

Drivers and barriers to offering AP CSP in Chicago Public Schools: An interview analysis

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Abstract

This report examines the factors influencing the implementation of Advanced Placement Computer Science Principles (AP CSP) across Chicago Public Schools (CPS), aiming to address inequities in advanced computer science (CS) education. While the foundational Exploring Computer Science (ECS) course is the primary course used to fulfill a districtwide graduation requirement, only about a quarter of CPS neighborhood high schools offer the next-step AP CSP course, disproportionately limiting opportunities for students who may have an interest in CS learning beyond the ECS level. Semi-structured interviews were conducted in the spring of 2025 with 21 CPS staff members (administrators, schedulers, and CS teachers) from 17 schools, revealing drivers and barriers to offering AP CSP. Key findings show that the most significant drivers of course adoption are teacher and student interest, often in combination with a school community's desire to expand advanced course offerings. Conversely, the most common barrier is the lack of a teacher on staff with the necessary capacity or availability to teach the course. Other challenges include difficulty fitting the course into the master schedule and the availability of necessary technological tools. The interviews also reveal that staff generally believe CS learning to be essential for all youth, despite the fact that persistent access issues remain; district data, for example, shows Black students are severely underrepresented among AP CSP exam takers. Responsive strategies exist for CPS and the research-practice partnership Chicago Alliance for Equity in Computer Science (CAFÉCS) to provide targeted support—such as offering additional professional development, addressing teacher capacity, and correcting policy misconceptions—to achieve equitable expansion of AP CSP across all high schools.

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1. Purpose and Rationale

Since 2016, students graduating from Chicago Public Schools (CPS) have been required to fulfill the district's computer science graduation requirement by taking at least one year of high school computer science. The second school district in the United States to enact the foundational, Los Angeles-based *Exploring Computer Science* (ECS) curriculum and professional development program, CPS now offers ECS in nearly all high schools and has consistently been able to demonstrate successful outcomes of the course's implementation. One such metric of success is the finding that taking ECS inspires students to pursue additional coursework in computer science (McGee et al., 2022). In fact, students who take both ECS and Advanced Placement Computer Science Principles (AP CSP) — frequently the next suggested course in a computer science learning pathway — are twice as likely to obtain an undergraduate degree in computer science than students who take only one of these classes (Jeffrey, 2024). Though an increase in student interest and postsecondary achievement in computer science is encouraging, the issue of equitable access to advanced computer science learning is still prevalent in CPS and precludes the possibility of *all* CPS students having the opportunity to pursue further computer science education.

While eight (73%) of the eleven selective enrollment CPS high schools currently offer AP CSP, the same is true of only about a quarter of neighborhood schools, which often serve a higher population of Black and Latinx students. Research by Ramazan and McGee (2025) also provides evidence that CPS schools with higher proportions of Latinx and economically disadvantaged students are less likely — and schools with a high proportion of Asian students are *more* likely — to have an AP CSP teacher present. It is inherently important that every CPS student, independent of race, ethnicity, or gender, ultimately has the opportunity to participate in the AP CSP course and is equitably supported in achieving success on the AP CSP exam. In order to achieve this objective, an important first step is to drastically increase the number of neighborhood schools that include AP CSP among their course offerings, thereby eliminating demographic differences between schools that do and do not offer the course. To effectively attain the goal of 75% of CPS high schools offering AP CSP in a face-to-face setting (with the additional goal of the remaining 25% of schools offering AP CSP through the district's Virtual Academy online learning hub), it is necessary to better understand the factors that contribute to school leaders' ability and willingness to implement AP CSP in their schools. This report describes the methodologies of and findings derived from a series of interviews with CPS school administrators, schedulers, and computer science teachers conducted in the spring of 2025. These interviews were designed and analyzed with the intention of identifying opportunities for targeted intervention in pursuit of increased AP CSP offerings across the district.

2. Methods

A semi-structured interview protocol was collaboratively developed by members of the Chicago Alliance for Equity in Computer Science (CAFÉCS), a research-practice partnership consisting of district representatives from the CPS Department of Computer Science, researchers

from The Learning Partnership, and university computer science educators from DePaul University, Loyola University Chicago, and the University of Illinois Chicago. The work of CAFÉCS was instrumental in the implementation of the district's computer science graduation requirement, and members continue to collectively pursue the partnership's mission of ensuring all students in Chicago participate in engaging, relevant, and rigorous computing experiences and increasing opportunities for all students to pursue computing pathways. The development of interview questions was iterative, with CAFÉCS members generating, revising, and prioritizing a protocol over a series of weekly virtual meetings. Core aims of the interviews, as agreed on by participating members, was to gain an understanding of differences in staff attitudes toward AP CSP and toward computer science and the Advanced Placement program more broadly; identifying which voices within a school community are most valued in the process of choosing which electives to offer and which students are invited to participate in these electives; and discerning opportunities for more effective district-level support of computer science learning. Consideration of interview participants' limited time was also prioritized; as such, the protocol was purposefully designed to be reasonably completed within 45 minutes. Questions in the final iteration of the protocol include "*Please describe how your school chooses elective courses to offer*" and "*What are your school's goals for computer science?*" Depending on the current implementation status of AP CSP at the participant's school, participants may have been asked "*How was the decision to offer AP CSP at your school made?*" or "*Has your school ever discussed offering AP CSP?*" The complete interview protocol — with variations depending on participant role and AP CSP implementation status - can be found in Appendix A. The research was reviewed and approved by the Solutions IRB and the CPS Research Review Board.

Initially, the CPS Department of Computer Science Access4All Program Coordinator and a member of the research team at The Learning Partnership collaboratively identified twenty-two schools to prioritize in the first round of interview recruitment outreach. Of these twenty-two schools, seven were already offering AP CSP in person, four were offering AP CSP through the Virtual Academy, and the remaining eleven were not offering AP CSP. Due to the previously discussed discrepancies in AP CSP offerings between schools of varying student demographics, as well as evidence that larger schools are likely to offer a great diversity of AP courses than smaller schools (Lee et al., 2000), care was taken to select schools widely differing in total enrollment ($M = 761.77$, $SD = 482.20$) and in percentage of Black students ($M = 41.60$, $SD = 39.02$). Multiple schools from each of the district's four high school networks were also selected, to address the possibility that bureaucratic differences in network leadership have a meaningful impact on course offerings. An additional characteristic that took precedence during the selection of schools not offering AP CSP was the presence of a teacher with at least one year of experience teaching the course, in the hope that this surprising case would provide insight on additional barriers to implementation independent of staff qualifications. By considering each of the above factors, we hoped to examine both the case of schools that align with the implementation status expected of them — to better understand how hypothesized factors such as school size, school demographics, and presence of AP CSP teachers impact each school's ability, or lack thereof, to

offer AP CSP — and schools that do not align with their expected implementation status — to identify unexpected barriers and to reveal successful implementation strategies that may be propagated across the district.

Members of the CPS Department of Computer Science high school team were surveyed regarding their existing professional relationships with administrators, schedulers, and computer science teachers at each of the identified schools; each member was provided with approved recruitment email language, which they used to communicate with the staff members they had identified an association with. This process was developed with the understanding that school-based staff may be more comfortable engaging with a research project if the details of the project are shared with them via an individual with whom they have already established trust. The Access4All Program Coordinator communicated with each remaining identified staff member with whom no other member of the team had identified a working relationship. Potential participants were assured their participation was optional and were asked to select a date and time for their interview in order to indicate their interest. Teaching staff were offered a \$50 Amazon.com gift card in exchange for their participation; all remaining staff, including administrators, were offered a gift worth \$100 for the computer science department at their schools. Once staff at each of the identified schools had received two rounds of recruitment communication, the Access4All Program Coordinator extended the invitation to staff at all remaining CPS neighborhood high schools by following the same recruitment protocol.

A total of 21 school-based staff members ultimately completed an interview (see Table 1). Each interview was conducted by the Access4All Program Coordinator. Participants were provided with the option to select either a virtual interview over Zoom or a face-to-face interview at their schools; each participant elected to participate in an interview over Zoom. Participants represented 17 schools from across CPS, 11 of which were identified during the initial school selection process described above. Of the 21 total participants, eight are administrators (seven principals and one assistant principal), seven are schedulers, and six are computer science teachers. (It is worth noting that one participant identified as both a computer science teacher and a scheduler; due to a predominant focus on the participant's perspective as a scheduler in their interview responses, this participant was coded only as a scheduler.) Seven of the participants represent schools that were already offering AP CSP in person at the time of the interview, with one additional participant representing a school that named an intention to begin offering AP CSP in person in the upcoming school year. Six participants represent schools already offering AP CSP through the Virtual Academy online learning hub, with three additional participants representing schools claiming they would begin offering AP CSP through the Virtual Academy in the upcoming school year. Finally, four participants represent schools not offering or planning to offer AP CSP either in person or virtually. Though the relatively low incidence of this latter category may be considered a limitation, the high incidence of participants from schools offering or planning to offer AP CSP through the Virtual Academy still offers key insights on barriers to offering the course in a face-to-face setting.

Table 1*Interview Participant Characteristics*

Variable	N	%
Role		
Administrator	8	38
Scheduler	7	33
Computer science teacher	6	29
School-level implementations status of AP CSP		
In person		
Offering in person	7	33
Planning to offer in person	1	5
Virtually		
Offering virtually	6	29
Planning to offer virtually	3	14
Not offering	4	19

3. Results

Interviews were audio-recorded and transcribed using artificial intelligence software from Rev.com, then checked for accuracy by the Access4All Program Coordinator. The Access4All Program Coordinator, consulting on a regular basis with a member of the research team at The Learning Partnership, utilized the qualitative data analysis software Dedoose to conduct an iterative coding process. Emergent themes were identified through a primary round of inductive coding, while additional rounds allowed for the refining of these high-level codes, as well as the identification and categorization of sub-codes. Code grids were then analyzed by descriptor field (i.e., AP CSP implementation status, participant role, and AP CSP teacher presence) to identify potential interactions. A total of 440 excerpts were coded using six root themes and a grand total of 148 codes, including sub-codes. Key findings, organized by interview question, are summarized below. Each section is accompanied by a visualization of the relevant findings.

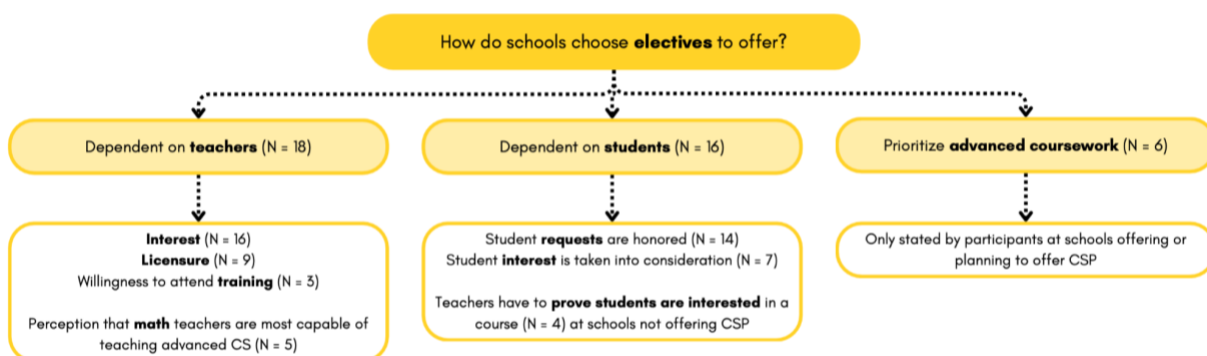
3.1 How do schools choose electives to offer, broadly, and what can this tell us about offering AP CSP?

Elective selection appears to be generally dependent on teachers (N = 18). Participants indicate that electives are more likely to be chosen for consideration when teachers express interest (N = 16) in offering a new course; have the appropriate licensure (N = 9) and availability in their schedule (N = 8) to do so; or are expressly amenable to attending any training (N = 3) that may be needed to administer the proposed course. It is worth noting that CPS offers specialized training for AP CSP and teachers are expected to attend the training the summer prior to the school year during which they teach AP CSP for the first time. Additionally, though math licensure is not required by the district in order to teach AP CSP, there exists a perception among participants that teachers of mathematics are better prepared to teach advanced computer science than teachers of other subjects (N = 5). As such, it can be reasonably concluded that considerations of licensure and participation in training are particularly pertinent to the question of whether or not to begin offering AP CSP.

Student indication of interest (N = 16) also appears to be valued in the elective selection process, though not quite to the same extent as that of teachers. Most participants explicitly state that student requests regarding the addition of particular courses are usually honored (N = 14); others explain that student interest is taken into consideration (N = 7), in combination with additional factors, before school leaders decide whether or not to offer an elective course. Some school leaders place the burden of proof on teachers, requiring any teacher who proposes the introduction of a new elective to gather and present evidence of student commitment to the subject matter (N = 4); such a process is expressed only by participants from schools that do not offer or currently intend to offer AP CSP. A combination of both teacher and student interest, then, may create the most favorable conditions for offering AP CSP. However, a prioritization of advanced coursework also appears to be an important factor: six participants, all of whom work at schools that already offer or plan to offer AP CSP, explicitly state that their school communities prioritize offering a range of advanced courses.

Figure 1

How do schools choose electives to offer?



3.2 How might staff attitudes towards AP in general and attitudes toward CS impact whether or not a school offers AP CSP?

Participants, regardless of their role, commonly find Advanced Placement courses to be challenging and rigorous (N = 13). This is particularly true of participants at schools that offer or plan to offer AP CSP (N = 11), either in person or through the Virtual Academy, suggesting that this high level of challenge is perceived positively. While it is unclear whether participants already held this perception prior to their schools offering AP CSP, such a co-occurrence suggests that it may be helpful to highlight the significant level of rigor in AP CSP when advertising the course. Indeed, some participants at schools that do not offer AP CSP explicitly prefer the International Baccalaureate (IB) program to Advanced Placement coursework (N = 4) precisely because they perceive IB to be more demanding than AP (N = 2) or because they believe the project-based learning components of IB courses require a higher order of critical thinking skills (N = 2) than are expected of students taking AP exams. This trend suggests that further consideration is needed regarding the district's perception and support of IB computer science as a suitable advanced coursework option. Additionally, school-based staff may not be familiar with the unique structure of the AP CSP course, the scoring of which consists of the traditional AP exam portion *in addition to* a student-created project, which is completed over the course of nine class hours. It is possible that this information regarding the course may make AP CSP more attractive to proponents of the IB format. In fact, ten of the district's twenty-two designated IB high schools do currently offer AP CSP either in person or virtually, providing strong evidence that the two programs are not necessarily mutually exclusive.

With respect to computer science more broadly, over half of participants believe that computer science learning is essential (N = 13) in the digital era: some participants state that computer science exposure is generally important (N = 10), while others mention that computer science is an integral part of our daily lives (N = 7) as a society. This finding is encouraging; with the presence of ECS in almost all CPS high schools, however, the perception of computer science as necessary may not be particularly useful in thinking about expanding access to AP CSP, specifically. Approximately half of participants also believe computer science provides important post-secondary preparation (N = 10), a hallmark of the Advanced Placement program. Because nearly all such responses come from staff at schools that already offer or plan to offer AP CSP (N = 9), highlighting the evidence of impact of AP CSP on post-secondary success is potentially instrumental to expanding access to this course.

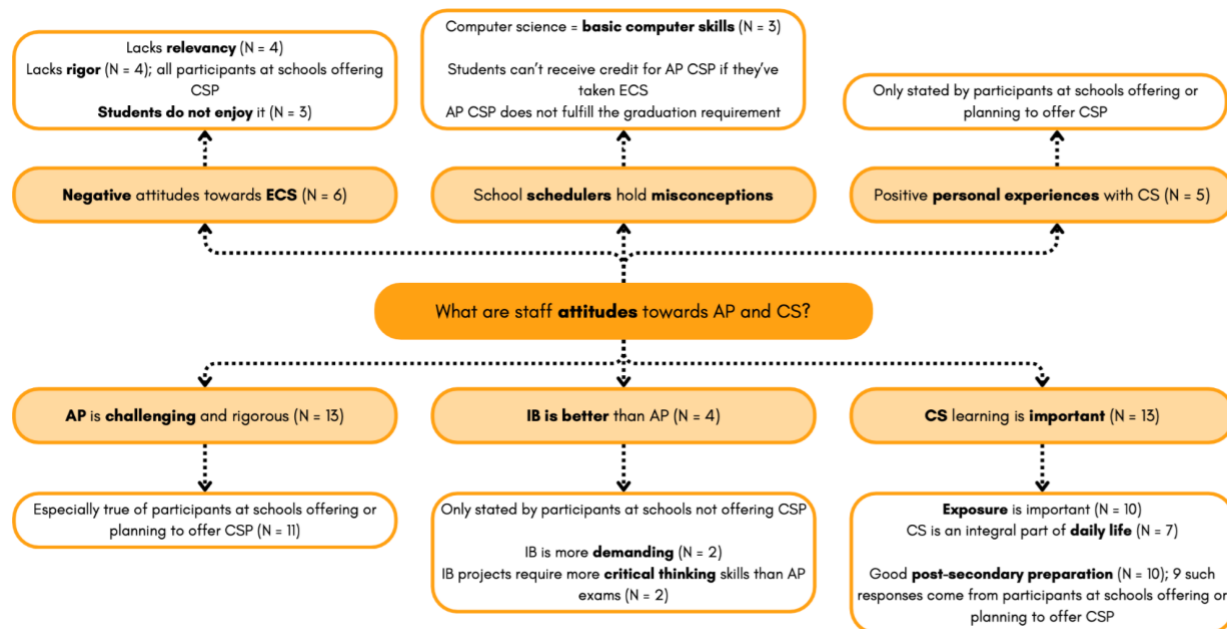
Interviews also reveal some negative attitudes towards ECS (N = 6) among participants in all roles. In particular, participants believe ECS lacks relevancy (N = 4) or rigor (N = 4) or that students do not enjoy taking ECS (N = 3). These attitudes are important to consider, as it is possible that negative staff perceptions of ECS may hinder the implementation of an additional computer science course, regardless of evidence that CPS students actually tend to enjoy ECS more than they enjoy any other computer science class (McGee et al., 2018; McGee et al., 2022) and that ECS provides a foundation for success on the AP CS A exam (Boda & McGee, 2021).

However, it is also possible that the opposite is true: only participants from schools that already offer or plan to offer AP CSP explicitly state that ECS lacks rigor, implying that it may be precisely this perceived lack of rigor that encouraged these participants to seek out a more advanced computer science course option for their students. Indeed, two participants indicate that they personally believe AP CSP to be more interesting and challenging than ECS. Regarding this latter point, it is important to note that caution should be exercised when placing students directly into AP CSP before these students have first taken ECS; besides aforementioned research indicating participation in both courses is more likely to result in the obtainment of an undergraduate degree in computer science, evidence from Blazquez and McGee (2023) also suggests that CPS students who are automatically placed in AP CSP without choosing to take the class may actually feel discouraged from pursuing further computer science learning.

It may be particularly helpful to develop professional learning for school schedulers regarding what computer science learning is and how it works in CPS. Such targeted intervention may help shift the attitudes of schedulers, who play a significant role in the elective selection process. For example, 43% of participating school schedulers ($N = 3$) synonymize computer science with basic computer literacy skills, as compared to only 13% of participating administrators ($N = 1$) and 17% of teachers ($N = 1$). School schedulers may also be most likely to hold misconceptions about computer science policy in CPS. Two school schedulers (29%) share such misconceptions, as opposed to one administrator (13%) and zero teachers. These mistaken beliefs include that students cannot receive course credit for AP CSP if they have already taken ECS; that the implementation of the computer science graduation requirement means computer science no longer needs prioritization within the district; and that taking AP CSP does not fulfill the graduation requirement. It may also be effective to survey school-based staff about their own experiences with computer science and encourage staff with positive experiences to advocate for advanced computer science coursework at their schools: of the five participants who reflect fondly on their own computer science learning in their interviews, all work at schools that already offer or plan to offer AP CSP.

Figure 2

What are staff attitudes towards AP and CS?



3.3 How do schools decide whether or not to offer AP CSP?

Reflecting the general elective selection process described above, when asked to identify reasons for offering AP CSP, participants across role types name an explicit student or teacher interest in AP CSP (N = 8) as particularly important. Some participants indicate that students had requested that the course be offered (N = 4); another common response — though only among participants at schools offering or planning to offer AP CSP in person — is that a teacher had volunteered to teach the course (N = 5). These findings suggest that there may be more value in communicating the benefits of AP CSP to students and teachers, as opposed to communicating these benefits directly to administrators: administrators may be more likely to agree to offer the course if the request is made by their own staff and students. It is worth noting that Equal Opportunity Schools (EOS) surveys are commonly mentioned (N = 6) as a medium for observing student interest. EOS is a national program that seeks to increase participation in advanced coursework by synthesizing student performance data with student survey data (e.g., career aspirations, learning styles) to provide schools with suggestions regarding which students may be best prepared to take advanced courses (Equal Opportunity Schools, 2024). Currently, EOS partners with forty-five CPS schools; the relatively high incidence of participant responses regarding EOS indicate that schools partaking in this partnership may be particularly amenable to conversations about offering AP CSP, if they do not do so already. The ECS post assessment includes survey questions about student interest in additional CS coursework after ECS, which schools can use to gauge interest in adding AP CSP.

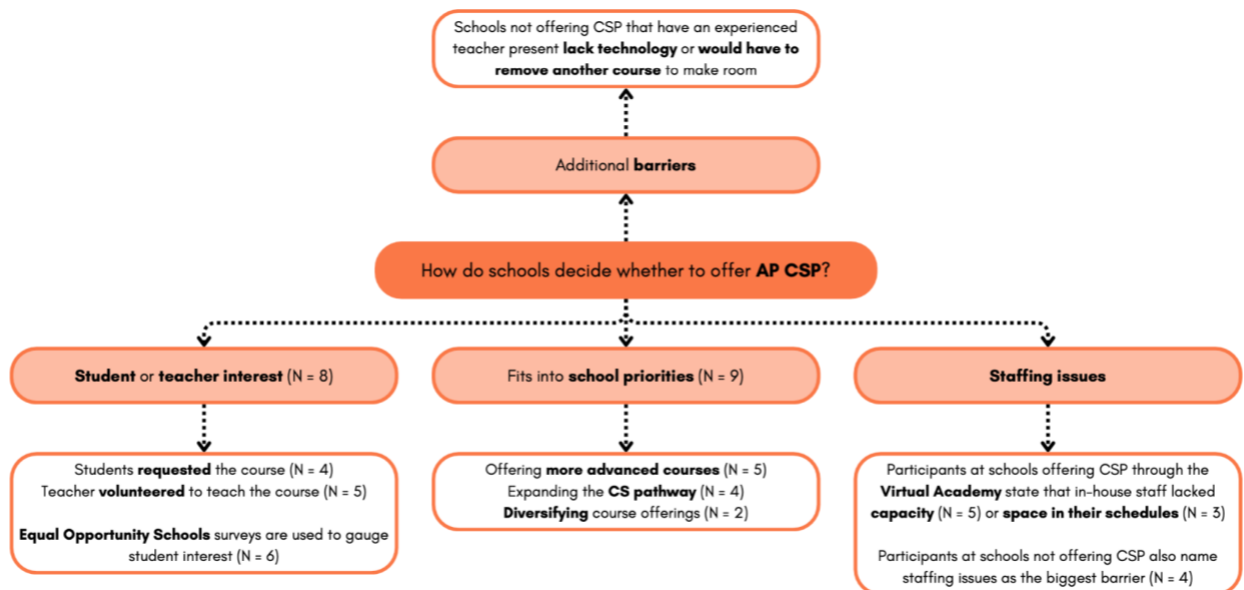
Many participants are also able to name the merit of AP CSP as fitting into the grander

scheme of their school's desired course offerings (N = 9). More specifically, participants, speaking on behalf of their school communities, emphasize offering more advanced courses (N = 5), expanding the computer science pathway (N = 4), or generally diversifying the school's elective offerings (N = 2). As such, it may be important to closely examine a school's course schedule prior to initiating communication efforts; doing so may prepare district leaders to more effectively convey the value of AP CSP as a course that reflects the priorities of the school or else fills a particular gap in its present offerings.

Unsurprisingly, when asked why a school community had decided to offer AP CSP through the Virtual Academy online learning hub rather than in person, the most common response is, overwhelmingly, the inability to offer the course in person (N = 8). Participants name a lack of in-house staff with the capacity to teach the course (N = 5) or reflect on the difficulty of finding space for the course in the school's overall schedule (N = 3). Responses imply that schools may elect to offer AP CSP through the Virtual Academy only as an alternative solution, when they are unable to do so in a face-to-face setting. Similarly, among schools that do not currently staff a teacher with experience teaching AP CSP, staffing issues (N = 4) are the most commonly mentioned barrier to offering AP CSP. Two participants indicate that staff lack the credentials perceived as necessary to teach the course, whereas three participants claim that staff do not have adequate space in their schedules to take on the preparation of an additional course. As such, there appears to be a need to provide more district-level support for teachers considering teaching AP CSP for the first time, as well as a need to explore alternative opportunities to take AP CSP outside of traditional school hours for students who may be interested in doing so. As expected, among schools that *do* currently staff a teacher with AP CSP teaching experience, barriers other than staffing issues are more likely to be mentioned. Responses among participants at such schools include a lack of access to the proper technology (N = 1) needed to administer the course and the idea of a "zero-sum game," or the suggestion that another course would have to be removed from the school's schedule (N = 1) in order to accommodate a new section of AP CSP.

Figure 3

How do schools decide whether to offer AP CSP?



3.4 Even if a school does offer AP CSP, do all students at that school have access to the course?

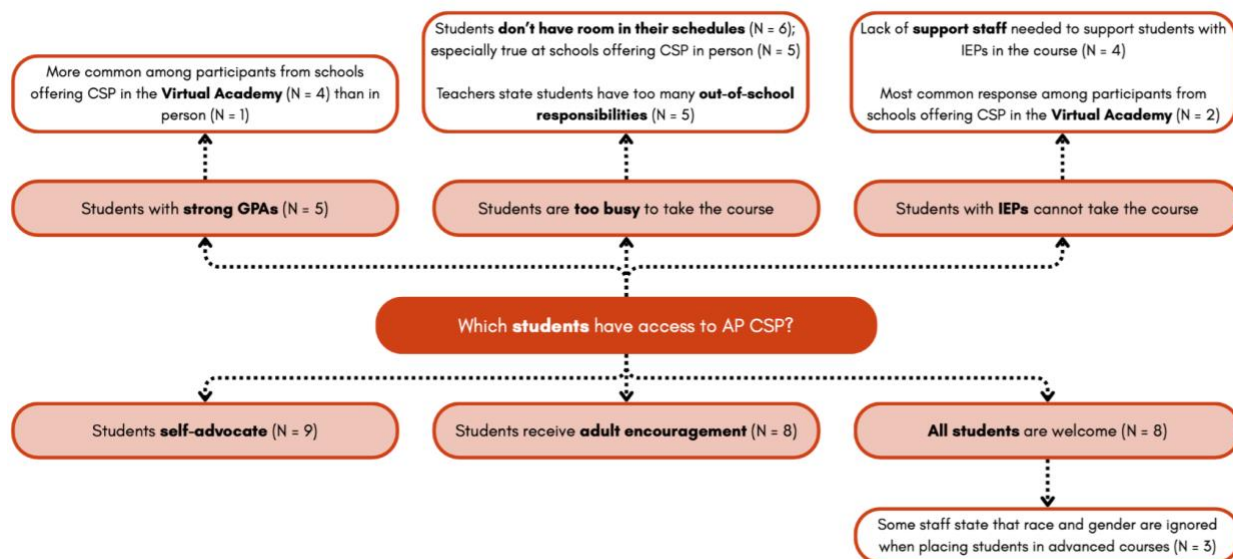
Though the primary aim of the interview protocol's design was to explore why a school may or may not elect to offer AP CSP, it is also critical to examine whether all students of a school offering AP CSP have equitable opportunity to participate in the course. When asked how any student may have come to be placed in a section of AP CSP, the two most common responses are that the student practiced self-advocacy and expressed interest in taking the course (N = 9) or that the student was encouraged by an adult to attempt the course (N = 8). Some participants (N = 8) clearly state that *every* student is always welcome to take the course. The finding that adult encouragement may be a significant factor affecting whether or not a student takes AP CSP indicates that it may be important to give further consideration to which groups of students are or are not receiving this encouragement. This is particularly pertinent because, while participants may believe that all students are welcome to take the course, district data provides evidence that Black students participate in AP CSP at disproportionately lower levels than other demographic groups. In the 2024-2025 school year, for example, Black students made up 35.8% of the district's student population, but only 12.5% of AP CSP exam takers identified as Black. The district may therefore consider seeking students' perspectives regarding their experiences of adult encouragement or lack thereof. It is also necessary to note that three participants, all of whom work at schools that offer or plan to offer AP CSP in person, indicate that race and gender are expressly ignored during the process of placing students in advanced courses. This attitude of color-blind ideology, regardless of intention, is harmful because the claim that racial discrimination is a thing of the past and therefore need not be considered implicitly places the

blame on people of color for their own persisting lack of opportunity (Bonilla-Silva, 2006); district leaders, when coaching best practices, may consider intentionally supporting staff through reflection on and unlearning of this bias.

Participants from schools offering or planning to offer AP CSP through the Virtual Academy are more likely to name student overall academic performance as a factor impacting whether or not a student is placed in AP CSP (N = 4; 44%) than participants from schools offering or planning to offer the course in person (N = 1; 13%). This finding is supported by the district's suggestions regarding which students should be placed in the virtual sections of the course; these communications — which similarly emphasize that students with a historically strong GPA should be prioritized — are based on the perception that successful academic performance is more difficult to attain in a virtual environment than in a physical classroom. In response to the question of barriers to any particular student being placed in AP CSP, however, the single most common conflict named is the inflexibility of course scheduling (N = 6); this is particularly true of participants from schools that offer or plan to offer AP CSP in person (N = 5). Considering the concept of time constraints more broadly, another factor named is the difficulty of balancing the demanding nature of AP coursework with out-of-school responsibilities, such as a job or the care of young or elderly family members. This concern is addressed only by classroom teachers, who may have more opportunity to develop relationships of trust with students and therefore may be more privy to such conversations. Finally, participants share that a student with an Individualized Education Plan (IEP) may sometimes be barred from participating in AP CSP due to a lack of necessary support staff (N = 4) as mandated by the IEP. This is, in fact, the most frequently cited barrier among participants from schools that offer or plan to offer AP CSP through the Virtual Academy (N = 2), suggesting that students with disabilities who attend schools unable to offer AP CSP in person may be among the furthest from opportunity.

Figure 4

Which students have access to AP CSP?

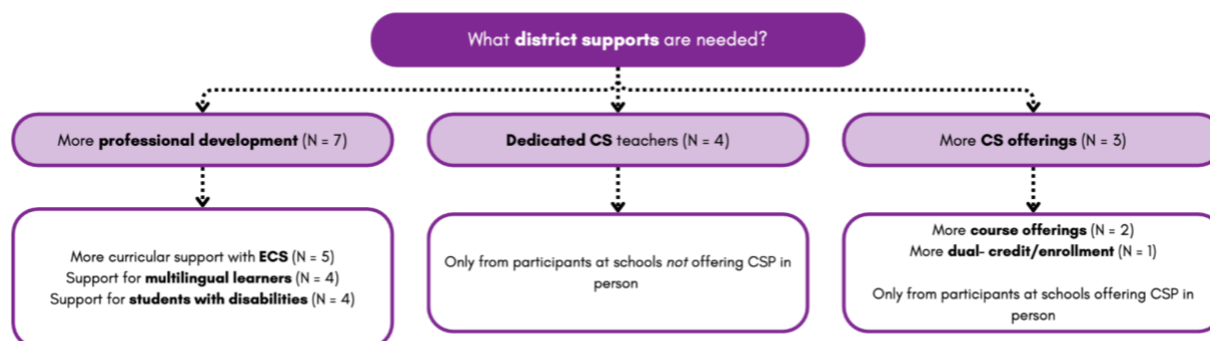


3.5 How else can the district better support computer science learning?

In the interest of generating the most favorable conditions for expanding access to AP CSP across the district, it is worth briefly noting a few additional opportunities for district support as suggested by interview participants. Most commonly, participants indicate the need for more professional development, training, and mentorship opportunities in computer science teaching (N = 7). Specific professional learning needs, all of which are mentioned by participants across all implementation statuses, include more curricular support in ECS (N = 5), support for multilingual learners (N = 4), and support for students with disabilities (N = 4). Participants from schools that do not offer or plan to offer AP CSP in person tend to express a desire for the hiring of a dedicated computer science teacher at their schools (N = 4). The fact that this response is not found among any participants from schools that *do* offer AP CSP in person suggests that having a dedicated computer science teacher (i.e., a teacher who teaches only computer science) may be a predictive factor of a school offering AP CSP; this hypothesis warrants further analysis. Only participants from schools that already offer AP CSP in person request additional computer science course offerings (N = 2) or dual- credit and enrollment options (N = 1), supporting the idea that AP CSP is a natural first step in expanding the computer science pathway beyond ECS.

Figure 5

What district supports are needed?



4. Conclusion

This report explored how interview participants from across Chicago Public Schools (CPS) — including school administrators, schedulers, and computer science teachers — reflect on their own attitudes, and the attitudes of their school communities, towards computer science learning and consider the factors that influence how their schools have or have not chosen to offer Advanced Placement Computer Science Principles (AP CSP). Interview analysis reveals that key reasons to begin offering AP CSP include the prevalence of teacher and student interest, particularly in confluence with each other, and a desire to generally increase access to advanced coursework. The most commonly cited barrier to offering AP CSP is the lack of a teacher on staff with the necessary expertise or availability. Less common barriers — as described by participants at schools that do not offer AP CSP despite the notable presence of a teacher experienced in administering the course — include lack of access to the proper technology and the perception that adding a new course would necessitate removing a course already being offered. The dedicated work of CAFÉCS and CPS district leadership has already resulted in the implementation of a districtwide high school computer science graduation requirement, an achievement that should be celebrated. Further work is needed, however, to expand the computer science learning pathway beyond the foundational ECS course, the exigency of which is demonstrated by the fact that only about a quarter of CPS neighborhood high schools currently offer AP CSP. By closely examining the results of the interviews analyzed in this report, CPS district leadership and the CAFÉCS partnership can develop informed, actionable strategies to effectively and responsively address this inequity and expand access to AP CSP to all students across the district.

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7. Appendix A

7.1 Interview protocol for administrators and computer science teachers at schools that offer AP CSP in person

1. Please describe how [school] chooses elective courses to offer.
 - a. Are some elective courses (e.g., AP, computer science) selected in different ways?
 - b. Do students have a role (e.g., interest, performance data) in elective course selection?
 - c. What is your role in elective course selection?
 - d. (*Administrators only*) What does the decision-making process look like when assigning courses to teachers?
2. What are [school]'s goals for computer science?
 - a. Do you believe computer science to be an essential subject?
3. How was the decision to offer AP CSP at [school] made?
 - a. What factors were considered?
 - b. Who (e.g., students, staff) had input into the process?
4. How do you perceive the level of challenge in AP courses?
 - a. In AP computer science, specifically?
5. What strategies are used to encourage underrepresented groups to enroll in computer science courses?
 - a. Are there any barriers that limit student participation in AP CSP or other computer science courses (e.g., finances, academic preparedness, scheduling)?
 - b. How does [school] address these barriers?
6. What do you need to effectively support computer science education at [school]?

7.2 Interview protocol for school schedulers at schools that offer AP CSP in person

1. Please describe how [school] chooses elective courses to offer.
 - a. Are some elective courses (e.g., AP, computer science) selected in different ways?
 - b. Do students have a role (e.g., interest, performance data) in elective course selection?
 - c. What is your role in elective course selection?
2. What are [school]'s goals for computer science?
 - a. Do you believe computer science to be an essential subject?
3. How was the decision to offer AP CSP at [school] made?
 - a. What factors were considered?
 - b. Who (e.g., students, staff) had input into the process?

4. How do you perceive the level of challenge in AP courses?
 - a. In AP computer science, specifically?
5. What factors contribute to scheduling particular students for sections of a course (e.g., finances, academic preparedness, scheduling)?
 - a. What strategies are used to encourage underrepresented groups to enroll in computer science courses?
6. What do you need to effectively support computer science education at [school]?

7.3 Interview protocol for administrators and computer science teachers at schools that offer AP CSP through the Virtual Academy online learning hub

1. Please describe how [school] chooses elective courses to offer.
 - a. Are some elective courses (e.g., AP, computer science) selected in different ways?
 - b. Do students have a role (e.g., interest, performance data) in elective course selection?
 - c. What is your role in elective course selection?
 - d. (*Administrators only*) What does the decision-making process look like when assigning courses to teachers?
2. What are [school]’s goals for computer science?
 - a. Do you believe computer science to be an essential subject?
3. How was the decision made to offer AP CSP through the Virtual Academy?
 - a. What factors were considered?
 - b. Who (e.g., students, staff) had input into the process?
 - c. Has [school] ever discussed offering AP CSP in person instead?
 - i. Why hasn’t it been selected?
 - ii. What can we do as a district to support you in implementing it?
4. How do you perceive the level of challenge in AP courses?
 - a. In AP computer science, specifically?
5. What strategies are used to encourage underrepresented groups to enroll in computer science courses?
 - a. Are there any barriers that limit student participation in AP CSP or other computer science courses (e.g., finances, academic preparedness, scheduling)?
 - b. How does [school] address these barriers?
6. What do you need to effectively support computer science education at [school]?

7.4 Interview protocol for school schedulers at schools that offer AP CSP through the Virtual Academy online learning hub

1. Please describe how [school] chooses elective courses to offer.

- a. Are some elective courses (e.g., AP, computer science) selected in different ways?
 - b. Do students have a role (e.g., interest, performance data) in elective course selection?
 - c. What is your role in elective course selection?
2. What are [school]'s goals for computer science?
 - a. Do you believe computer science to be an essential subject?
3. How was the decision made to offer AP CSP through the Virtual Academy?
 - a. What factors were considered?
 - b. Who (e.g., students, staff) had input into the process?
 - c. Has [school] ever discussed offering AP CSP in person instead?
 - i. Why hasn't it been selected?
 - ii. What can we do as a district to support you in implementing it?
4. How do you perceive the level of challenge in AP courses?
 - a. In AP computer science, specifically?
5. What factors contribute to scheduling particular students for sections of a course (e.g., finances, academic preparedness, scheduling)?
 - a. What strategies are used to encourage underrepresented groups to enroll in computer science courses?
6. What do you need to effectively support computer science education at [school]?

7.5 Interview protocol for administrators and computer science teachers at schools that do not offer AP CSP

1. Please describe how [school] chooses elective courses to offer.
 - a. Are some elective courses (e.g., AP, computer science) selected in different ways?
 - b. Do students have a role (e.g., interest, performance data) in elective course selection?
 - c. What is your role in elective course selection?
 - d. (*Administrators only*) What does the decision-making process look like when assigning courses to teachers?
2. What are [school]'s goals for computer science?
 - a. Do you believe computer science to be an essential subject?
3. Has [school] ever discussed offering AP CSP?
 - a. What was this conversation like?
 - b. Why hasn't AP CSP been selected?
 - c. What other types of AP classes has [school] considered offering?
 - d. What can we do as a district to support you in implementing programs like AP CSP?

4. How do you perceive the level of challenge in AP courses?
 - a. In AP computer science, specifically?
5. What strategies are used to encourage underrepresented groups to enroll in computer science courses?
 - a. Are there any barriers that limit student participation in computer science courses (e.g., finances, academic preparedness, scheduling)?
 - b. How does [school] address these barriers?
6. What do you need to effectively support computer science education at [school]?

7.6 Interview protocol for school schedulers at schools that do not offer AP CSP

1. Please describe how [school] chooses elective courses to offer.
 - a. Are some elective courses (e.g., AP, computer science) selected in different ways?
 - b. Do students have a role (e.g., interest, performance data) in elective course selection?
 - c. What is your role in elective course selection?
2. What are [school]'s goals for computer science?
 - a. Do you believe computer science to be an essential subject?
3. Has [school] ever discussed offering AP CSP?
 - a. What was this conversation like?
 - b. Why hasn't AP CSP been selected?
 - c. What other types of AP classes has [school] considered offering?
 - d. What can we do as a district to support you in implementing programs like AP CSP?
4. How do you perceive the level of challenge in AP courses?
 - a. In AP computer science, specifically?
5. What factors contribute to scheduling particular students for sections of a course (e.g., finances, academic preparedness, scheduling)?
 - a. What strategies are used to encourage underrepresented groups to enroll in computer science courses?
6. What do you need to effectively support computer science education at [school]?