WHITEPAPER

Sustaining Technology Innovation: 9 Steps for Keeping Your Independent School on the Leading Edge

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- Consortium for School Networking: http://www.cosn.org
- Edutopia: http://www.edutopia.org/technology-integration
- K12 Blueprint: http://www.k12blueprint.com
- Journal of Educational Technology & Society: http://www.ifets.info
- National Association of Independent Schools (NAIS): http://www.nais.org
- Partnership for 21st Century Skills: http://www.p21.org
- Project Red: http://projectred.org
- Project Tomorrow: http://www.tomorrow.org
- T-H-E Journal: http://www.thejournal.com
- School CIO: http://www.schoolcio.com
- Society for Applied Learning Technology: http://www.salt.org

Executive Summary

Instructional technologists in private and independent schools are challenged to gain deep and sustained commitment to educational technology programs over time. You need to share your vision of technology innovation with key stakeholders, and show them how new technology can make a demonstrable impact on learning outcomes, as well as student and teacher productivity. Looking at best practices of other education leaders and practitioners, this learning technology adoption guide offers nine proven steps to success to help you gain stakeholder buy-in in the beginning and over the long term.

Every school wants to be a leader in preparing students to compete in the digital 21st century economy, but let's face it: instructional technologists often encounter resistance from boards concerned about IT spending, and teachers who dislike change. As you strive to help teachers adopt learning technology innovations in the classroom, what will it take to ensure full acceptance and adoption of your proposals? As an instructional technologist, it's critical to address this question to sustain the commitment of your organization over time and deliver on the promised benefits of new technology.

Whether your technology initiative revolves around curriculum personalization, collaboration, mobility, digital storytelling, 21st century skills development or some mix of these ideas, it's critical to recognize that both teachers and students must actively adopt the technologies you introduce if the program is to endure.

The good news is that you won't be the first to confront the challenge of sustaining the success of such a program. Over the past decade or so, instructional technologists in private schools have studied and reported on the key success factors and best practices that can support your efforts.

In this guide to learning technology adoption, you'll discover nine proven steps that will help you successfully roll out your program and sustain it over time. You'll learn what it takes to infuse today's educational technologies in the culture of your school to achieve greater performance overall. And, you'll see how new innovations are being adopted today to improve student outcomes.

Step 1: Get Senior Leadership Commitment

No one is more critical to the funding, adoption and sustained success of a learning technology program than your senior leadership. Whether that includes your head of school, IT leader, board of directors or other decision makers, by engaging these stakeholders actively in your program, you can send a signal that it's truly important and deserves the full attention and participation of other parties in the school.

One study by Project Red highlighted the ability of principals to lead and promote change, recognizing this as the single most important variable across 11 success measures. By having principals take a leading role in change-management efforts, schools tend to be more successful in

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effecting systemic change and achieving support at all levels. However, such leaders must be fully engaged and committed at the beginning of a program to sustain it and make it successful.

It's important when building your business case to provide stakeholders with projected return on investment and outcomes relevant to their concerns, even if you can't predict data quantitatively. For example, if you want to persuade your school administrators to invest in mobility technology, like laptops or tablets, your business case could discuss terms such as:

- Higher performance in relation to academic measures
- Greater student engagement
- Anywhere, anytime access to learning tools
- Deeper connections between school and home
- Greater digital equity
- Higher teacher satisfaction and productivity
- Greater student preparation for 21st century skill requirements
- Reduced operational costs, including lower IT support costs or less power consumption.

It can help to bring in third-party research to make your case. Use statistics from organizations like Project Tomorrow or Project Red, and case examples from schools that have used the technology you want to implement.

Step 2: Actively Invest in Professional Development

Widespread adoption requires teachers who are confident and skilled with new technology and who can incorporate it into their learning plans. Unfortunately, it's common for new technology to be bought and then sit on the shelf, unused.

According to the National Staff Development Council, teacher skill development needs to be integrated with actual curriculum and teaching methods. The most effective programs, according to the council, "develop teachers' pedagogical skills with technology, not just their ability to use particular software programs or hardware...enabling teachers to more easily take what they learn to their classrooms."

The evidence also suggests it makes sense to offer professional development incrementally—serving the teacher's need for "just-in-time" training. The best results are typically achieved by enabling teachers to take on a single topic per session and giving them opportunities to apply their new skills in the classroom.

Finally, the council suggests that continuous coaching can enhance skills and motivation. "Coaching programs can be designed to be sustained over time and integrated with actual practice, features that experts agree can help promote changes in practice," it states.

Step 3: Commit to Daily (Not Occasional) Technology Use

Research suggests that intermittent or ad-hoc application of new technology in an educational setting leads to sub-optimal outcomes. It's through the continual application and refinement of learning technology that it becomes an essential part of the learning process.

Students are relying on new technology to engage in everything from the creation of games and simulations to design and engineering projects. One of the most powerful new examples of collaboration is digital storytelling.

Indeed, the Project Red researchers found that the highest return on investment for learning technology projects was achieved through daily use of technology, particularly in core classes. Further, they found that daily technology use led to better discipline, better attendance and, eventually, increased college attendance.

High computer-student ratios are certainly helpful in this regard. In schools with a 1-to-1 ratio of computers to students, daily use in core curriculum classes ranges from 57 to 62 percent, according to Project Red research.

Step 4: Personalize Instruction

Cognitive research demonstrates that every student has a distinct learning style. Students also learn best, in many cases, when they can learn at their own pace. As a result, 1-to-1 learning programs are focusing less on providing simple access to computers, and more on using technology to personalize the student learning experience to address individual needs and requirements. Meanwhile the technology can show teachers where they need to provide more active support.

"Blended learning" programs, which mix personalized instruction with more conventional classroom activities, represent one path in this direction. In a survey of 44 blended learning programs, the Innosight Institute found that such approaches made it possible for students to move at their own pace and achieve mastery in their subjects, while enabling teachers to play the role of guide and advisor—focusing on helping students overcome key hurdles in their own learning paths.

The emphasis on personalization not only addresses individual learning needs, it also tends to enhance student confidence. Students in the statewide Texas Immersion Pilot, for instance, reported that the personalized learning program gave them more responsibility than they were experiencing prior to its launch and better prepared them for college.

Step 5: Enable Student Collaboration

While new learning technologies certainly can enhance personalization, they also can provide a powerful platform for student collaboration—even across geographical boundaries. In fact, popular learning programs have arisen enabling students to collaborate on everything from constructing legal cases to producing digital stories.

One key finding from Project Red's research was that online collaboration can influence learning productivity and student engagement. They also found that online media reduced barriers of time, distance and expense—enabling students to extend their circle of collaboration to mentors, tutors and experts worldwide. In fact, online programs even tended to extend the school day by connecting learners and students on discussion boards.

Sue Collins, an educational technology specialist, writes that new learning technologies are giving students access to collaborative learning spaces where students can "create meaningful content in multiple formats, including video, graphics, audio, written and animation." But she also notes that collaboration between teacher and student can be enhanced in a media- and technology-rich environment. Teachers, she adds, "can provide real-time feedback to students as they build conceptual understanding."

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Step 6: Think Creation, Not Just Consumption

The "Constructivist School" of education has long held that students should be creators of learning experiences as opposed to merely consumers of them. Interestingly, this way of thinking has been given new life by the ongoing proliferation of new learning technologies.

Students are relying on new technology to engage in everything from the creation of games and simulations to design and engineering projects. One of the most powerful new examples of collaboration is digital storytelling, which leverages some of the tools and techniques of Hollywood filmmaking to engage students and enable them to learn by doing. New mobile devices like tablets or smartphones with cameras enable them to bring multimedia content into their presentations like never before.

"Teachers who bring digital storytelling into the classroom are discovering what makes this vehicle for expression worth the effort," states an article in Edutopia. "They watch students gain proficiency in writing and research, visual literacy, critical thinking, and collaboration. They see students take part in a range of learning styles. Of course, they also see students make authentic use of technology. Sometimes, they even hear students discover the power of their own voice."

Step 7: Consider Allowing Students to Bring their Own Tech

In the early days of mobile technology, schools discouraged students from bringing electronics to schools, due in part to concerns about liability and distractions. As technology becomes more ubiquitous, and budgets tighten, many schools are introducing a "Bring Your Own Device" (BYOD) policy to promote computer-based learning.

After all, it's increasingly common for students, particularly older ones, to have their own computing and communication devices. They are increasingly savvy about using mobile devices to gather information and run applications. Why not take advantage of these advanced skills while leveraging the devices to educate students and prepare them for use in the workplace?

Gartner, the market research firm, sees this as a huge trend with significant implications for K-12 education. "As technology consumerization and mobility has captured the user community — and an economic slowdown has crimped IT budgets — [educational leaders] have become increasingly open to leveraging personally owned devices," analyst Bill Rust states.

By capitalizing on this trend, instructional technologists can enable greater access to learning resources and perhaps free up more budget to invest in applications and services. Schools will continue to acquire hardware assets of varying kinds to run their learning programs, but BYOD policies can make innovative learning programs more sustainable and valuable.

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—Bill Rust, Gartner

Step 8: Go Beyond School Walls

By connecting school and home, instructional technologists are finding they can engage students as well as their families. Clearly, students can accomplish more when they are able to work on their projects and explore their subjects "anytime, anywhere." Learning becomes untethered. Meanwhile, the positive enthusiasm of parents for such endeavors also is powerful. Indeed, it can further enhance the commitment of other educational stakeholders such as teachers and administrators.

According to the National Coalition for Parent Involvement in Education, family-school partnerships produce benefits that serve everyone in education. As the coalition puts it, "Students do better in school and in life. Parents become empowered. Teacher morale improves. Schools get better. Communities grow stronger." Such partnerships are only deepened by technology arrangements connecting school and home.

And, as mentioned, a BYOD program, where students bring in their own laptop or tablet, can further enhance these connections. According to a survey by Project Tomorrow, 62 percent of parents report that if their child's school allowed mobile devices to be used for educational purposes, they would likely purchase one for their child. This is another way to involve parents in the use of technology for learning.

Step 9: Measure, Assess, Refine

It's critical to the credibility of your program that its progress be continually assessed and reported to key stakeholders. Typically, schools will have a set of objectives that were clarified to justify investment in the program in the first place, as mentioned in step 1. It is against those projected goals that instructional technologists need to make sure the technology program is measured. And while programs do fall off track, targets and objectives help to define success—and provide a means of accountability.

Schools tend to set targets that revolve around quantitative performance (such as student test scores or other standardized measures) or access to/ application of technology. They must assess themselves on this basis. But schools also survey teachers, students and parents to obtain more qualitative feedback and guidance. Some will even bring in third-party consultants to provide independent analysis.

Such efforts all demonstrate confidence and commitment, strengthen your ability to demonstrate the impact of your efforts, and sustain commitments into the future. They also enable schools to refine their programs, building on what works and making changes as necessary. Feedback of this sort is essential if you want to continue on the path of introducing further innovation.

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Conclusion

It's clear that digital technology is an increasingly critical in providing a 21st century education. Instructional technologists in private and independent schools must take active steps to make their case to stakeholders to ensure learning technology programs are fully adopted and continue to endure. By drawing on best practices from practitioners in the field, you can achieve these objectives and deliver compelling results.

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