

Effective, Lasting Technology Implementation in K-12 Public School Environments

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From elementary to secondary, public schools across the country are racing to adopt and utilize the latest technologies in the classroom. In some cases, these initiatives are successful. In many others, however, the attempts flounder or outright fail. When failure happens, educators and policymakers alike end up feeling discouraged and cynical about the next wave of proposed changes. Yet, few can deny that technology integration is an unavoidable issue in today's education environment. So how can savvy policy makers ensure that scant education dollars are being used efficiently and not wasted on integration attempts that are doomed to failure?

The answer lies with community support. Successful implementation of technology in K-12 environments requires community involvement – educators and policy makers must work together to include all of the stakeholders who are involved in public education: teachers, students, parents, administrators, and business partners (Barbour et al., 2011; Rye, 2008). This wide-reaching investment is the missing piece that will set successful programs apart from failed ones, making expenditures more efficient and resulting in long-term benefits to school and community.

The Digital Divide

Our public education system has the unique opportunity to help remediate the national knowledge crisis known as the digital divide. Worldwide, wealthier citizens have better access to digital tools and high-speed Internet than those who are less wealthy (Rye, 2008). The digital divide is a major barrier to learning (Barbour et al., 2011). Some argue that market forces will remediate the discrepancy in access as companies attempt to cater to a wider swath of customers (Hassani, 2006), but so far this has not happened. It is important to note that, although the media often portray the digital divide as strictly an issue of access, it also includes the disparity in technological skills that results from unequal access to technology. One group calls this facet of the issue the “digital competency divide”

(Barbour et al., 2011, p. 16). Any successful approach to bridging the digital divide will have to grapple with both aspects of the problem – access and skills.

Worldwide, urban and developed areas have the most access to technology and the infrastructures that support high-speed Internet access (Barbour et al., 2011). Many rural and remote areas, as well as poorer urban areas in America have limited access to both technology and high-speed Internet (Bernard, 2011; Hertz, 2011). There is a need for additional government funding and vision to help bridge these gaps in technological access and skills (Barbour et al., 2011). This is where policy makers have a rare opportunity to use the existing public school infrastructure to effect real change in communities across the country. With the right vision and smart use of existing funds, governments, schools, and communities can work together to close the digital divide.

It is vital that efforts to close the digital divide remain bipartisan. Historically, Republicans have framed the digital divide in terms of the market, claiming that market forces were responsible for both the existing disparity and the solution that would close the gap (Epstein, Nisbet, & Gillespie, 2011). Democrats have argued that the federal government should manage the closing of the digital divide (Epstein et al., 2011). Likely, the truth lies somewhere in between. The most effective approach to solving this problem will leverage the power of cooperation between community business partners, schools, and local governments. Businesses will benefit from the increase in technically skilled workers who become available when more Americans achieve proficiency in using digital technologies.

Effective Implementation: A Proven Example

O'Neil and Baker (2003) studied a program that has experienced long-term growth and success in remediating the digital divide: DeKalb County Georgia's Family Technology Resource Center

(FTRC) Program. The researchers identified elements of the program that made it successful where other technology implementation initiatives have failed. The primary finding of this study? Community involvement was key to the FTRCs' success: "the program has been highly successful in sustaining program activities through active participation from an array of significant community stakeholders" (O'Neil & Baker, 2003, p. 305). This visionary program used existing school facilities and grant funding along with cooperation from local business partners to offer computer training and high-speed Internet access to community members. Communication between the schools and the community increased, parents became more involved with their children's education, and businesses had a new pool of technically-skilled workers available for hire (O'Neil & Baker, 2003).

Partnership between the schools and local government was a fundamental component of the FTRC Program's success and longevity (O'Neil & Baker, 2003). This outcome is not an isolated phenomenon; it is supported by research that shows shared ownership between schools and government creates growth in technology initiatives (Barbour et al., 2011; Rye, 2008).

Next Steps

The FTRC Program should be a model for future technology integration in schools. When a variety of stakeholders are included in the process of technology implementation, it becomes more likely that the program will find lasting success. For this reason, the role of schools' teachers and staff cannot be underestimated (O'Neil & Baker, 2003). School staff must be involved in all implementation decisions and implementation decisions must be accompanied by well-designed plans for training staff in using the new technology. Implementation is most effective when accompanied by targeted professional development (Barbour et al., 2011).

Policy makers who are in a position to approve the use of public funds for technology implementation in public schools have the responsibility to make sure those funds are used effectively. Future funding approvals must come with strings attached. Schools must be held accountable for the long-term success of technology initiatives. Community outreach should be mandated as a condition of receiving funds for technology implementation. Because such mandates are only

effective when there is already strong support for an issue (Fowler, 2013), policy makers should take care to consider funding only for initiatives that have already garnered widespread community interest.

To further encourage community involvement in the implementation process, business partners should work with the schools to offer incentives for students and community members who avail themselves of technology training in the schools. Such inducements would encourage a higher degree of participation from both business partners and other community members and result in long-lasting support of new initiatives (Fowler, 2013). Partnerships between private companies and public schools have proven effective in the past (Hertz, 2011) and offer the potential to expand schools' abilities to reach out to community members.

Policy makers should be aware that recruiting and retaining community involvement might require their approval of some non-traditional funding requests. As in the successful example of FTRCs, additional personnel, facilities, and resources will be needed to support successful implementation. Policy makers should be prepared to approve such requests. This upfront investment in facilities and human resources will ensure that programs have dedicated, long-term support, without overburdening existing personnel with new responsibilities (Fowler, 2013).

This line of thinking represents a dramatic change for most school districts. Dramatic change is needed. The current model of technology funding is not working. Too often, schools and school boards are investing in technology without investing in a plan for keeping that technology viable. Eliciting community support and involvement offers a solution to the problem of long-term viability and also addresses the growing issue of the digital divide. It is not often that policy makers have the opportunity to remediate widespread social problems while also improving schools and communities. The changes proposed here offer that opportunity.

It is not enough to provide the tools. Schools must also provide support and training and rely on community involvement for long-term success. Too often, schools adopt technology without a plan for how to use it. Money is wasted

and initiatives fail. With smart, effective community involvement, these pitfalls can be avoided. Schools can become the training ground for closing America's digital divide. The facilities exist; the motivation is there; what is needed is the vision to make smart decisions about technology implementation.

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