[BASICS]

When looking for ways to support the implementation and growth of K-12 computer science education programs, who better to help identify useful ways to engage with schools than school and district leaders themselves? Over the course of two years, we spoke with 10 school leaders and six district leaders in two school districts using the Exploring Computer Science (ECS) high school CS materials and asked them:

"What would you tell organizations and universities that want to partner with you around computer science education that they need to know to work effectively with you?"

This guide, or checklist, captures their advice. We gratefully acknowledge that the format is modeled after the "tip sheets" found at csteachingtips.org (a handy resource that school leaders can share with their computer science teachers).

[1] **Have a genuine desire to give back and provide needed support**
"They should have a desire to give back, first and foremost."

[2] **Understand that each school community is unique**
"It's important for partners to know every public school is different. Teenagers are teenagers, but different schools have different populations, and students have different needs."

[3] **Identify the key decision-makers to approach about a partnership**
Potential partners need to connect *"with the right people in the district…there [are] a lot of rules and regulations around trying to be a partner. It can take a very long time."*

[4] **Visit a school to discuss partnership opportunities in support of the school's mission**
"Lots of times partners come in and say, 'We want to do X,' and it doesn't really fit in with the mission of the school. You end up having a… school that has programs that aren't aligned."

[5] **Take time to establish the relationship and identify shared goals**
"For any partnership to be meaningful, the goals have to be a shared belief."

[6] **Be patient and flexible – school culture is different from business/industry culture**
"…be patient…not only patient with the system but also understand there needs to be a lot of patience with children."

[7] **Respect educator expertise**
"There's stuff they can do, and then there's stuff that they need to leave us to do."

[8] **Treat students like desirable future colleagues**
"They should have a desire to see the kinds of students we service working in their businesses or being a part of their professional communities."

[9] **Follow through on your commitment**
"The follow-through is sometimes not there."

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Further Information…

[1] **Have a genuine desire to give back and provide needed support**
Potential partners must be invested in enhancing student and/or teacher experiences and opportunities in CS, particularly in the areas where the school identifies needed support. One district leader explained that it is crucial for a potential partner to listen to the school and in collaboration with school personnel, "…*identify what the needs are to be supportive. I think a lot of partners come in and say, 'we can do this' [but] that's not really what the school needs.*"

[2] **Understand that each school community is unique**
The same partnership plan and approach will not work for all schools: "*One thought does not necessarily fit all. If you have [a] framework and you also have the flexibility to divert from the framework where it makes sense for individual school to tailor the curriculum based on the needs of the students in the building, you're going to be ok.*" One school leader emphasized the importance of potential partners knowing and responding to the unique population of students in each school, saying it's important, "*…that any partner knows our student population. Being in a [big] school system, there are these assumptions [about] students about what they can [and can't] do.*" It's also important to consider the school schedule as "*a fifty-minute class could be too much or might not be enough*" for partnership activities.

[3] **Identify the key decision-makers to approach about a partnership**
Know who you should contact to begin a conversation about ways to support a single school, multiple schools, or the district as a whole. "*Understanding where that focus of control lies is going to be important.*" As you approach these decision-makers with your idea, be cognizant of the reality that schools and districts are often involved in multiple initiatives and partnerships (not just yours).

[4] **Visit a school to discuss partnership opportunities in support of the school's mission**
Visit a school to learn about their mission. Request to talk to school personnel and "*listen to the kids - engage kids in that conversation.*" One school leader said that in partnership development, it's often "*getting people to understand how the tail can't wag the dog*" as the school's mission, nested within the larger district's mission, is what drives their work.

[5] **Take time to establish the relationship and identify shared goals**
Don't underestimate the importance of establishing a solid relationship to ground the partnership. In the words of one school leader, "*I think [with] any kind of partnership, both partners [have] to know each other very well before they fully commit.*" Once that foundation is created, "*be clear [about] what your goal is in regards to what type of help you want to provide….and what you're looking to benefit.*" This clarity will help ease concerns from education personnel who may be weary of potential partners who are "*just looking to [say] 'okay, we gave to this poor section of students. Let's put it on the news so we look good.'*"

[6] Be patient and flexible – school culture is different from business/industry culture

"Schools function very differently than private industry. There [are] a lot of different channels." Another school leader said patience is critical because *"things move very slowly…Sometimes getting things done is trial and error."* Leaders see flexibility as an important key to a balanced partnership: *"As much as they want us to be flexible with them, they need to be flexible with us."*

[7] Respect educator expertise

Develop an understanding of each partner's area of expertise and how the one will enhance the other to meet the defined partnership goals. Defer to school personnel when it comes to decision-making about the types of partnership activities that are compatible with the class curriculum and their particular student population. In the words of one district leader, *"Sometimes it's hard for people who may not work in the school a lot or coming from a different background to understand. They would say 'this is what I would do.'"*

[8] Treat students like desirable future colleagues

Some students will want to continue pursuing computing at the university level, but many will lack the necessary funding for their continued education. One district leader suggested a type of partnership support to address this challenge could come in the form of scholarship funds to *"get qualified kids into schools, into these wonderful computer science programs, funded. If they do the hard work [to] support them [entering] the industry."* Consider these students as future employees and invest in their training.

[9] Follow through on your commitment

Be explicit about your expectations for the duration of the partnership and your involvement during that time, and commit to following through with that shared plan. One school leader advised potential partners to *"figure out to what extend [you] are willing to commit for the challenges that will come in the future. Do you just want to be there at present [to] provide a short-term solution or [be there] long-term [to provide] greater impact for th[e] school and school community?"* Stay involved with a school to increase the potential for impact.

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ABOUT THE BASICS STUDY:

The Barriers and Supports to Implementing Computer Science (BASICS) study is a three-year exploratory research project funded by the National Science Foundation (#1339256) as part of the CS10K program – an ambitious effort to have 10,000 well-trained computer science (CS) teachers in 10,000 schools. The BASICS study seeks to contribute to this effort in part by informing policy, school, and stakeholder leaders about the supports and barriers to wide-scale introductory CS education in high schools and strategies for addressing them. It is important to note that BASICS is not, in any way, an evaluation of ECS. Rather, the BASICS study focused on the ECS curriculum as an example because it is widely used to teach introductory high school CS.