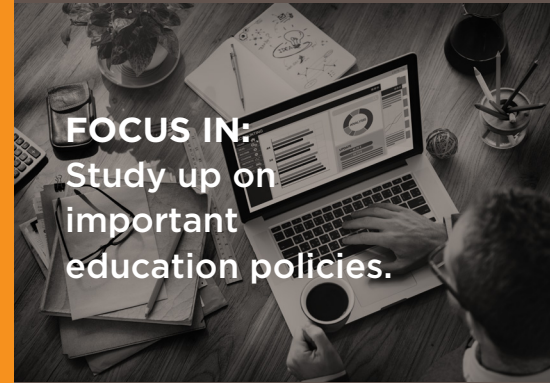




POLICY ANALYSIS



FOCUS IN:
Study up on important education policies.

Advanced Placement: Model policy components

JENNIFER ZINTH

Advanced Placement (AP), launched in 1955 by the College Board as a program to offer

RESEARCH IDENTIFIES A CORRELATION BETWEEN ADVANCED PLACEMENT (AP) PARTICIPATION AND SUCCESS AND SUBSEQUENT POSTSECONDARY ENROLLMENT AND COMPLETION. HOWEVER, STUDENTS OF COLOR AND LOW-INCOME STUDENTS ARE OFTEN UNDERREPRESENTED IN AP COURSES.

gifted high school students the opportunity to complete entry-level college coursework, has since expanded to encourage a broader array of students to tackle challenging content. Students may sit for an AP exam whether or not they have

taken the related year-long course. Though policies vary from institution to institution, many colleges and universities will award entry-level, discipline-specific college course credit for an AP exam score of three or higher (out of five).

This Education Commission of the State's Policy Analysis identifies key components of a comprehensive state AP policy, as well as model state policies, primarily from Arkansas, that align with each component. This analysis also provides a brief summary of subject areas in which AP courses and exams are currently offered, reasons states and districts are expanding AP access, and research supporting expansion of AP opportunities.

A comprehensive AP state policy approach includes 11 policy components in four buckets: ACCESS, SUPPORT, QUALITY ASSURANCE and CREDIT TRANSFER.

A COMPREHENSIVE AP state policy approach - such as Arkansas' - may enhance AP student PARTICIPATION and SUCCESS, particularly among historically underserved students.

AP SUBJECT AREAS

As of April 2016, 37 AP courses are available in six content areas (see table below). Two AP Capstone courses, AP Research and AP Seminar, provide opportunities for students to hone study skills and habits of mind critical to college success.

ENGLISH	MATH AND COMPUTER SCIENCE	SCIENCE	HISTORY AND SOCIAL SCIENCES	WORLD LANGUAGES AND CULTURES	ARTS	AP CAPSTONE
English Language and Composition	Calculus AB	Biology	Comparative Government and Politics	Chinese Language and Culture	Art History	AP Research
English Literature and Composition	Calculus BC	Chemistry	European History	French Language and Culture	Music Theory	AP Seminar
	Computer Science A	Environmental Science	Human Geography	German Language and Culture	Studio Art: 2-D Design	
	Statistics	Physics 1: Algebra-Based	Macroeconomics	Italian Language and Culture	Studio Art: 3-D Design	
		Physics 2: Algebra-Based	Microeconomics	Japanese Language and Culture	Studio Art: Drawing	
		Physics C: Electricity and Magnetism	Psychology	Latin		
		Physics C: Mechanics	United States Government and Politics	Spanish Language and Culture		
			United States History	Spanish Literature and Culture		
			World History			

Source: *AP Program Guide 2015-16*, College Board

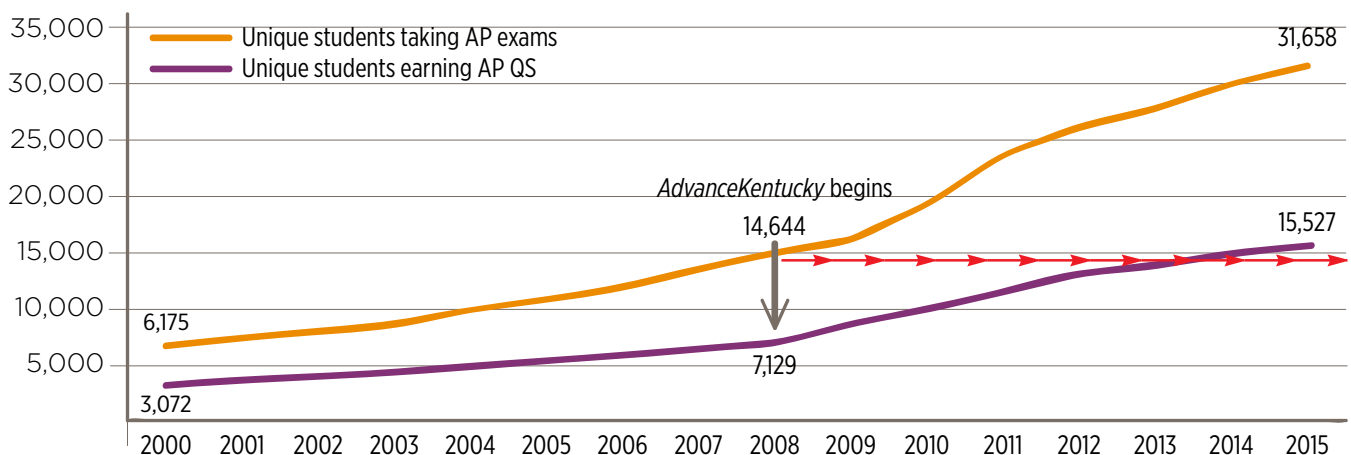
In fall 2016, a new AP computer science course, AP Computer Science Principles, will be launched, with the first administration of the related exam in spring 2017. Designed to enhance computer science participation especially among female and minority students, the course encourages students to use their creativity in applying computer science principles to real-world applications via performance tasks.¹

IMPACT OF AP ON POSTSECONDARY ENROLLMENT AND SUCCESS

Some research points to the positive impacts of AP participation on postsecondary outcomes. Certain studies suggest, for example, that students who score a three or higher on an AP exam are more likely than their peers to enroll in college, succeed in postsecondary coursework and earn a postsecondary credential, which could be particularly significant for underserved populations.² In fact, a 2013 **study** of the outcomes of the **AdvanceKentucky** program, an initiative to increase student access and success in rigorous course-taking, particularly among traditionally underserved students, found that African American and Hispanic students who participated in **Kentucky's** program were substantially more likely than their peers in a comparison cohort to: graduate high school; attend a postsecondary institution in the fall after high school graduation; post higher postsecondary grade-point averages; and return for their freshman spring semester. AdvanceKentucky students were also significantly less likely to place into developmental coursework upon postsecondary matriculation.³

Other studies suggest that students completing AP programs and exams are more likely to major in and complete degrees in the field of their AP study than non-AP participants, which could have implications for workforce development. For example, 2007 College Board research matched AP exam takers who used AP exam scores to place into intermediate coursework with peers at their institutions who completed the usual sequence of introductory and intermediate coursework without taking an AP exam in the subject area. The study found that, with the exception of AP exams in English and economics, students who had taken an AP exam in a subject were at least twice as likely as non-AP completers to major in the discipline of the exam. The greatest difference was found in certain STEM fields such as physics and computer science. In fact, while just 3 percent of non-AP graduates pursued computer science degrees, 32 percent of students who had taken the AP Computer Science A exam were majoring in computer science - a figure highlighted by those seeking to increase the number of females and underrepresented minorities in computer science-related occupations.⁴ Another study on the impact of AP on baccalaureate degree completion in science and engineering found that students who took AP Calculus were approximately four times more likely to earn a degree in a physical science/engineering field than students who did not take AP Calculus, and that AP science program participants (who had taken AP courses in biology, chemistry and physics) were more than twice as likely to complete degrees in life sciences fields.⁵

NUMBER OF KENTUCKY STUDENTS ACROSS ALL SUBJECTS TAKING AP EXAMS AND EARNING QUALIFYING SCORES



Source: <http://www.advancekentucky.com/news/longitudinal-reports>

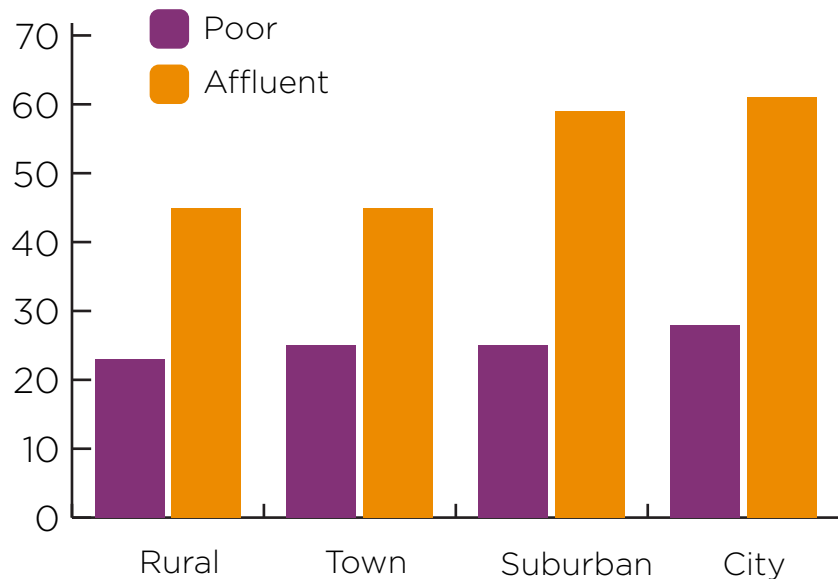
EXPANDING ACCESS TO AP

Advocates often cite the following as potential positive outcomes of the development and implementation of AP programs:

- Increasing the rigor of high school coursework.
- Preparing students for college-level expectations.
- Allowing an opportunity for students to save money and time to degree by earning college credit in high school.
- Potentially giving AP course completers an advantage in the college admission process.
- Boosting postsecondary enrollment and completion.

Unfortunately, data indicate that students have uneven access to AP opportunities, and thus, the benefits this access provides. Students in smaller and rural school districts are less likely to have access to AP courses. One 2015 study found that nearly half of rural districts have no students in AP courses, while just 20 percent of town, 5.4 percent of suburban and 2.6 percent of urban districts had no AP enrollees. The same study reported that the highest AP success rates (students scoring three or higher) are in suburban and in more affluent districts.⁶

AP SUCCESS FOR DISTRICTS IN THE MOST AND LEAST AFFLUENT QUARTILES, BY URBANICITY



Source: <http://scholars.unh.edu/cgi/viewcontent.cgi?article=1234&context=carsey>

Observers also express concern about the underrepresentation of females, African Americans and Hispanics in AP courses in STEM disciplines, particularly given the correlation between taking an AP course/exam and subsequently majoring in the field of the AP experience. To address these inequities, a number of states and districts have adopted policies over the past two decades to expand access to AP programs, especially for students traditionally underrepresented in such courses.

A COMPREHENSIVE STATE AP POLICY

To ensure equitable student access to high-quality AP courses that are recognized for college credit upon post-secondary matriculation, states should consider a comprehensive policy approach. Such an approach would include the following components, grouped under the buckets of access, support, quality assurance and credit transfer:



ACCESS

- All public high schools required to offer at least one AP course.
- Students advised into AP courses based on objective metrics (for example, performance on assessments aligned to college- and career-readiness standards).
- High-quality online courses and bandwidth support to facilitate course availability, particularly in rural and small schools.
- Mechanism to identify and rectify underrepresentation of historically underserved students.
- Exam fee subsidies, at a minimum for low-income students.



SUPPORT

- State support for pre-AP courses and training.
- Financial incentives to support course offerings and success.
- State support for teacher training and professional development.



QUALITY ASSURANCE

- Accountability incentives for AP participation and success.
- Students required to take AP exam to earn course credit.



CREDIT TRANSFER

- Uniform postsecondary criteria for awarding credit for AP exam scores.

ARKANSAS – A MODEL FOR OTHER STATES

With the adoption of the “Arkansas Advanced Placement Incentive Program Act of 1995,” expanded by 2005 legislation to become the “Arkansas Advanced Placement and International Baccalaureate Diploma Incentive Program Act of 1995,” Arkansas positioned itself as the first state in the nation to have a comprehensive AP policy. Data on AP exam-taking from 2003 to 2013 suggest that this comprehensive approach has taken root, and has had a positive impact on student AP participation and success.

In 2013, nearly half – 46 percent – of Arkansas high school graduates had taken at least one AP exam, representing both the fourth highest state participation rate nationally and the largest state gain in student participation from 2003 to 2013. Astoundingly, in conjunction with the decade’s increases in number of AP test-takers, Arkansas also saw the sixth largest percentage growth in students scoring a three or higher of states nationally.⁷ According to Arkansas’ [ESEA Flexibility Request](#) approved in July 2015, the state’s AP participation quadrupled from 2001 to 2011, with 32 percent of AP test-takers earning a three or higher in 2014. It is likely that Arkansas’ comprehensive set of state policies supporting AP contributed to these concurrent gains in student AP exam participation and AP exam success.

The following section provides the rationale for including each of the model policy components within a comprehensive state AP policy, and identifies Arkansas or other states’ provisions that align with each component.

ACCESS

All public high schools required to offer at least one AP course

Without a requirement that all public high schools offer at least one AP course, students in less affluent and rural high schools may lack access to such courses.

Arkansas requires all school districts to offer four AP courses – one each in English, math, science and social studies. Districts were required to begin implementation in the 2005-06 school year, adding one additional course each successive year through 2008-09.⁸ In addition, each high school in the state must offer four AP courses. Any high school offering the International Baccalaureate (IB) program, another rigorous curriculum with end-of-course subject exams, is exempt from this requirement.⁹

Students advised into AP courses based on objective metrics

Students capable of succeeding in an AP course may not see themselves as “college material” and consequently not enroll. Or, teachers or counselors may – consciously or not – base decisions on which students are “AP material” on criteria unrelated to a student’s ability to pass an AP course and exam. Encouraging or requiring school staff to use objective metrics, such as scores on college-ready assessments, to identify students with AP potential may broaden the pool of students enrolled in AP courses.

Kentucky Kentucky requires that a student whose grade 10 college readiness exam or grade 11 college admissions exam scores indicate a high degree of readiness for college be counseled to enroll in accelerated courses.¹⁰ **Rhode Island** statute directs higher education to encourage school districts to have all 10th graders take the Preliminary Scholastic Aptitude Test/National Merit Scholars Qualifying Test (PSAT/NMSQT) so that teachers and counselors in each high school may use test results to identify students prepared to succeed in

AP courses.¹¹

High-quality online courses and bandwidth support

For the smallest and most rural high schools, providing access to online AP courses may be the only feasible option. However, rural high schools in particular may lack the bandwidth to meet students' online AP course demand.

States have taken a variety of approaches to address these issues. Arkansas' Digital Learning Act of 2013 includes a statement that it is the General Assembly's intent to provide for the expansion of digital learning opportunities to all Arkansas public school students, and remove any impediments to the expansion of digital learning opportunities.¹² Alternatively, one of the charges to the **Florida** Partnership for Minority and Underrepresented Student Achievement is to provide a plan for communication and coordination of efforts with the Florida Virtual School's provision of online AP courses.¹³

Mechanism to identify and rectify underrepresentation of historically underserved students

College Board data on AP exam participation rates bear out that while more African American, Latino and Native American/Alaska Native students are taking AP exams, participation rates show room for improvement.¹⁴ Historically underserved students may benefit from state mechanisms to call out and address underrepresentation of these students in AP courses and exams.

Although Arkansas does not explicitly mandate that schools where historically underserved students are underrepresented among AP participants be identified and required to implement strategies to increase such representation, the state does require school districts to annually report to their communities – and to the state board – the number of students taking AP courses and exams, and the percent of students scoring three, four or five on the exams. These data must be reported by student grade level, economic status and ethnicity.¹⁵ This data therefore provides the opportunity to illuminate, and address, existing gaps between demographic sectors in access to and success in AP courses and exams.

AP exam fee subsidies, at a minimum for low-income students

For spring 2016, the application fee for each AP exam is \$92. While College Board makes fee reductions and waivers available for all qualifying low-income students, receipt of a fee waiver hinges on completion of an application process, which staff at under-resourced high schools may not have the awareness or time to complete. High school students may not have accurate information on family income to make themselves eligible. And \$92 may be too great a financial burden even for students whose family incomes place them just outside eligibility for fee reductions and waivers.

Arkansas statute provides that the state may pay AP exam fees in full, or on a pro rata basis, and authorizes the state board to create a sliding scale based on family income.¹⁶



SUPPORT

State support for pre-AP courses and training

Pre-AP curricula and professional development are available for teachers of grades 6-12 to help them prepare students for the rigors of AP coursework. Pre-AP workshops and summer institutes are available in each of the six disciplines of AP courses and exams, as are interdisciplinary professional learning opportunities and professional development for K-12 administrators and coordinators.¹⁷ Providing state support for such learning opportunities communicates state commitment to preparing as many students as possible for success in advanced coursework such as AP, and ensures that funds for pre-AP courses and training do not hinge exclusively on the vision of a single district or school leader, or local appropriation.

Arkansas codifies a definition of pre-AP coursework as “a middle school, junior high school, or high school level course that specifically prepares students to enroll and to participate in an advanced course.”¹⁸ Statute requires all districts to offer pre-AP courses, and to assure course quality, requires the department of education to approve all classes designated as pre-AP.¹⁹ Pre-AP teachers must attend a College Board sponsored or endorsed training institute or workshop in the teacher’s content area no less than once every five years to stay current on curriculum and program developments.²⁰

Financial incentives to support course offerings and success

Small, under-resourced and rural high schools, those schools identified by the research as least likely to offer AP courses, are also more likely to need financial support for equipment, textbooks and other start-up and ongoing costs associated with offering AP courses. Contingent upon legislative appropriations and based on criteria established by the department of education, Arkansas schools may receive a one-time equipment and instructional materials grant for providing an AP course.²¹

Meanwhile, financial bonuses for teachers whose students pass AP exams may encourage more teachers to lead AP courses – and, in turn, to encourage students to sit for the AP exam, and not just take the course. Florida adds a value of 0.16 full-time equivalent student membership for each student in each AP course who scored a three or higher on an AP exam in the prior year. Districts must allocate at least 80 percent of these funds to the high school that generates the funds. The school district must also distribute to each classroom teacher who provided AP instruction:

- A \$50 bonus for each student receiving a score of three or higher on the AP exam.
- An additional bonus of \$500 to each AP teacher in a school designated with a grade of “D” or “F” who has at least one student scoring three or higher on the AP exam, regardless of the number of classes taught or of the number of students scoring a three or higher on the exam.

Teacher bonuses may not exceed \$2,000 in any given school year, with a maximum bonus of \$3,000 permitted if at least 50 percent of the students enrolled in a teacher’s course earn a score of three or higher on the examination in a school with a grade of “A,” “B,” or “C” or if at least 25 percent of the students enrolled in a teacher’s course earn a score of three or higher on the exam in a school with a grade of “D” or “F.”²²

State support for teacher training and professional development

All the course offering mandates and exam fee waivers in the world won't impact student performance if AP teachers lack the training necessary to prepare students for success on AP exams. Arkansas' Advanced Placement Training and Incentive Program provides nationally recognized professional development for AP and pre-AP teachers to enhance their knowledge and pedagogical skills, and provides materials and resources for AP and pre-AP teachers.²³ Through the program, the Arkansas Department of Education awards grant funding to organizations affiliated with the National Math and Science Initiative. The program additionally provides AP content directors to work, mentor and make resources available to AP and pre-AP teachers in English, math and science.²⁴

In addition, all AP teachers are required by statute to obtain appropriate training. Specifically, an AP or pre-AP teacher must attend a College Board AP Summer Institute at least once every five years to stay current on curriculum and program developments.²⁵ A teacher may apply to the department of education for a subsidy of up to \$650 to cover cost of tuition, expenses and materials of approved training programs.²⁶

Vertical teams are defined in Arkansas statute as "a group of educators from different grade levels in a given discipline who work cooperatively to develop and implement a vertically aligned program aimed at helping students from diverse backgrounds acquire the academic skills necessary for success in the AP program and other challenging coursework."²⁷ Vertical teams can also support efforts to ensure students are prepared for AP and other rigorous courses. A provision that requires AP teachers to obtain appropriate training permits the training to include vertical team training.²⁸

QUALITY ASSURANCE

Accountability incentives for AP participation and success

As the axiom goes, what gets measured gets done. In addition to reporting AP exam participation rates and results disaggregated by student background as Arkansas does, some states also factor AP coursetaking and scores into measures used to grade public high schools. For example, **Indiana** evaluates high schools on a college and career readiness indicator and a graduation indicator. The college and career readiness indicator is the product of the college and career readiness achievement score and the college and career readiness participation rate score. A school's college and career readiness achievement rate is based on the percentage of students who earn a minimum of three on an AP exam, minimum of four on an IB exam, earned three college credits via a dual enrollment program or obtained an industry-recognized credential.²⁹

Similarly, Florida grades high schools on a graduation rate component and college and career acceleration component. Under the college and career acceleration component, high schools earn points for the percentage of students included as graduates in the graduation rate who earned a score making them eligible to earn college credit through AP, IB or Advanced International Certificate of Education (AICE); college credit through dual enrollment courses; or Career and Professional Education (CAPE) industry certification or a CAPE acceleration industry certification identified in the state Industry Certification Funding List.³⁰

Students required to take AP exam to earn course credit

Unlike dual enrollment, where students must complete a semester's worth of work to demonstrate mastery of the content and earn course credit (and in some instances weighted credit), states do not consistently require

students to take the AP exam to earn course (and oftentimes weighted) credit. Without taking the AP exam, there's no way of knowing whether a student has in fact thoroughly learned the rigorous AP material.

Arkansas students may earn weighted credit for an AP course only if the student takes the AP exam, and if the student's teacher has completed the required AP training, or has a temporary waiver from the training requirement.³¹

CREDIT TRANSFER

Uniform postsecondary criteria for awarding credit for AP exam scores

Students aren't able to realize the full benefits of AP, including a reduction in postsecondary tuition costs and time to degree, if upon postsecondary matriculation they are not awarded credit for minimum AP exam scores.

Some states do require all public two- and four-year institutions to award credit for AP exam scores, Illinois being the most recent addition to these states in summer 2015.³² Interestingly, Texas, which already required institutions to award credit for minimum AP scores, approved a 2015 measure that prohibits a postsecondary institution from requiring an AP score above three for course credit unless the institution's chief academic officer determines, based on evidence, that a higher score on the exam is necessary to indicate a student is sufficiently prepared for success in a more advanced course for which the lower-division course is a prerequisite.³³ The same legislation directs the Texas Higher Education Coordinating Board to conduct a study on the performance of undergraduates at institutions of higher education who receive course credit for achieving required scores on AP exams. The study must compare the academic performance, retention rates and graduation rates of students who complete a lower-division course at an institution with those of students who receive credit for that course for a score of three or higher on an AP exam, disaggregated by score.³⁴

FINAL THOUGHTS

States are seeking to improve student performance at the high school level and encourage more students to pursue postsecondary credentials. AP serves as one option for students to experience college-level expectations, reduce postsecondary expenses and time to degree by earning college credit in high school, and increase the chances of postsecondary degree completion.

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