Chapter 3 Leadership: Guiding Systemic Change

“This is hard, courageous work, and it takes time and patience. We have to leave our egos at the door and become change agents so we can better serve every learner.”

Educational technology initiatives are about enabling students to achieve their greatest potential. As leaders, our job is to ensure that all the elements of the system line up to make that happen. This requires changes throughout the system—improving our curriculum resources and professional learning, finding sustainable funding, creating policies that support it, and then creating a continuous cycle of innovation and improvement.

This is hard, courageous work, and it takes time and patience. We have to leave our egos at the door and become change agents so we can better serve every learner. We change the environment and work through the challenges by keeping the focus on serving every learner the best we can.
Leadership matters tremendously, both to bring stakeholders together and to manage these deep, systemic changes. All perspectives must be counted and part of this process. At the same time, we have to keep moving forward to serve learners. For the people who don’t believe reform is needed, show them the research and data. Are we producing deep thinkers, problem-solvers, innovators, scientists, and engineers at the rate we need? Are children becoming less creative as they age in school? Are they dropping out at higher rates? Are students motivated in their learning environments? Examine the data, and figure out what it’s telling us we need to do.

In the places where we see success with education transformation, we see consistent leadership and a systemic approach. The top leadership, policymakers, and teacher leaders share a common vision, and are working together to make changes happen throughout the system. It’s not a matter of a single leader, but a leadership team that is banded together top-down and bottom-up around the strategic vision. The messaging and the expectations are consistent. Everyone understands the vision, the strategies, and the actions that need to happen—and they’re all aimed at serving each student, so each one can reach his and her greatest potential.

The exciting thing is that changes are happening. Attitudes are changing. People recognize that even though money is tight and change is hard, we have to move forward. There’s also much greater recognition that just putting the technology out there and waiting for magic to happen doesn’t work. But we’ve got comprehensive transformation models, research to back it up, and expert practitioners who can help. Effective leadership teamed with a systematic approach can make it happen.

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**Leslie Wilson**

Leslie Wilson has been in education for 41 years, including 31 years as a teacher, principal, and executive director at the district level. She is a co-author of Project RED, groundbreaking research around the impact of education technologies on student achievement and schools’ budgets. Leslie led Michigan’s successful one-to-one initiative. Leslie co-founded the One-to-One Institute, a nonprofit organization that assists school systems in developing learning environments that meaningfully integrate technology. At Nexus Academy, she leads a public academy of choice school that uses blended learning and one-to-one technology to activate a unique learning path for each student. She completed her undergraduate and doctoral coursework at the University of Michigan, has an MA in Instructional Technology from Wayne State University, and Special Education Administrator Certification from Eastern Michigan University.
Leadership Skills for Transformational Change

Transformative use of educational technology requires changes to pedagogy, curriculum, assessment, policy, ICT, funding, and more. Managing these changes calls for highly skilled leaders who can:

- Inspire strong-minded individuals with widely differing viewpoints to work together toward a common purpose
- Implement significant changes across a complex system that includes disconnected silos and diverse stakeholders
- Advance the school culture to increase collaboration, inspire innovation, and establish a cycle of continuous improvement

Second-order, transformational change demands a broader set of leadership skills than first-order change. In addition to managerial and administrative skills, school leaders who want to deliver the full value of ICT investments must offer strong curriculum leadership. Analysis by Robert Marzano and his colleagues indicates that second-order change in education requires that leaders:

- Understand the research and theory behind the proposed changes and communicate it persuasively to teachers and other stakeholders
- Inspire confidence that the proposed changes can produce great results—that they’re worth the effort
- Understand how proposed changes will affect curriculum, instruction, and assessment, and lead in implementing the changes
- Monitor results and make adjustments as needed to continuously improve the program’s results
Leadership is crucial to ensure that technology-enabled learning becomes a permanent part of the educational experience—that it outlasts the leader who introduced it. By creating a strong leadership team, building community support, managing the changes expertly, and planning for long-term sustainability, skilled leaders can empower school systems to not only deploy mobile devices, but also use them in meaningful ways to improve student achievement and equity. This chapter shares strategies and best practices on several important leadership tasks for schools, states, and provinces:

- Developing a shared vision
- Creating a leadership team
- Building a culture of collaboration and innovation
- Planning and managing change

**Develop a Shared Vision**

Creating a shared vision is critical for second-order change in any setting. Given the strong feelings we all have about students and their future, it is especially important for education transformation. Early discussions with students, teachers, parents, policymakers, community members, and other stakeholders can help:

- Create agreement on the importance of education transformation and the enabling role of learning technologies
- Begin to define the intended outcomes, building recognition that the benefits of technology-enabled learning can extend well beyond student test scores, to matters such as improved graduation rates, decreased drop outs, improved behavior, increased time spent on task, and greater student engagement
- Motivate stakeholders to overcome disparate interests, focus on student learning, and work toward achieving the vision
- Bring concerns out into the open, where they can be addressed
- Build trust by establishing a foundation of transparency
- Rally the school and community around the urgency of the mission
- Secure resources and establish priorities when resources are limited
Create a Leadership Team

Educational technology initiatives involve interconnected issues and a wide range of stakeholders, so they benefit from collaborative leadership and a strong, cross-functional steering committee.

Collaborative leadership, with detailed planning conducted by a cross-functional team, can improve decision-making, produce a more practical and workable plan, and avoid surprises as the initiative proceeds. Seeking input broadly from stakeholders can build support for the initiative. Sharing opinions and viewpoints can increase trust and understanding, and enable issues to be identified and addressed early in the decision cycle.

For example, a device selection team that includes students, teachers, principals, curriculum specialists, ICT professionals, and parents can lead to smarter device selection: the ICT members can deepen their understanding of the capabilities needed for learning and teaching, and educators can become aware of ICT issues such as security and management. Together, they can develop and execute on a plan to select mobile technologies that meet requirements for curriculum, assessment, management, and security.

A team-oriented approach helps build leadership capacity throughout the school system. Collaborative leadership also increases sustainability and helps avoid the pitfalls of relying on a single charismatic leader, where an educational technology program may lose momentum when the initial champion departs.

Develop a Long-Term Roadmap

Roadmap planning for a large-scale educational technology initiative typically begins 12 months or more before students begin using mobile devices in the classroom. A five- to seven-year roadmap provides a framework for long-term success and helps focus stakeholders on the full scope of tasks needed for transformational use of technology.

Roadmap planning can begin with a needs assessment to identify current strengths and weaknesses. Analyzing the current situation for each area of the Intel Education Transformation Model can help leaders identify strengths, gaps, and weaknesses within the current system and establish practical priorities for how to move forward. The needs assessment can also include a review of past educational technology projects. If the school system has had any previous failures, it helps to understand how are those experiences may be influencing current perceptions so you can plan accordingly.

Planning includes creating detailed, comprehensive budgets, timelines, implementation plans, and schedules that encompass all elements of the Intel Education Transformation Model. Since success ultimately comes down to what happens between students and teachers, critical steps include those that support teachers and school leaders to modernize teaching strategies, select new content resources, and incorporate ICT to improve learning and teaching. While no one can foresee every issue that will come up, a broad, long-term plan helps build success.
Plan for Scale

Pilot programs or a phased rollout can increase the adoption of broad, sustainable changes by providing opportunities to evaluate and adjust the program before implementing it at scale. A phased approach can help leadership teams:

- Identify and address unforeseen consequences of changes
- Avoid getting mired in too much initial complexity
- Build capacity and expertise
- Increase confidence and enthusiasm for the changes
- Provide funders with evidence to justify program expansion

With highly effective leadership, large-scale educational technology programs can also be successful without pilots. The Huntsville School System, Huntsville, Alabama, U.S.A., spent a year in preparation and then moved successfully to district-wide mobile technology deployment to all 23,000 students at all 53 schools. (See Insight: Leadership for a Fast-Moving Educational Technology Initiative, in which Dr. Casey Wardynski, the district’s superintendent, shares some of his leadership strategies.)

Advance the School Culture

In many successful technology-enabled learning initiatives, leaders transform the school culture in ways that facilitate ICT adoption and amplify its educational impact. Among these changes:

- **School as a learning community.** Incorporating ICT into effective teaching strategies requires courage, risk-taking, and innovation, especially when the goal is transformative, second-order change. Establishing a vision of the school as a learning community with teachers as the lead learners can accelerate the impact of ICT deployment. By combining innovation and accountability, and accepting mistakes as part of learning, leaders can empower teachers to use ICT in powerful ways that improve student learning. Enlisting parents as active collaborators and supporters of their students’ learning can also help raise expectations for students and increase achievement.

- **Principal as chief change agent.** Principals are pivotal change makers and crucial to the success of any educational technology initiative. Effective principals serve as powerful role models who actively embrace change. They support stakeholders in managing their new roles and responsibilities, and ensure that teachers have the resources they need to succeed.

- **Collaborative teaching environment.** A collaborative, supportive teaching environment can reduce isolation, lessen the fear of change, and give teachers a safe environment in which to advance their pedagogy. Teachers can collaborate to design and create new curriculum, interdisciplinary projects, digital content, tools, and resources.
• **Students as drivers.** As teachers adopt new learning and teaching strategies, students increasingly become drivers of their own learning. Their voices should be heard throughout the planning and implementation of the educational technology initiative.

• **Continuous improvement.** Digital technologies provide a wealth of data that can support efforts to increase evidence-based decision-making. Effective school cultures can improve student outcomes by creating a cycle of continuous improvement driven by data and results and supported by an array of high-quality professional learning options.

• **Distributed leadership.** Building leadership capacity throughout the school system can increase organizational effectiveness, develop management and decision-making skills at many levels, and reinforce the benefits of a collaborative learning community. A lean or flattened management hierarchy generally provides greater agility than a larger, more bureaucratically encumbered environment. Involving teachers in school management can increase collaboration and build capacity.

**Communicate and Collaborate**

Even when they start as state-wide or national initiatives, successful learning technology initiatives involve teamwork among teachers, school leaders, students, school system personnel, parents, and state or provincial leaders. In addition, although the elements of the transformation model are interconnected, they are often siloed and handled by different stakeholders. Effective school leaders encourage clear and open communication and collaboration with teachers, students, parents, policymakers, administrators, and the community. Parents can be strong advocates for transformative educational technology initiatives if the school leadership cultivates them.
Leadership Implementation Checklist

Key Tasks

• Work with stakeholders across the system to create a vision and build success
• Develop and implement a flexible plan that addresses all aspects of the Intel Education Transformation Model

Steps to Success

Vision and Goal-Setting

• Align ICT initiatives with larger objectives. Focus on how ICT can improve student learning, align with the state's, province's, or nation's vision of the future, and support what's best for learners.
• Review the research and base your initiative on evidence-based best practices. Conduct team visits to innovative schools to see what practices have been effective for them.
• Conduct community meetings, teacher workshops, and study groups to discuss topics such as:
  – Why and how do we need to transform learning and teaching? How will this be better for students?
  – What are our core values? How can we ensure we change in ways that reflect these values?
  – What is our vision of success? What are we hoping to change or achieve?
  – What role will ICT play? How will teachers and students use mobile devices and digital resources to improve learning outcomes? What does the research tell us about the best ways to do this? What will we have to do to achieve the results we're after?
  – How will we know if we're succeeding? What will success look like? How will learning, teaching, and assessment be different?
  – What other changes might we expect to result?
• Identify and communicate concrete goals so everyone understands how you will measure success.

Establish a Planning Committee

• Create a cross-functional steering committee that is headed by the principal, includes necessary expertise, but is small enough to work effectively.
• Include teachers and administrators, students, and parents. Community members, employers, and nonprofits can also provide valuable insights and expertise.
• Ensure the chief financial officer (CFO) or other budget planners are active participants to help avoid funding surprises and establish a sustainable financial foundation.
• Once the initiative has launched, have the committee continue to meet monthly in the first year, then quarterly throughout the life of the initiative, or more frequently as needed. Use each meeting to review progress, identify issues that need immediate adjustments, and report to stakeholders to encourage transparency.
Develop a Roadmap

- Survey current, relevant research to base your approach on recognized best practices.
- Start planning 12 months or more in advance to address all aspects of the Intel Education Transformation Model.
- Conduct a needs assessment, identify target goals, and plan intermediate steps for:
  - Policies
  - Curriculum, pedagogy, and content
  - Assessment
  - Professional learning for teachers and ICT staff
  - Mobile devices for learning and teaching
  - ICT infrastructure, policies, and procedures
  - Sustainable resourcing
  - Research and evaluation
- Develop short-term and long-term implementation roadmaps. Include detailed milestones and provide oversight for execution. Work to build on current strengths and remediate weaknesses.
- Set clear goals and decide how you will measure success.
- Establish frequent checkpoints to measure progress, and be transparent about the results. Report progress to stakeholders and make adjustments as needed to create a cycle of improvement and keep everyone focused on the goals.

Scale the Program

- Consider one or more pilot programs or a phased rollout to test your approach before large-scale operation. Common methods of scaling include:
  - Establishing an initial program with several classes, subjects, grade levels, or schools, then extending participation until you have encompassed schools across the system, state, region, or nation
  - Using technology to support existing pedagogy, then expanding the scope of the learning environment as teachers master new teaching strategies and curriculum resources
- As you select the starting points for the program rollout, be sensitive to equity issues. To have the greatest positive impact on equity, consider conducting pilots or initial programs with the strongest teachers and most disadvantaged students.
**Advance the Culture**

- Evolve the school as a learning community. Create a collaborative, supportive environment in which teachers support each other in learning, innovating, and advancing together.
- Establish an expectation of continuous improvement and evidence-based decision-making. Work with policymakers to reward innovation and ensure accountability.
- Build the understanding that innovation and ICT adoption are never for their own sake. At every decision point, raise the question: How will this affect student learning and equity?
- Invite parents to be active collaborators and supporters of their students’ learning. Use school portals and other communication technologies to involve them in the student's goal-setting and project reviews.
- Build long-term leadership capacity throughout the school system and the learning technology initiative. Having a broader leadership base helps expand the collective knowledge and expertise of the school community. This can accelerate change and help ensure that the changes outlast any one leader.

**Communicate and Collaborate**

- Involve stakeholders in planning the initiative. Transparent, two-way communication helps build support, trust, and understanding, which can minimize friction as you move forward.
- Keep all stakeholders informed about what will happen, why it’s best for student learning, and how they can contribute to the initiative’s success.
- Stay engaged as the initiative moves forward. Continue listening and responding to stakeholders’ concerns, and keep reporting back—to share results, discuss issues and plans, and build pride in what is being accomplished.
- Offer information sessions or ongoing courses to keep families fully informed about changes that affect their students. If the digital divide is an issue in your community, helping family members understand and use student technologies can extend the benefits of your initiative and create closer bonds between school and home.
- Use all appropriate communication channels to communicate with families. Web sites, newsletters, blogs, social media, workshops, and discussion groups can all be useful. Avoid methods such as texting that may add costs for families.
INSIGHT
Leadership for a Fast-Moving Educational Technology Initiative

By Casey Wardynski, Ph.D., Superintendent, Huntsville City Schools, Huntsville, Alabama, U.S.
@HSVKT12

Huntsville City Schools is an urban-rural district with 41 schools and more than 23,000 students in an area whose economy is driven by nearby aerospace and military technology research facilities.

I came to Huntsville City Schools in June 2011 with a mission of improving student achievement. Fifteen months later, Huntsville became one of the largest school systems in the United States to move to one-to-one digital learning across the district. We’re still improving, but we are already seeing exciting results.

• In what we view as a sign of increased student engagement, discipline problems are down by about 35 percent across the school system, and school suspensions are down about 30 percent. We put wireless Internet access on our school buses, and the discipline problems there have declined by 76 percent.
• Graduation rates are up. The district as a whole went from 66 percent to 80 percent graduation rates in the past two years, and the schools that previously had the greatest disengagement experienced the biggest improvements.
• With these digital learning environments, we’re finding it much easier to gauge the degree to which instruction aligns with the Common Core State Standards and to adjust our professional learning strategies accordingly.
What advice can I offer on leading an educational technology initiative? Here are some practices that have helped us:

- **Work backwards from what you want to accomplish.** The point is not just to put a computer in a student’s hands. You have to ask yourself, “And then what?” If you want to put your children in a learning environment that’s engaging and brings lots of resources to bear and can help them collaborate, then that’s a good starting point. That will take you in the direction of what kind of hardware you want. But if you start with the hardware and then figure out what you’re going to do with it, you’re probably going to find trouble.

- **Make the commitment clear.** You need to get everyone working toward the goal. We eliminated the old textbooks, so there was no hope of going backwards.

- **Give teachers what they need to succeed.** We did professional learning across the board and committed to supporting our teachers to learn new ways of teaching. We do 30 days of professional learning in every school every year so teachers can really focus on moving ahead with digital learning.

- **Get principals involved.** In a digital learning environment, they’re not just managing buildings. They need to be providing instructional leadership. We aligned principals’ report cards so their incentive pay includes things like change of practice and use of technology, and when I meet with principals, we spend time looking at the data.

- **Find the funds.** We looked for operational efficiencies and reallocated money from textbooks to technology.

- **Celebrate the successes.** Nominate them for awards. Publicize them. They’re the proof and the inspiration that it can be done.

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A retired Army colonel, Dr. Wardynski served as the chief financial officer for Aurora, Colorado, Public Schools, and director of the Office of Economic and Manpower Analysis at the U.S. Military Academy before becoming superintendent of Huntsville City Schools in June 2011. He holds a Bachelor’s Degree from the United States Military Academy, a Master’s Degree in Public Policy from Harvard University, and a Doctorate in Policy Analysis from the Rand Pardee Graduate School. Follow Huntsville City Schools on Twitter: @HSVk12.
Citations

Resources
- Intel® Education provides tools, case studies, and guides to support education transformation based on global best practices:
- Edutopia has resources summarizing research into the benefits of project-based learning and other modern teaching strategies: [http://www.edutopia.org/research-resources](http://www.edutopia.org/research-resources)
- OECD provides a range of resources for improving school leadership, including case studies and an interactive toolkit: [http://www.oecd.org/education/school/improvingschoolleadership-home.htm](http://www.oecd.org/education/school/improvingschoolleadership-home.htm)
- OECD's Innovative Learning Environments Project draws best practices from a study of 125 innovative education projects around the world: [http://dx.doi.org/10.1787/9789264203488-en](http://dx.doi.org/10.1787/9789264203488-en)
- OECD's PISA site gathers papers analyzing what successful school systems around the world are doing to improve student achievement and equity: [http://www.oecd.org/pisa/](http://www.oecd.org/pisa/)
- OECD's Education GPS site brings together data on how countries are working to improve quality and equity in their education systems, including policies and outcomes: [http://gpseducation.oecd.org/Home](http://gpseducation.oecd.org/Home)
- Project RED, a research and advocacy group focusing on using technology to improve K-12 education, offers a global toolkit that includes tools for assessing readiness and developing an implementation timeline. Available from: [http://www.projectred.org/resource-materials.html](http://www.projectred.org/resource-materials.html)