



# AP Breakthrough

## AY 2020-21

**Growth Opportunity.** In a recent report to the Making Waves Academy School Site Council, it was found that while 2019 saw the highest enrollment of Advanced Placement (AP) scholars since the inception of the AP program at MWA, nearly 70.0% did not pass their AP exams. (See Table 3. “Five-year AP Program Performance at Making Waves Academy”).

**Innovation Intent and Vision.** “AP Breakthrough” is a three-year initiative to increase AP exam scores for Making Waves Academy.

- The **innovation intent** of AP Breakthrough is to improve student performance on AP exams.
- The **vision** of AP Breakthrough is to increase the share of students who pass their AP exams with a score of 3 or higher by 20.0% over the next three years. AP Breakthrough will produce a document that captures the evidence-based strategies and practices<sup>1</sup> identified as having the most potential for broad impact at Making Waves Academy, which, at the end of this three-year process, can serve as a program evaluation tool.

**Table 1. AP Breakthrough Timeline.** AP Breakthrough incrementally paces exam score increases over a three-year period.

	AP Breakthrough Timeline			
	AY 2019-20	AY 2020-21	AY 2021-22	AY 2022-23
% of Scholars Passing AP Exams	30.0% Estimated	35.0% Projected	40.0% Projected	50.0% Projected
Priorities	Design project plan and collect feedback	Gather information on the AP program and identify themes  Build an AP Culture from 5-12  Establish Vertical Teaming and PLCs	Deliverable: Use the Hanover Report to identify the strategies and practices that are believed to have the most potential for broad impact on improving exam scores at MWA	Introduce and embed strategies and practices  Gather information on innovations, gain insights, and adapt the strategy

<sup>1</sup> “Best Practices for AP Programs.” Hanover Research, September 2014. The Hanover Report concentrates on identifying best practices that increase student performance on AP exams, particularly for at-promise and traditionally underserved minority students.

**Table 2. AP Breakthrough Evidence-Based Strategies and Practices for Increasing AP Performance.** As a starting point for identifying the strategies and practices that are believed to have the most potential for broad impact on improving exam scores at our school, we will use 58 findings from a 2014 Hanover Research Report. The Hanover report concentrates on best practices that are associated with increasing student performance on AP exams, particularly for at-promise and traditionally underserved minority students. Our current AP program leverages approximately 40.0% of these practices, however, more information will be collected in the first year of AP Breakthrough for a more accurate representation.

	Current	Future
<b>Broad Foundation Strategies and Practices for Increasing AP Student Enrollment and Performance<sup>2</sup></b>		
Offer a rigorous curriculum beginning in elementary grades	✓	
Expand access to gifted programs	✓	
Analyze student results on precursors to college entrance exams--like PSAT and EXPLORE--to identify potential AP students and actively recruit them to enroll in AP courses		
Provide extra academic and social support to students	✓	
Dramatically increase the number of AP course offerings	✓	
Offer additional teacher training and professional development	✓	
Instill confidence in students about their college-going potential	✓	
Educate parents about the benefits of AP	✓	
An annual AP Parent Night, based on AP Potential results, can be a venue to outline the benefits of AP as an edge in college admissions, in addition to serving as a venue for families to learn how to support their children in AP		
<b>District-Level Practices for Improving AP Access and Student Performance<sup>3</sup></b>		
Implement summer programs (e.g. summer “boot” or “boost” camps to help students prepare for specific AP courses.		
Introduce students to the unique academic challenges of the AP program and how to excel as an AP scholar. (Boot Camp Objective)		
Discuss the practical application of critical reading, teamwork, organization, problem solving, and communication skills inside and outside the classroom. (Boot Camp Objective)		

<sup>2</sup> “New Report Details Strategies to Boost Access to, Performance on Advanced Placement Exams for African-American Students in Urban School Districts,” The Broad Foundation-Education, June 2013.

<sup>3</sup> “The 8th Annual AP Report to the Nation,” College Board, 2012.

Provide opportunities for students to develop a support network with their teachers and peers. (Boot Camp Objective)		
Create networks where teachers and administrators in the district can collaborate to improve instruction and student success <sup>4</sup> . (Boot Camp Objective)		
Establish district-level AP Vertical Teams that meet at least four times per academic year <sup>5</sup> . <i>See below for Essential Elements that Facilitate the Effective Functioning of AP Vertical Teams.</i>		
Use AP Potential to identify students in your district who are likely to succeed in AP courses.	✓	
Where there are sufficient numbers of potential students for particular subjects, use these data to select new AP courses to offer.	✓	
Require secondary schools to review current AP course enrollment practices to ensure that all students have access to academic pathways that will prepare them for AP. Leverage AP Potential to help eliminate gatekeeping mechanisms such as entrance exams.	✓	
Review district-wide student data to ensure proportionate AP enrollment, number of exams taken, course grades, and AP exam scores.		
Use AP Potential to identify minority students in the district who are likely to succeed in AP.	✓	
Implement grade-weighting policies for pre-AP and AP STEM classes, starting as early as the sixth grade.		
Use AP Potential to identify students in your district who are likely to succeed in AP math and science.	✓	
Where there are sufficient numbers of potential students for particular subjects, use these data to select new math and science course offerings.	✓	
Provide at least four opportunities per year for pre-AP and AP STEM teachers to vertically align their courses with the skills necessary in AP STEM subjects.		
Establish a program for pre-AP science classes that incorporates and develops		

<sup>4</sup> Glendale Union High School District in Arizona emphasizes collaboration among AP teachers. For example, there are nine AP U.S. History teachers in the district and they meet once a semester to share best practices and new materials. The collaboration allows each teacher involved to benefit from the best of what the others are doing and to pass that benefit along to the students.

<sup>5</sup> Chelsea Public Schools in Massachusetts has worked to ensure that middle school and high school curricula are vertically aligned so that when students “get to a place where they could take an AP course, they’re prepared to do that.” The aligned program begins in sixth grade, and the district emphasizes the importance of starting early so that when students “get to AP, they have the fundamentals that [AP teachers] can build on.”

laboratory-based skills necessary for success in AP science.		
Consider the Sprocket Project-Based Learning curriculum for AP Government or AP Environmental Science <sup>6</sup> .		
<b>Essential Elements that Facilitate the Effective Functioning of AP Vertical Teams<sup>7</sup></b>		
Establishing a capacity-building program of high expectations for all students designed to increase rigor and improve student achievement in AP courses and exams		
Creating a comprehensive document aligned to the AP course description standards that identify the key skills/content to be taught at each grade level		
Analyzing district data in order to assess students' academic strengths and weaknesses		
Developing a common language between middle school and high school teachers		
Providing support to professional learning teams		
Facilitating opportunities to analyze and reflect on curriculum implementation		
Building a communication network from which to pool resources		
Embody the core competencies of a highly functional and successful AP Vertical Team, consisting of coherence, commitment, collegiality, and collaboration <sup>8</sup>		
<b>For an AP Score of <math>\geq 3</math>, Adapted Best Practices from "The Relationship of AP Teacher Practices and</b>		

<sup>6</sup> Researchers at the University of Washington--who experimented with redesigned curricula for AP Government courses--found that AP Government students engaged in project-based learning at "poverty-impacted schools performed as well or better on the AP exam" as compared with students in AP courses that followed more traditional curricula. "Knowledge in Action Research: Results to Date," Edutopia, 2008.

<sup>7</sup> "Vertical Teams," Center for College Readiness, Rice University.

<sup>8</sup> From Marshall, Teri, the author of College Board's AP Vertical Teams workshops.

<b>Student AP Exam Performance”<sup>9</sup></b>		
Review the AP Teacher’s Guide (Professional Development)		
Collaborate with mentor teacher (Professional Development)		
Review of released AP exams (Professional Development)		
Schedule (Influence of Resources)	✓	
Estimate of time students study on their own (Review Activity)		
Explain reasoning or thinking (Student Activity)		
Tests requiring lengthy responses (Assessment)		
Skills for supporting claims (Objectives)		
School policy: Who takes the exam	✓	
Percentage of students who take exam	✓	
Adequacy of school resources	✓	
Class size	✓	
Additionally, for AP Biology: Learn scientific methods (Objectives)		
Additionally, for AP United States History: Historical research skills/techniques (Objectives)		
<b>For an AP Score of <math>\geq 4</math>, Adapted Best Practices from “The Relationship of AP Teacher Practices and Student AP Exam Performance”<sup>10</sup></b>		

<sup>9</sup> Paek, Pamela, et al. “The Relationship of AP Teacher Practices and Student AP Exam Performance,” College Board, 2007. A study by the College Board found “some incremental evidence that a school culture that includes significant engagement in professional development activities is associated with higher student performance” on the AP exam. Laitusis, Vytas. “An Analysis of the Relationship Between School-Level AP Professional Development Activity and Subsequent Student AP Performance,” College Board, 2012. However, a 2002 report from the College Board--which surveyed AP Calculus and AP English Literature and Composition teachers--indicated that research found little relation between teacher preparation and minority student success. The report notes that “overall, the teacher’s experience in teaching, academic degrees and certification, attendance at AP Workshops and Summer Institutes, or general sources of support at school, did not appear to be related to success in teaching minority students. Moreover, the study found that teachers’ “specific academic preparation in the subject and professional development in teaching techniques are also generally not related to success.” With this lens, Paek’s variables could be modified to de-prioritize “overall (teacher) experience,” “attended an AP Institute,” “participated in AP reading(s),” and “educational level attained,” in designing programmatic elements to optimize student AP exam performance.

<sup>10</sup> Paek, Pamela, et al. “The Relationship of AP Teacher Practices and Student AP Exam Performance,” College Board, 2007.

Exemplary syllabi (Influence of Resources)	✓	
Schedule (Influence of Resources)	✓	
AP exam topics and/or scoring rubrics (Influence of Resources)		
Explain reasoning or thinking (Student Activity)		
Estimate of time students study on their own (Review Activity)		
Focus on AP exam preparation	✓	
Last month's percentage of class time to prepare for exam		
Percentage of students who take exam	✓	
Teach test-taking strategies		
Adequacy of school resources	✓	

**Table 3. Five-year AP Program Performance at Making Waves Academy.** 2019 saw the highest enrollment of AP scholars, as well as the highest share of students earning a 3 or higher on an AP exam. That said, approximately 70% of Wave-Makers do not pass their AP exams. Source: The College Board.

**SCHOOL SUMMARY**

	2015	2016	2017	2018	2019
Total AP Students	37	91	82	104	140
Number of Exams	37	131	144	158	231
AP Students with Scores 3+	1	23	19	28	47
% of Total AP Students with Scores 3+	2.7	25.3	23.2	26.9	33.6