K-12
BLUEPRINT
A planning resource for personalizing learning

One-to-One Computing

Making the Right Decisions for Your School District

As laptops, smartphones, and tablets become more available and cost-effective, one-to-one computing is becoming a more viable option for many school districts. The success of one-to-one computing depends on several issues that must be addressed through research and policy considerations.

1. Vision

All significant changes in the educational system grow from a shared vision that focuses on student learning and improved instruction. A shared vision provides a focus for all decisions related to technology initiatives and begins the process of buy-in by administration, faculty, staff, parents, community members, and students, an especially important factor when spending money on new technology?

- How are stakeholders involved in developing a shared vision for the use of technology in the district.

- How can one-to-one technology support the district's mission?

- Can one—to-one computing add value to the School Improvement Plan?

2. Technology and Instruction

A one-to-one computing environment has a positive effect on student learning when the device puts students more in control of their own learning through the application of learning to projects. If providing computers to all students merely enhances traditional teaching methods that focus on passive consumption of information and memorization, the expense is not likely to realize the expected benefits. For this reason, professional development is a key component, perhaps the most important component, in a one-to-one initiative.

- Do school administrators and influential teachers embrace the role technology can play in transforming instruction to methods that emphasize student activity rather than teacher performance?

- Are there influential teachers actively opposed to one-to-one computing and/or student-centered teaching methods? What methods might work to persuade them of its value?

- Can current professional development programs be adapted to address one-to-one computing?

- How technologically literate are teachers? Will they need technology-specific training?

- What evidence can you collect about teachers' attitudes about and practice with technology?

- Can leaders in technology, including teachers and parents, visit schools with different types of programs?

3. One-to-One Approach

If the technology leadership in your district makes a decision to implement a one-to-one computer program, they have three options, each with different advantages and disadvantages.

- Will all students receive their own free laptop from the school district?

- Will mobile computer labs be created with one laptop for each student?

- Will the school support BYOD (Bring Your Own Device or BYOT, Bring Your Own Technology)?

Research can guide your technology committee in choosing the right option for your students.

- How much money can be spent on technology and infrastructure purchases?

- What kind of technology access do students have outside of school?

- What is the attitude of the stakeholders toward one-to-one computing? Is it something that the community is enthusiastic about?

- What local agencies, business, and foundations might support different aspects of a program?

4. Funding

Paying for a one-to-one program is often the primary concern of school districts looking to enhance integration of educational technology. Certainly, funding is the essential component, without which, the program cannot exist, and funding sources should be explored throughout the planning process. Focusing on funding before other considerations, however, can cause problems if expenditures do not align with firmly established goals. Federal, state, and foundation grants are available for technology grants, as are special deals with various computer manufacturers. Some districts hold bond elections specifically for technology purchases or that include technology. Technology and financial specialists are usually equipped to make recommendations to a technology leadership committee about technology purchases. One-to-one programs require consideration of issues beyond the purchase of computers, however.

- What kind of released time will be available for professional development for teachers and staff who work with students?

- What upgrades will need to be made to a district or school's technology infrastructure? How much and what kind of additional use will the network experience?

- How will the technology program be sustainable?

- Will more technology specialists need to be hired to deal with both technical and instructional issues?

- Do any computer packages include free or low-cost professional development? What can you learn about the quality of the training? Does it address only technology literacy or is it based in a theory of teaching and learning compatible with the district's mission?

- Is home broadband access part of the one-to-one plan? How can that be facilitated?

- If home broadband is not part of the plan, what accommodations can be made to support students' computer use outside of school hours?

5. Implementation Timeline

Few districts have the funds, or even the desire, to supply all students in grades K-12 with computers at the same time. Policymakers must make decisions about who will have access to individual computers and when they will receive them.

- Will the one-to-one program begin with older students who are likely to already be using computers with ease and who can serve as a model for younger children?

- Should younger students use individual computers first so they can go through their education familiar with the devices and how they are used?

- What segment of the study body would be best to use for a pilot program that could test processes and policies before a more broad-based implementation?

- Is the intention to eventually give all student access to computers or will some grade levels, such as primary grades, still rely on a limited number of devices? How will the plan roll out?

- Will all grade levels use the same devices or will some need full-blown laptops while others may use less powerful devices, such as tablets?

6. Legal Compliance

Federal and state legislatures and other agencies are attempting to address issues that arise with the use of educational technology. These regulations often lag behind current technology, but, nevertheless, remain a significant consideration when planning and implementing one-to-one computing programs.

- How will your district address the Child Internet Protection Act (CIPA)?

- How will you balance filtering, privacy concerns, and free speech?

- Can one-to-one computers address accessibility concerns? How can that best be implemented?

7. Computer Regulations

Providing each student in a school or grade level may be the simplest, although not the least expensive, method of implementing a one-to-one program. There are several advantages to this approach. For example, when students have the same computer, technical support is more streamlined and teachers can plan for specific applications and processes. These same advantages apply to programs where students receive their own laptop and those where carts with a laptop for every student can be checked out for classroom use. On the other hand, many students have their own laptops, tablets, or smartphones, that can be used for educational purposes.

- If students receive school laptops, will they take them home every night? If not, will they be able to check them out for special projects?

- Will students keep the same computer throughout their schooling?

- How will school-provided computers be transported between home and school? What kind of case will they be given? Will students be required to use the provided case?

- Will parents pay insurance for laptops? What will the insurance cover? Will it be issued by the district or by a private company? How much will it cost?

- Will students be allowed to put programs on school computers? If so, what will the requirements be?

- Will all types of personal devices be allowed in a BYOD program? Will there be minimum requirements?

- In a BYOD environment, how will teachers be trained to work with different types of devices?

- How can equity be ensured, both in BYOD programs and with broadband access for one-to-one laptop programs.

- Will some sites, such as social networking sites, be allowed outside of school that are not allowed inside of school?

- What happens if students leave the devices at home or if their batteries are not charged?

- How will school one-to-one policies be enforced and what will the consequences be for violation of the rules?

Parent and Community Involvement

Strong support from parents and community members is critical for any kind of new initiative, and not only those programs that require bond elections. Naturally, the community should be included in the development of a district's mission and goals, and their input should be part of decisions related to technology policy. Programs which allow students to take laptops home, however present both opportunities and challenges for parent involvement.

- How will parents be assured of their children's safety and security online?

- Will parents be allowed or encouraged to use their children's computers?

- What, if any, training will parents receive on how to use the computers?

- What, if any, any computer resources will be available specifically for parents' use?

Accountability and Program Evaluation

The strength of any educational initiative depends on its ability to adapt to changing times. This is especially true in an area like technology where changes happen quickly, often to be abandoned in favor of the next big thing. Systematic, continuous evaluation ensures that a one-to-one program stays on track when it's working and makes modifications when necessary to achieve student learning goals.

- Is a change in instructional methods a goal of the program? How will that be evaluated?

- How will your program measure success? Standardized test scores? Some other method?

- Will you check factors such as dropout rate and student engagement? How will they be documented?

- Will you collect data on staff, administrative, student, and community attitudes about the program?

- How will the evaluation be conducted? Who will be responsible for analyzing the data?

- What processes will guide responses to the evaluation?

Resources on One-to-One Computing

Educational Technology Law and Policy

A site with information about current state and federal law, along with summaries of current issues related to technology policy.

Looking to Create a Social Media or BYOD Policy? Look No Further

An interesting article from The Innovative Educator describing steps to developing a BYOD policy.

Project Red

A comprehensive resource on one-to-one programs for school leaders, with checklists, tools, resources, and a forum where users can post success stories and discuss ideas.