

2019

Annual Indiana
Advanced Placement
Performance Report

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OVERVIEW OF AP IN INDIANA, 2019

Participation and Success

Advanced Placement (AP) is a research-backed method to facilitate student participation and success through delivery of college-level courses and corresponding exams in the high school setting to qualified high school students. Students demonstrating success in AP courses are predicted to outperform their peers who did not take or have not had success in these courses. The current research suggests passing an exam (scoring a 3, 4, or 5 on a scale of 1-5) is predictive of greater college success.¹ The Indiana Department of Education (IDOE) has committed to expanding participation and success on AP exams in order to have the highest percent of college-educated citizens in the United States.

The College Board collects individual student-level AP performance data throughout each student's secondary school experience. Using that data, the College Board publishes an annual "AP Report to the Nation" providing individual state performance levels which may serve as comparative data. Associated with the research, the most important data presented is the number of graduates for the published year who passed an AP exam at some point during their high school career. IDOE refers to this as the College Board Metric (CBM).

The formula for improving outcomes in Indiana on AP coursework must include an increase in both participation and success – more students, in all demographics, participating in AP coursework and the corresponding exam, and a greater percentage of those students passing the AP exam.

The following pages include:

1. Statewide AP Participation and Performance Data
2. Data Evidence and Policy Implications
3. State Funding
4. Teacher Training
5. Recent Trends
6. Changes to AP in 2019-2020

¹ Hargrove, L., Godin, D., & Dodd, B. (2008) *College Outcomes Comparisons by AP and Non-AP High School Experiences*. New York: The College Board.

AP: Participation and Performance Overview

Race/Ethnicity: All

2019 AP Participation and Performance

Overall Participation

Total	Student Ct	% Change	
Total	52,065	0.5%	100.0%

Participation By Gender

Gender	Student Ct	% Change	
Female	29,537	0.4%	56.7%
Male	22,528	0.7%	43.3%

Participation by Race/Ethnicity

Race/Ethnicity	Student Ct	% Change	
American Indian	129	16.2%	0.2%
Asian	2,902	4.1%	5.8%
Black	2,913	8.0%	5.8%
Hispanic or Latino	4,994	5.2%	9.6%
Pacific Islander	41	36.7%	0.1%
White	38,202	-0.7%	73.4%
Two or more races	2,141	-0.8%	4.1%
Other	0	Null	0.0%
No Response	743	-7.2%	1.4%

Fee Reduction Usage

Students receiving Fee Reductions	6,845	13.1%
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Overall Performance

Total	Exams Taken	% Change	Exams With score of 3, 4 or 5	% Change
Total	88,555	0.4%	46,295	0.8%

Performance by Gender

Gender	Exams Taken	% Change	Exams With score of 3, 4 or 5	% Change
Female	49,037	0.4%	24,057	1.2%
Male	39,518	0.3%	22,238	0.3%

Performance by Race/Ethnicity

Race/Ethnicity	Exams Taken	% Change	Exams With score of 3, 4 or 5	% Change
American Indian	179	16.2%	46	2.2%
Asian	6,755	4.4%	4,753	6.0%
Black	4,387	6.3%	1,188	6.8%
Hispanic or Latino	7,987	2.7%	3,065	-0.6%
Pacific Islander	62	19.2%	21	-30.0%
White	64,385	-0.5%	34,797	0.2%
Two or more races	3,670	-0.9%	1,879	-0.4%
Other	0			
No Response	1,130	-6.2%	546	-7.1%

AP: Exam Participation and Performance (Part 1 of 3)

AP : Exam Participation and Performance (Part 1 of 3)

		# of Exams	% of Total	# Score of 1	# Score of 2	# Score of 3	# Score of 4	# Score of 5	% Score of 1	% Score of 2	% Score of 3	% Score of 4	% Score of 5
Total # of Exams	2018	88,225	100%	18,065	24,216	21,727	15,013	9,204	20%	27%	25%	17%	10%
	2019	88,555	100%	17,996	24,264	22,248	15,132	8,915	20%	27%	25%	17%	10%
Art History	2018	404	0%	63	120	106	76	39	16%	30%	26%	19%	10%
	2019	346	0%	57	104	93	70	22	16%	30%	27%	20%	6%
Biology	2018	5,192	6%	677	1,672	1,619	932	292	13%	32%	31%	18%	6%
	2019	5,459	6%	569	1,759	1,829	1,002	300	10%	32%	34%	18%	5%
Calculus AB	2018	7,422	8%	1,807	1,917	1,520	1,127	1,051	24%	26%	20%	15%	14%
	2019	7,169	8%	1,559	1,881	1,475	1,232	1,022	22%	26%	21%	17%	14%
Calculus BC	2018	1,853	2%	145	273	427	314	694	8%	15%	23%	17%	37%
	2019	1,736	2%	112	239	375	363	647	6%	14%	22%	21%	37%
Chemistry	2018	3,955	4%	1,180	1,068	890	493	324	30%	27%	23%	12%	8%
	2019	4,060	5%	1,193	1,116	1,062	430	259	29%	27%	26%	11%	6%
Chinese Language and Culture	2018	79	0%	9	8	8	10	44	11%	10%	10%	13%	56%
	2019	52	0%	7	2	10	4	29	13%	4%	19%	8%	56%
Comparative Government and Politics	2018	215	0%	32	60	39	49	35	15%	28%	18%	23%	16%
	2019	146	0%	25	31	31	28	31	17%	21%	21%	19%	21%
Computer Science A	2018	823	1%	243	117	185	149	129	30%	14%	22%	18%	16%
	2019	824	1%	227	121	169	147	160	28%	15%	21%	18%	19%
Computer Science Principles	2018	920	1%	53	140	354	219	154	6%	15%	38%	24%	17%
	2019	1,562	2%	115	280	628	337	202	7%	18%	40%	22%	13%
English Language and Composition	2018	11,721	13%	1,739	3,973	3,313	1,794	902	15%	34%	28%	15%	8%
	2019	11,504	13%	1,899	4,124	2,966	1,749	766	17%	36%	26%	15%	7%
English Literature and Composition	2018	9,042	10%	1,377	3,850	2,427	1,022	366	15%	43%	27%	11%	4%
	2019	8,891	10%	1,331	3,567	2,507	1,127	359	15%	40%	28%	13%	4%
Environmental Science	2018	3,682	4%	1,180	1,079	498	702	223	32%	29%	14%	19%	6%
	2019	3,625	4%	1,142	998	476	750	259	32%	28%	13%	21%	7%
European History	2018	1,328	2%	114	381	350	294	189	9%	29%	26%	22%	14%
	2019	1,337	2%	118	383	346	317	173	9%	29%	26%	24%	13%
French Language and Culture	2018	290	0%	22	49	97	70	52	8%	17%	33%	24%	18%
	2019	278	0%	11	48	100	79	40	4%	17%	36%	28%	14%

AP: Exam Participation and Performance (Part 2 of 3)

AP : Exam Participation and Performance (Part 2 of 3)

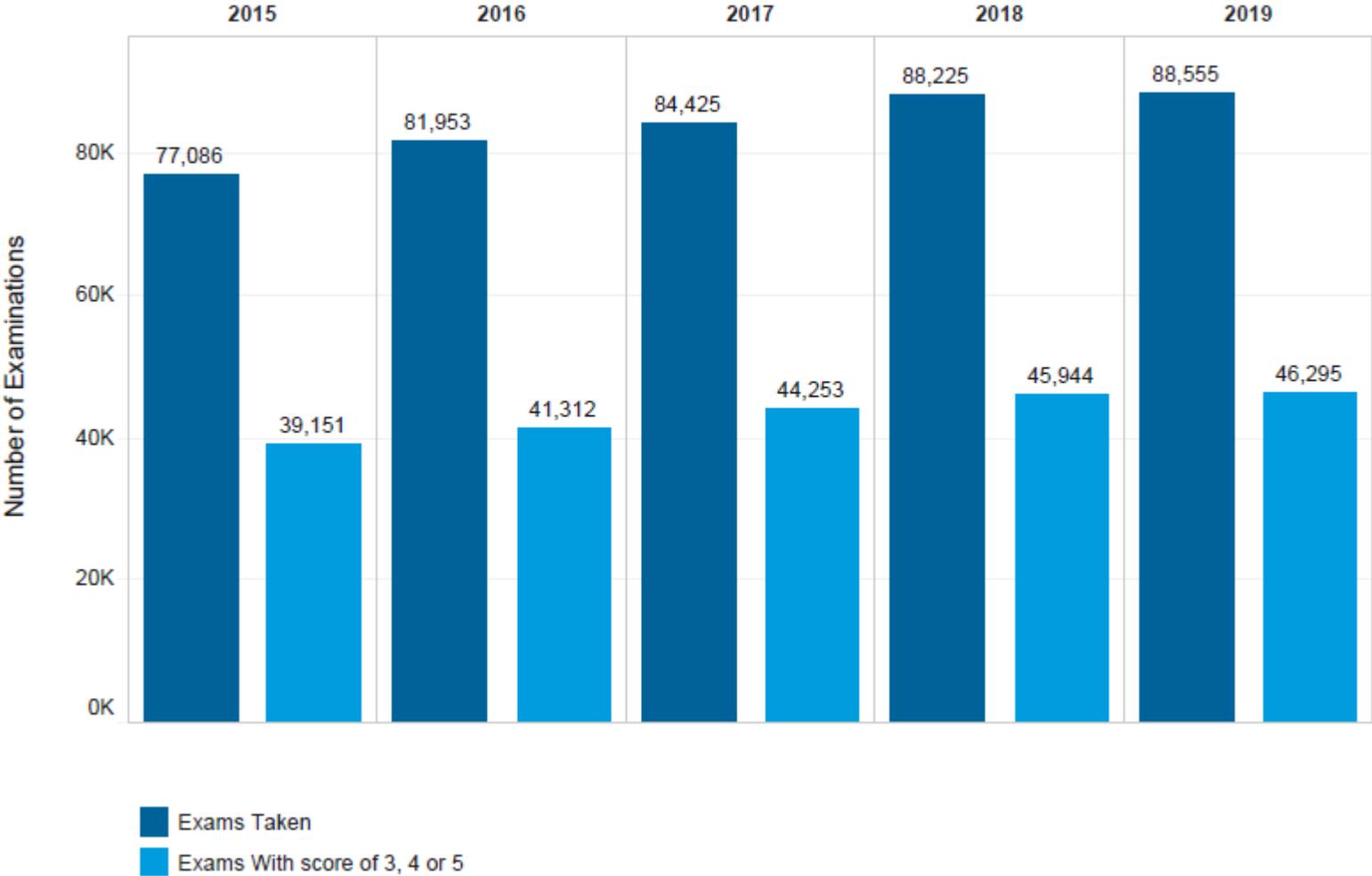
		# of Exams	% of Total	# Score of 1	# Score of 2	# Score of 3	# Score of 4	# Score of 5	% Score of 1	% Score of 2	% Score of 3	% Score of 4	% Score of 5
German Language and Culture	2018	130	0%	20	27	36	27	20	15%	21%	28%	21%	15%
	2019	122	0%	15	31	31	28	17	12%	25%	25%	23%	14%
Human Geography	2018	2,219	3%	536	357	534	480	312	24%	16%	24%	22%	14%
	2019	2,119	2%	681	378	469	395	196	32%	18%	22%	19%	9%
Italian Language and Culture	2018	4	0%										
	2019												
Japanese Language and Culture	2018	19	0%	2	1	3	5	8	11%	5%	16%	26%	42%
	2019	19	0%	5	0	5	2	7	26%	0%	26%	11%	37%
Latin	2018	92	0%	7	31	36	11	7	8%	34%	39%	12%	8%
	2019	92	0%	20	29	27	10	6	22%	32%	29%	11%	7%
Macroeconomics	2018	1,708	2%	451	312	291	363	291	26%	18%	17%	21%	17%
	2019	1,606	2%	439	273	316	330	248	27%	17%	20%	21%	15%
Microeconomics	2018	1,908	2%	407	405	407	478	211	21%	21%	21%	25%	11%
	2019	2,018	2%	549	304	388	479	298	27%	15%	19%	24%	15%
Music Theory	2018	437	0%	55	99	120	71	92	13%	23%	27%	16%	21%
	2019	423	0%	53	100	117	82	71	13%	24%	28%	19%	17%
Physics 1	2018	3,122	4%	1,012	935	602	456	117	32%	30%	19%	15%	4%
	2019	2,995	3%	835	979	603	482	96	28%	33%	20%	16%	3%
Physics 2	2018	391	0%	58	185	96	28	24	15%	47%	25%	7%	6%
	2019	427	0%	69	159	118	47	34	16%	37%	28%	11%	8%
Physics C: Electricity and Magnetism	2018	401	0%	61	99	56	80	105	15%	25%	14%	20%	26%
	2019	443	1%	60	98	63	116	106	14%	22%	14%	26%	24%
Physics C: Mechanics	2018	1,026	1%	149	165	216	261	235	15%	16%	21%	25%	23%
	2019	909	1%	100	97	190	240	282	11%	11%	21%	26%	31%
Psychology	2018	5,589	6%	1,293	992	1,100	1,354	850	23%	18%	20%	24%	15%
	2019	5,642	6%	1,533	883	1,124	1,266	836	27%	16%	20%	22%	15%
Research	2018	271	0%	8	43	108	68	44	3%	16%	40%	25%	16%
	2019	347	0%	13	67	136	80	51	4%	19%	39%	23%	15%
Seminar	2018	547	1%	1	32	262	149	103	0%	6%	48%	27%	19%
	2019	845	1%	6	76	463	173	127	1%	9%	55%	20%	15%

AP: Exam Participation and Performance (Part 3 of 3)

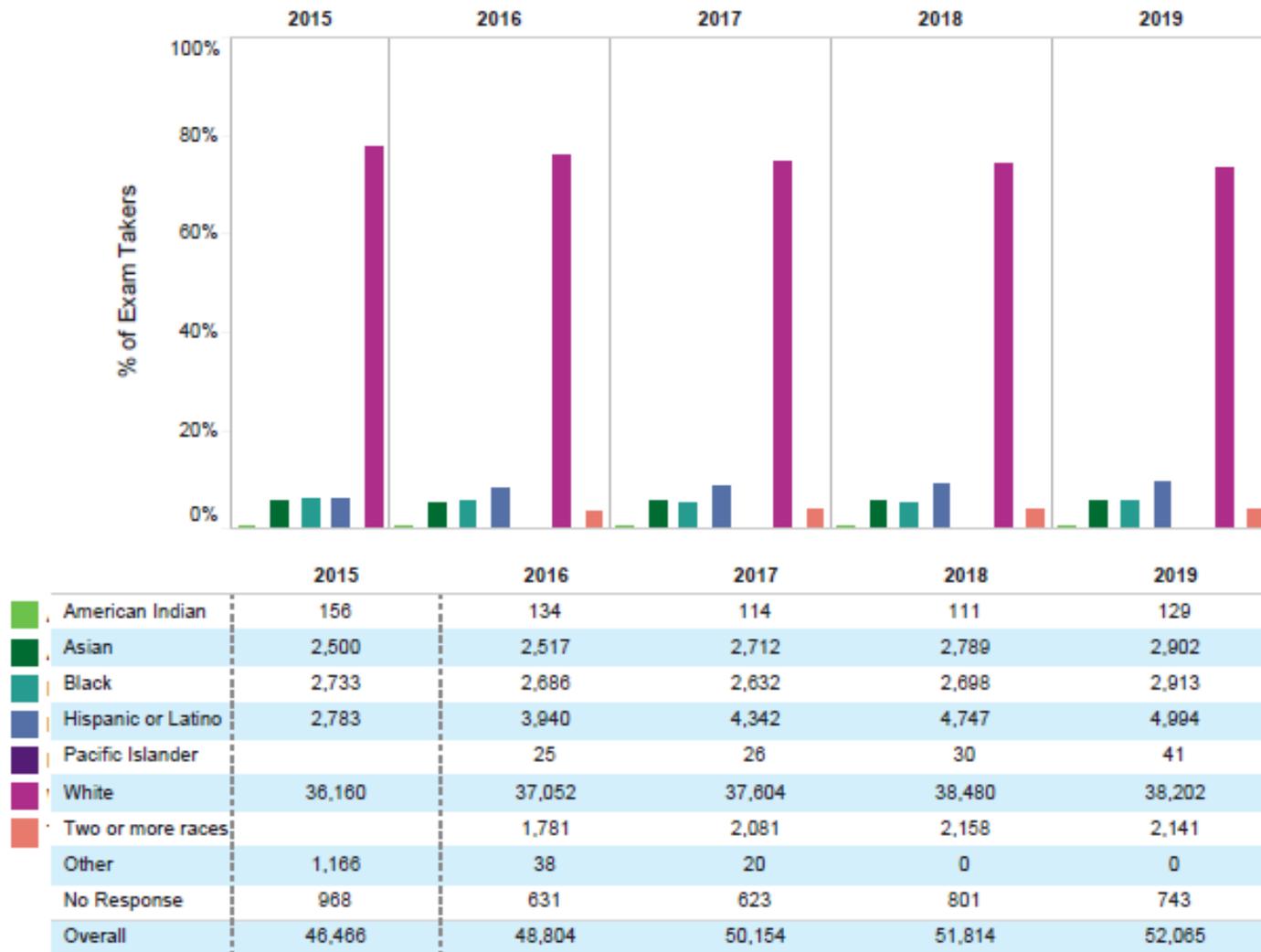
AP : Exam Participation and Performance (Part 3 of 3)

		# of Exams	% of Total	# Score of 1	# Score of 2	# Score of 3	# Score of 4	# Score of 5	% Score of 1	% Score of 2	% Score of 3	% Score of 4	% Score of 5
Spanish Language and Culture	2018	1,242	1%	57	208	402	362	213	5%	17%	32%	29%	17%
	2019	1,348	2%	80	172	436	424	236	6%	13%	32%	31%	18%
Spanish Literature and Culture	2018	69	0%	5	14	25	24	1	7%	20%	36%	35%	1%
	2019	62	0%	0	10	32	14	6	0%	16%	52%	23%	10%
Statistics	2018	3,791	4%	907	676	957	730	521	24%	18%	25%	19%	14%
	2019	3,843	4%	951	776	944	664	508	25%	20%	25%	17%	13%
Studio Art: 2-D Design Portfolio	2018	615	1%	12	66	211	215	111	2%	11%	34%	35%	18%
	2019	640	1%	12	80	219	200	129	2%	13%	34%	31%	20%
Studio Art: 3-D Design Portfolio	2018	166	0%	8	41	65	38	14	5%	25%	39%	23%	8%
	2019	147	0%	11	38	44	44	10	7%	26%	30%	30%	7%
Studio Art: Drawing Portfolio	2018	311	0%	2	26	110	96	77	1%	8%	35%	31%	25%
	2019	343	0%	0	20	138	122	63	0%	6%	40%	36%	18%
United States Government and Politics	2018	4,001	5%	913	1,008	1,105	505	470	23%	25%	28%	13%	12%
	2019	3,916	4%	766	1,078	1,127	504	441	20%	28%	29%	13%	11%
United States History	2018	8,837	10%	2,856	2,322	1,913	1,190	556	32%	26%	22%	13%	6%
	2019	8,451	10%	2,610	2,261	1,875	1,078	627	31%	27%	22%	13%	7%
World History	2018	4,403	5%	604	1,465	1,238	769	327	14%	33%	28%	17%	7%
	2019	4,809	5%	823	1,702	1,316	717	251	17%	35%	27%	15%	5%

AP: Number of Exams and Number of Exams with Scores of 3, 4 or 5



AP: Participation by Race/Ethnicity - Students Taking One or More Exam



DATA EVIDENCE AND IMPLICATIONS:

The Data Show:

- Participation in AP exams remained relatively flat from 2018 to 2019, with a total number of 52,065 (+0.5%) students participating.
- The total number of exams taken (88,555) also remained relatively flat in 2019.
- The number of exams earning a passing score of 3, 4, or 5 (46,295) also remained consistent, with a slight increase of 0.8 percent.
- Approximately 52 percent of the exam taken received a passing score of 3, 4, or 5.
- Hispanic or Latino student participation increased 5.2 percent. This is a smaller increase than 2018, but the number of passing exams went down slightly.
- Black student participation increased by 8 percent in 2019, as compared to a 2.5 percent increase in 2018. The number of exams taken by Black students increased 6.3 percent, with passing scores of 3, 4, or 5 increasing by 6.8 percent.
- While these increases in participation of underrepresented populations are positive for two years in a row, the participation numbers are still not reflective of state percentages. Hispanic or Latino students comprise 12.3 percent of the state population, but only 9.6 percent of the AP participants in the state. Even worse, Black students also comprise 12.3 percent of the state population, but only 5.6 percent of the AP participants in the state.

Policy Implications:

Indiana remains fairly consistent with the number of students participating and passing AP exams. With the implementation of Graduation Pathways, a continued increase in AP participants is expected. Additionally, as licensing requirements for dual credit instructors begin to apply, and the lack of highly qualified instructors, there could be further movement to Advanced Placement courses. Yet, a wide gap between participation and performance continues to persist. Only 52 percent of exams taken earned a passing score of 3, 4, or 5 in 2019. While participation and exposure to rigorous curriculum does benefit students, strategies should be developed to help local educational agencies also improve student performance. Additionally, intentionality must be given to improving access and equity for underrepresented populations, particularly Black and Hispanic or Latino populations. If Indiana wishes to become one of the top performing AP states in the nation, measured by the number of graduates qualifying on an exam at some point during their high school career, then Indiana must:

1. Develop a strategic plan to improve access and equity to high quality AP courses for underrepresented populations.
2. Provide support for more rigorous math, English, science, and social studies classes for students before they enter AP courses, and aligning curriculum in prerequisite courses for optimal AP course preparation.
3. Provide ongoing training for current AP math, English, science, and social studies teachers, while also continuing to recruit new teachers.

CURRENT STATE FUNDING

ADVANCED PLACEMENT PROGRAM FUNDING

For fiscal years 2019-2020 and 2020-2021, the state appropriation will be \$5,200,000 per year. This appropriation provides funding to fully cover the cost of College Board Advanced Placement exams in math, English, and science for all Indiana students. Additionally, the appropriation funds the exam costs for other students qualifying for the Free or Reduced Lunch program. Any remaining funds available after exams have been paid shall be prioritized for use by teachers of math and science AP courses to attend professional development training for those courses.

For fiscal year 2018-2019, IDOE spent approximately \$4,900,000 on AP examination fees. However, with the phase in of Graduation Pathways, and with AP course taking recognized as a postsecondary competency, it is reasonable to expect expenditures will continue to rise.

TEACHER TRAINING

The Office of School Improvement, in conjunction with the Southern Indiana Education Center (SIEC), offered seven regional trainings on the new Advanced Placement resources in June 2019. Over 200 teachers registered for these events. Through the SIEC, free tuition was given to new AP Calculus teachers and new AP Language and Composition teachers to attend the AP Summer Institute. Twenty new AP Calculus teachers and 29 new AP Language and Composition teachers took advantage of this opportunity. Additional AP Language and Composition training is being offered at three sites during November, with 46 teachers registered.

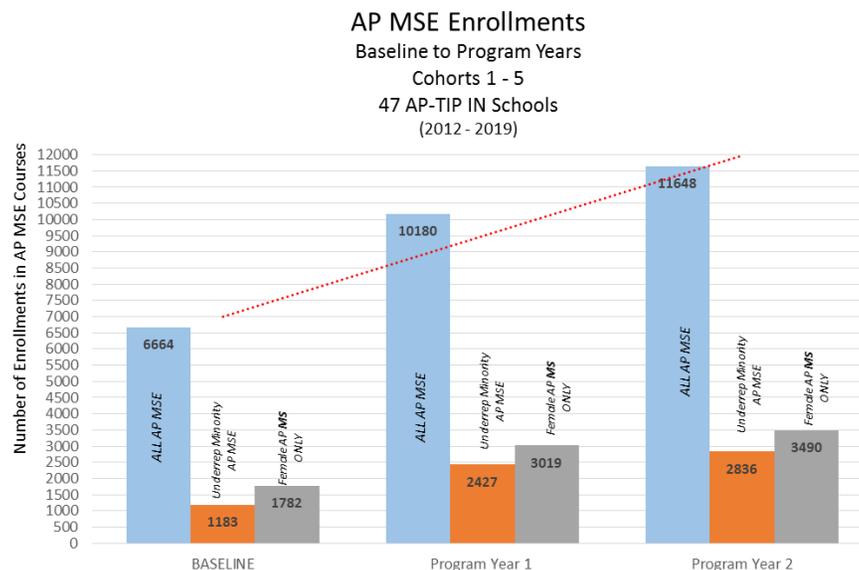
In addition to this, the AP-TIP IN Program, sponsored by Notre Dame University, provides training and incentives to a select cohort of Indiana schools. This program represents an important partnership for the state. The report from Karen Morris, Program Director, is provided below.



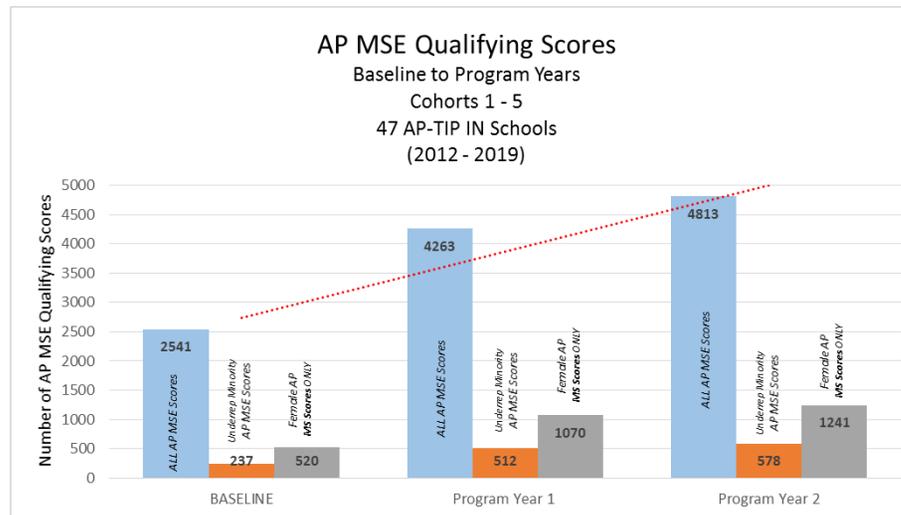
Since 2012, the AP-TIP IN program has worked with Indiana public high schools to support college and career readiness for Indiana students. With a focus on the STEM areas of AP math, AP science, and AP English courses, the goals of the AP-TIP IN Program are to:

- Increase the number of students taking AP math, science, and English courses; and
- Increase the number of AP Qualifying Scores (scores of 3, 4, or 5) at program schools compared to the baseline year.

From Fall 2012 through Spring 2019, 47 Indiana public high schools completed their participation in the AP-TIP IN program. Graphs 1 and 2 below show the impact of AP-TIP IN on these schools in terms of participation (Graph 1) and success (Graph 2) in AP math, science, and English courses over two program years.



Graph 1



Graph 1

It is interesting to note that the red trend lines on Graphs 1 and 2, demonstrate schools outpace the expectations for growth and success in Year one of the program. This demonstrates the immediate impact of the AP-TIP IN program strategies in these schools. Further analysis of the data also illuminate the following:

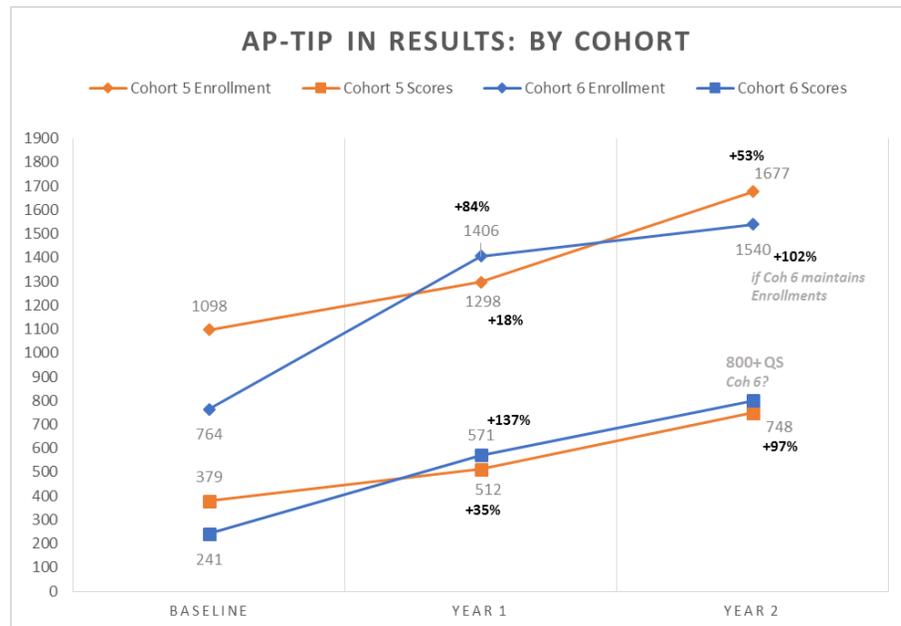
- **Removing barriers** to participation in AP courses does not negatively impact the qualifying score (QS) rate: in their baseline year, the QS rate was 38 percent, while in Year one the QS rate rose to nearly 42 percent and by Year two was just over 41 percent.
- The AP-TIP IN Program **improved the number of historically underrepresented students** (African American and Hispanic) by nearly 140 percent. Strategies to increase enrollment were implemented at program schools, which helps diminish the opportunity gap for these students. Qualifying scores for this group also paced enrollment increases by Program Year 2.
- **Female students'** participation in AP math and science courses nearly doubled by Program Year 2, however, QS rates soared to nearly 140 percent.
- In all cases, this data indicates that the AP-TIP IN program, with its combination of teacher and student support, can help schools **close the achievement gap**.

Including Cohort 6 schools, AP-TIP IN has worked with more than 380 AP MSE teachers and more than 22,500 students at 56 Indiana public high schools of varying size and context. As of the 2019 AP exams, students at AP-TIP IN schools have collectively taken nearly 33,700 AP math, science, and English courses and earned nearly 13,590 qualifying scores, a 40 percent success rate.

Using a competitive application process, AP-TIP IN added 11 schools as Cohort 6, to join the nine Cohort 5 schools for the 2018-2019 school year:

Cohort 5 Schools		Cohort 6 Schools	
Avon	Michigan City	Boonville	Portage
Clay	Muncie Central	East Chicago Central	Scottsburg
Clinton Central	New Albany	Kouts	Shakamak
Marion	Providence Cristo Rey	Morgan Township	Washington Township
	Washington	New Palestine	Western
			Whiting

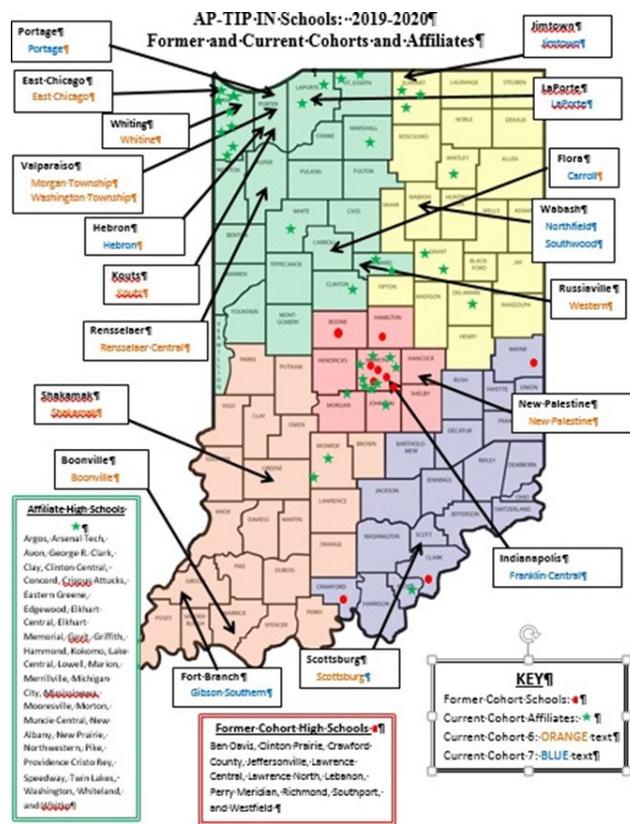
Funding to implement the AP-TIP IN program at these schools was provided through a grant from the Lilly Endowment, which funded all program activities, teacher support, student support, and teacher and student incentives. This grant award will end at the close of the 2019-2020 school year (the first year of Cohort 7). Additionally, funding from the St. Joseph County Community Foundation was provided to continue Washington High School (South Bend) from Cohort 4 into Cohort 5. Results for 2018-2019 for these AP-TIP IN Cohort 5 and 6 schools outpaced historical success for AP-TIP IN Cohort schools as shown in Graph 3.



Graph 2

Cohort 5 and 6 schools also positively impacted historically underrepresented (African American and Hispanic) students despite the fact that Cohort 6 schools are not ethnically diverse. Participation in AP MSE at Cohort 5 and 6 schools increased by 58 percent while success for these students increase by 125 percent. Female student participation in AP math and science courses is also tracked, and these students also excelled with a 49% increase in participation in AP math and science courses and an 82 percent increase in success, compared to baseline years. Both cases demonstrate that teachers in the AP-TIP IN program participate in closing the opportunity and achievement gaps.

For the 2019-2020 school year, AP-TIP IN recruited 9 Indiana high schools to participate in Cohort 7 (see map). Schools wishing to continue with the AP-TIP IN program are “Affiliate” schools and these are also indicated on this map. As grant funding ends the 2019-2020 school year, expansion of the AP-TIP IN program to schools beyond Cohort 7 will depend on new funding.



RECENT TRENDS FOR AP

AP Computer Science Principles

AP Computer Science Principles launched nationwide in 2016, with the course being offered in 2,500 schools and over 50,000 students taking the exam. In 2017, the number of schools offering the course increased to 3,700 with over 70,000 students taking the exam. In Indiana, only 33 high schools offered the course in 2017-2018, with 920 students taking the exam. However, 79 percent of these students earned a passing score of 3, 4, or 5. Indiana saw a 41 percent increase in participation in AP Computer Science Principles, with 1,562 students taking the exam in 2019. While the number of participants increased substantially, the success rate remained high at 75 percent.

AP Computer Science Principles introduces students to the foundational concepts of the field and challenges them to explore how computing and technology can impact the world. AP Computer Science Principles has had a positive effect on females and underrepresented minorities, providing critical exposure to STEM fields. The number of females enrolled in AP computer science courses more than doubled from 2016 to 2017. The same was true for Hispanic/Latino and Black/African American students. A strategic plan should be created to continue encouraging more schools to offer AP Computer Science Principles.

AP with WE

College Board has partnered with WE, an educational partner delivering service-based learning. Utilizing resources provided by WE, Advanced Placement teachers can easily situate service-based learning projects within the context of their curriculum. Participation in an AP with WE service-learning project could fulfill the Employability Skills portion of Graduation Pathways.

Expansion of the AP Capstone program

AP Capstone™ is a College Board program equipping students with the independent research, collaborative teamwork, and communication skills that are increasingly valued by colleges. The program cultivates curious, independent, and collaborative scholars and prepares them to make logical, evidence-based decisions. Participation in AP Capstone fulfills the Employability Skills portion of Graduation Pathways, serving as a Project-Based Learning Experience. Indiana saw a 22 percent increase in students taking AP Research, with 81 percent of those students earning a passing score. Additionally, there was a 35 percent increase in students taking the AP Seminar course, with 90 percent of those students earning a passing score.

CHANGES TO AP IN 2019-20

Resources and Supports for all AP courses

College Board has launched a system of resources and supports for all AP students, teachers, and coordinators for the 2019-20 school year. These resources are designed to motivate students and improve success in AP courses. Through an on-line platform, teachers now have access to unit guides, assessment bank questions, and performance dashboards. Students are able to answer questions on-line and have the ability to do their own progress monitoring. These tools should assist teachers, especially new AP teachers, improve AP exam results. Streamlined exam ordering, student registration labels, fall registration, and exam day improvements will help AP coordinators maximize their time. The Office of School Improvement, in collaboration with the Southern Regional Education Center, offered seven regional trainings on these new resources this summer. Approximately 200 AP teachers attended this training. Collaboration with the College Board will be important to ensure that AP teachers are accessing and fully utilizing these resources.

Fall Registration

Beginning this fall, students must register for AP exams by November, rather than waiting until the spring. Late fees will be assessed if students are not registered by November 15. There will not be any fees if students transfer schools in the middle of the year. Schools have expressed concern that some students will not choose to take AP courses because of this early deadline. IDOE will closely monitor this new policy to determine if there are adverse effects on student test taking. Students should be encouraged to register for exams as the exposure to rigorous curriculum and exam preparation has many benefits.

In response to concerns about the new timeframe, College Board has released information from schools who have piloted this early registration. Schools who have piloted the early registration period have shown a 13 percent increase in exam takers and a 21 percent increase in underrepresented minority exam takers. Low income exam takers increased 33 percent in schools that piloted the early registration. Additionally, there was a 20 percent increase in low income students earning passing scores on AP exams. It is the belief that actually committing to an exam early increases student engagement and commitment to the course.