facilitate collaboration. Integrating collaborative planning into the school day was accomplished by moving team meetings to after-school. Team meetings are run by team leaders. As previously discussed, team leaders are classroom teachers who are charged with organizing the entire grade-level and supporting the work of initiatives such as PBIS. Team meetings consist of talking about students, and tackling suspension or academic eligibility issues. For example, teams might discuss why there are so many students with a D or E grade before the marking period and the devise a strategy for boosting the performance of these students.

### **Professional Development**

Professional development is conducted by content area,<sup>4</sup> led by the staff development teacher. Professional development is a core component of Parkland’s success. Much of the content of PD currently is focused on CRI and UDL. Teachers do much of this work together, but also have individual tasks. During testing season, teachers are assigned PD projects or homework to complete related to CRI.

The research team observed the math teachers engage in a PD session geared toward examining questions of equity and whether all students are held to the same standards and expectations. It was clear that these teachers worked well together. One new teacher characterized her colleagues as incredibly caring and supportive and noted that they held high expectations for each other as well as for the kids.

One administrator characterized the amount of PD as “unusual” but necessary for supporting the school’s initiatives. In previous years, PD focused on classroom management and implementing instructional strategies and practices that would increase scores on the MSA. The principal stated that there was a “heavy push on fundamentals,” which meant providing more instruction on fundamental concepts within a content area. These fundamentals included, for example, fractions, decimals and percentiles in math or vocabulary instruction in English language arts. Additionally, PD was not only focused on teacher development, the time was also used for teachers to talk about specific students and identifying strategies for helping address their weaknesses. Teachers often took the summative assessments before administering them to

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<sup>4</sup> The science department is an exception to this model. There are 16 science teachers in the school who are split up by grade cohorts for the purposes of collaborative professional development.

students “so they knew what they were tested on” and what they needed to get the students to review before the semester progressed.

### *School Culture and Leadership*

Eight years ago, when the principal arrived at Parkland, he was told, “Welcome to the war zone.” The school had been losing students and had seen declines in student performance. In those early years, he sought to accomplish two things: 1) build a positive school climate and 2) hire, support, and retain good people. As he shared, “Climate and staffing determine your success.”

One mechanism used to improve school climate is Positive Behavioral Intervention and Supports (PBIS), a behavioral intervention model to enhance students’ academic and social behavior. PBIS is also used as a strategy to motivate students to meet behavioral expectations. These expectations include acting respectful, responsible, and ready to learn. Students are able to earn Panther Paws for use at the school store and at school bazaars (they held a winter bazaar where students were able to use Panther Paws to buy presents for their families.) The parent teacher association provided funding for the Panther Paws, gift cards, and other small items that the students might want.

The importance of a positive school climate is also reinforced during student town hall meetings where teachers and students discuss issues related to behavior (suspensions, referrals, eligibility). Grade-level town hall meetings are held every quarter and students are provided incentives to meet certain goals. For example, if the grade has zero suspensions, students can have a class dance or an ice cream party.

One town call consisted of only African American students and focused on why they had the highest suspension rates in the school. As one staff member said, “[we] realized that town hall meetings help kids discuss what is going on in the building. For six weeks [afterwards] there wasn’t a single suspension of an African American student.”

The principal and staff place a lot of effort into making school a fun and positive place to be. Students are rewarded for earning good grades (a C or above) through ABC parties. These parties are held at the end of every quarter and “load[ed] up with fun” including dancing, treats, and VIP perks for students on the honor roll or with straight A’s. These VIP perks include a special lounge that has pizza and ice cream and can only be accessed with a VIP wristband. The ABC party creates peer pressure for students to succeed academically for fear of missing out. On some Fridays, the school holds a power period of fun, where students get a half-hour of outdoor fun. Additionally, grade eight students who go a whole quarter without earning a suspension are rewarded with an ice cream social.

Moreover, the school emphasizes the “5 R’s:” Rigor, Relevancy, Relationship Building, Routine and Resiliency. From the principal’s perspective, high poverty schools need to focus on relevancy and relationship building. This includes helping students understand the connections

between what they do in school and other areas of their life (relevancy) and develop positive relationships between school leaders, staff, and the students (relationship building). The focus on relationships is exemplified through the annual teacher versus student basketball game, events where the principal has had to kiss a bullfrog, or where one teacher had his head shaved in front of the students. Some staff members have gotten a pie in the face to benefit the school's charity efforts and student/teacher relationships.

The principal provides leadership opportunities for teachers and creates an environment that encourages collaboration. For example, both CRI and the UDL initiatives are led by teachers. As one administrator said, "[The principal's] leadership is important because he just lets you do stuff. He knows the strengths of each of his staff members especially the ILT [instructional leadership team] and allows us to do what we know how to do best. Doesn't say no but does ask why – what is the purpose? I can't imagine too many principals that would just let you run with it."

Additionally, the principal emphasizes relationship building. For example, every December the school administrators make breakfast for the staff. The principal also works to instill respect for each other as colleagues. As one staff member said, "I don't know if I would still be here if I didn't work with the people I work with now...finding the people to get onboard and give our students opportunities because they go the extra mile – that's really important." Collaborative professional development has fostered a culture where teachers respect one another as professionals and can lean on each other for help.

### *Summary*

Parkland Magnet Middle School demonstrated high (and consistent) growth in student test scores between 2007 and 2013. Interviews with staff members, the school's instructional leadership team, and the principal point to several factors that have contributed to increases in student achievement:

1. Supporting teachers. The school's large instructional and support staff, combined with adequate resources, support, and strong focus on professional development has helped increase teacher retention at the school.
2. Focus on teacher collaboration and professional development. Teachers meet for collaborative planning and professional development every other day. Moreover, they participate in Instructionally Related Activities every other day and have team meetings three times per month. Teachers' professional development is led by a staff development teacher and is focused on building their knowledge and skills in Culturally Relevant Instruction (CRI) and Universal Design for Learning (UDL).
3. Instructional models aligned with student needs. The school used root cause analysis to determine which students or learning areas required the most support. Given the large

number of minority students – and persistence of the achievement gap – they are implementing two new instructional practices better aligned to student need. Culturally Relevant Instruction places emphasis on teachers’ use and integration of instructional resources and materials that reflect students’ cultures. Universal Design for Learning provides students with multiple ways to learn and demonstrate their learning and is a tool for boosting student engagement.

4. Multiple interventions. Parkland offers a multitude of interventions to provide students with extra support and help. After-school tutoring programs are available for struggling and special education students, and the school also runs a math detention. LEP students are required to participate in Saturday school and receive double periods of instruction. There is a Scholars Coordinator who is charged with monitoring and supporting 60 minority students to improve their academic performance. Students with behavioral issues are provided with supports and strategies in a stand-alone Alt 1 classroom. Finally, the school provides wraparound services through the Linkages to Learning program and initiatives such as family market day that provides families with free food.
5. Positive school climate. The principal and school staff have built a positive learning environment for students using a variety of motivational strategies. Students who earn good grades get to participate in an ABC party and those who are on the honor roll or earn straight A’s receive VIP privileges, such as a private lounge. PBIS rewards students’ positive behavior with Panther Paws that can be used to purchase items from the school store. Teachers respect one another as colleagues, and as one administrator said, “This is Parkland. This is different. It’s this atmosphere, it’s kind of like a party.”
6. Specialized programming. Parkland is an aerospace magnet school and sets high expectations and rigor for students. Students take two science courses a year and are offered the chance to earn high school credits in grade eight. Additionally, they are afforded the opportunity to take multiple science electives in the areas of robotics, engineering, and principles of flight. The school accepts students via a lottery but does not have admissions requirements. Much of the science curriculum is crafted in-house and students view the school as a stepping-stone for getting into specialized high schools.
7. Strong leadership. The school has benefitted from continuity in leadership and the development of a shared vision. The principal has a positive outlook and places emphasis on pushing all students and teachers to reach their potential. He is purposeful in his hiring and equally purposeful in creating a positive and rewarding learning environment. Importantly, the principal trusts his leadership team and staff to “do what they do best” and “run” with initiatives or programs they believe will be beneficial for the school.

#### *Alignment with the Evidenced-Base Model*

Many of the strategies implemented by Parkland Magnet Middle School to boost student performance are aligned with the EB model. First, the school uses a root cause analysis to

develop annual school improvement plans. This process relies on the examination of several data sources to get a deeper picture of student performance.

Parkland is an aerospace magnet school where teachers have had to develop much of the science curriculum on their own. Additionally, the school recently implemented the district's Curriculum 2.0, which is aligned with the state standards. Two new instructional strategies are being concurrently launched – Culturally Responsive Instruction and Universal Design for Learning – that promote greater understanding of students' background and culture, and boost student engagement. Moreover, school administrators and teachers are leading the implementation of these strategies.

Additionally, the school's instructional leadership team often engages in data-based decision making. The story behind their adoption of CRI lies with the team's realization that Latino students were underperforming compared to other students – a conclusion drawn by looking at MSA data and students' letter grades. Other data sources, such as informal class assessments, are used to identify concepts that require re-teaching. Student placement in intervention is also determined by data. Certain kids are targeted for after-school tutoring and math detention through this data analysis. Moreover, class sizes are close to what is recommended in the model (25 students per class), but the school has more elective teachers than the model recommends due to its use of a block schedule.

Professional development is offered on a regular basis and led by the staff development teacher. The school does not have instructional coaches per se, but rather leans on the staff development teacher, team leaders, and content specialists to provide support and training to teachers. Parkland has a total of 3.4 FTE instructional coaches (e.g. staff development teacher, content specialists, and team leaders), which is one FTE less than suggested by the EB model.

The principal has placed a strong emphasis on hiring teachers who are willing to commit extra time and do what it takes to help students succeed. Hiring is a collaborative process and the principal strives to learn as much as possible about potential candidates. New teachers are provided with support from the staff development teacher and the principal endeavors to ensure that they are welcomed with open arms into the Parkland community.

Finally, multiple interventions have been implemented to support students at risk of academic failure. The school has academic interventions such as the Parkland Plus program, Saturday school for LEP students, Latino mentoring program and math detention, and the scholars program. Other interventions such as Study Island are also made available to students. Behavioral interventions include the Alt 1 classroom for students with behavior challenges and the school-wide PBIS program that sets expectations and provides incentives for positive student behavior.

Taken together, Parkland has leveraged several strategies to spur improvements in student achievement and been deliberate in its use of resources, as the principal noted, “It doesn't hurt at all to get resources, but you gotta use them!”