Chapter 4 Policy:
Setting the Framework for Success

Chapter Introduction by Thiam Seng Koh, Ph.D.

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"To build success, policies should provide time, networks, resources, professional learning, and opportunities for collaboration, and a system of recognition and incentives for principals, teachers, and other school leaders."

The policy framework creates the conditions for success. Policies should align from the national level down to the school level to ensure that there is an ecosystem, structures, systems, processes, and monitoring to implement the education plan and support the effective use of technology for teaching and learning. Policies should also ensure that the plan is implemented with continuity and consistency, that the implementation is systematic, and that all the critical dimensions of the implementation work together to achieve the desired outcome: to face the challenges of the future. Technology use is not merely about improving test scores or using the latest technology. Learning must drive the use of technology. Technology must not drive learning.

Teacher readiness is a critical area for policy formation. When teachers are ready, they can perform miracles. If teachers are not convinced or don't have the necessary skills, resources, and time, then nothing changes and your policy objectives will not be met. This is true for any change, not just ICT. Often, leaders are impatient—they want significant change within their term of office, but it takes time for teachers to trust you and make the changes. If you get teachers on board, the other dimensions are straightforward. If you don't, you tend to overinvest in other areas and not get the ROI you're looking for.

School leaders as well as teachers need to up-level their skill sets so they can help create the necessary conditions for success. Very often, principals do not have the support network they need. They are busy with the operational running of the school, and they don't invest time in their own professional learning. They need the skills to inspire teachers to change and create the structures that can enable them to use ICT effectively for teaching and learning.

To build success, policies should provide time, networks, resources, professional learning, and opportunities for collaboration, and a system of recognition and incentives for principals, teachers, and other school leaders. Effective policy can also include bringing in teacher-leaders to act as coaches for other teachers in their subject area, or bringing in scientists, artists, researchers and others into schools even though they do not have traditional certification. These outsiders can bring a perspective and help teachers reframe the learning situation.

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Former Director for Educational Technology at the Singapore Ministry of Education, Dr. Koh has experienced successful ICT-supported learning programs as an administrator, practitioner, researcher, and currently as a principal. Singapore's policies both within and outside education work together to support a knowledge-driven economy, and its students are among the world's top performers in mathematics, reading and science literacy.

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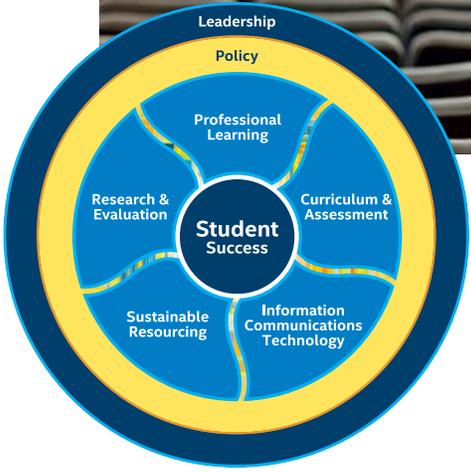
A Practical, Flexible Framework

In a fast-changing world, staying within one's comfort zone is a sure way to fall behind. Education policies must promote evidence-based innovation to ensure that all students obtain the skills, knowledge, traits, and abilities to thrive in a rapidly advancing, knowledge-based economy and society.

Policies can accelerate progress toward transformational use of educational technologies, or present roadblocks that slow progress. Flexible policies at the national, state or province, and school levels should work together to encourage innovation and empower educators to use ICT in ways that advance learning and teaching.

An effective policy framework incorporates the changes needed to align curriculum and assessment, professional learning, teaching practice, ICT, and other elements of the Intel Education Transformation Model, so they work together to achieve the objectives of the transformation initiative. Policies for educational technology initiatives should optimize the use of technology as a platform for learning and teaching while protecting students and maintaining data privacy. Effective policies:

- Are flexible, practical, action-oriented, and evidence-based
- Focus on learning outcomes
- Support fairness and equity
- Encourage local autonomy and innovation while ensuring accountability
- Are consistent and coherent across school, state, and national levels

This chapter discusses representative areas of policy for ICT-supported learning.

Acceptable Use

Acceptable use policies (AUP) define expectations for how students, educators, and parents will use technology and behave as digital citizens. These policies should focus on keeping students safe online while providing flexibility for learning and teaching. AUPs should also identify consequences for inappropriate use, such as cyber-bullying, violating copyright protections, or circumventing web filtering software. As in other areas of policy, AUPs for schools and school systems must conform to national, state, or regional policies regarding digital citizenship.

Curriculum and Assessment

It's counterproductive to train teachers on new pedagogies but limit them to old textbooks and fixed curriculum maps. Similarly, it's not helpful to implement inquiry-based, project-based learning, but rely exclusively on multiple-choice tests. To fully benefit from ICT deployment, it's important to examine policies pertaining to curriculum standards, content, and assessment, and then modernize, unify, and align them around the goals and objectives of educational transformation.

Policies that encourage flexibility in the choice of textbooks and digital content can accelerate local innovation and assist teachers to create personalized learning paths for their students. Effective policies also:

- Promote the use of ICT-enabled formative and summative assessments to improve learning outcomes
- Enable students to demonstrate their learning through e-portfolios and digital outputs

Data Privacy

Data collection and analysis are essential for personalizing the student's educational experience and making evidence-based decisions about learning, teaching, and program effectiveness. Transparency in sharing aggregate achievement data is a valuable aid to accountability and increased learning. However, care must be taken to protect the privacy of confidential data. As with acceptable use policies, data policies should aim to provide maximum educational value while reflecting community values. Parents should participate in data privacy decisions for their children, and vendor contracts should prohibit service providers from selling or inappropriately using or disclosing data. Policies should establish:

- What data will be collected
- How data will be used and stored
- Who can access it
- Who must be notified when data is shared
- How any data breaches will be handled

Digital Learning, Virtual Learning

Virtual learning and distance learning can reduce costs, supplement local teachers, and enable students in remote or rural areas to access high-quality content and resources that might not be available otherwise. Effective policies facilitate appropriate sharing of digital content, offer course credit for distance learning courses, and enable students to enroll in e-courses beyond their home districts or school systems. As in any field where rapid change is occurring, policies and practices should also ensure that digital resources and virtual learning courses meet high standards of quality and relevance.

Equity

Educational technology initiatives can make a significant contribution to increased equity. Policies should emphasize providing equal access to digital devices and resources for all students. Bring-your-own-device (BYOD) programs can be particularly problematic in terms of equity, so any use of BYOD must take care not to widen any digital divide that may exist in the school community.

Policies that support differentiated and personalized learning experiences can improve achievement for all learners and provide flexibility in meeting the needs of students with differing physical, cognitive, and other abilities. Policies should:

- Empower teachers to create personalized learning experiences that align with each student's motivation, learning style, and abilities
- Provide flexibility in how students engage, respond, and demonstrate knowledge and skills

Policies to support a wireless community can expand the return on investment in mobile devices and further increase opportunities for equity. By collaborating with community and business leaders, school leaders and policymakers can enable students to access educational resources from home as well as from community centers, libraries, and other public locations. This approach can also afford access to family members, involving parents more closely in their children's learning.

Flexible Scheduling and Graduation Requirements

Traditional school schedules and graduation requirements are often a holdover from the one-size-fits-all, factory-era model of education. Modern policies align with 21st century education requirements by focusing on learning outcomes and achievement rather than hours in class or years in school. Flexible policies can increase educational efficiency and facilitate real-world activities such as internships, independent research, and community service. These learning experiences can kindle a student's passion, offer real-world relevance, increase awareness of the work world, and develop 21st century or transversal skills such as problem solving and critical thinking.

Scheduling the school day with longer blocks of time can improve learning outcomes by facilitating project-based learning, independent study, and other learning experiences. Flexible policies also enhance innovation by enabling schools and school systems to extend the school day or school year, or implement after-school tutoring programs.

Professional Learning

Reflecting the crucial importance of teachers to the success of a learning technology initiative, effective policies provide time, support, and resources for professional learning for teachers, principals, curriculum specialists, ICT staff, and others. In addition to professional learning, the policy framework must ensure that educators have adequate time for curriculum development, content selection, and lesson planning, both before deploying educational technologies to students and on an ongoing basis.

Teacher Qualification and Support

ICT delivers its impact when enthusiastic, highly skilled teachers incorporate it into powerful learning and teaching strategies. Effective policies recruit strong teachers, support and encourage their professionalism, continue to invest in them, and align assessment and rewards to support innovation in teaching.

Alternate route certification is one option for recruiting teachers and aligning education with workforce trends. These policies can allow highly credentialed individuals with strong subject-matter expertise and industry or academic experience to teach while completing coursework and on-the-job mentoring.

Policy Implementation Checklist

Key Tasks

- Establish a robust, flexibility policy framework that reflects the scope of the educational technology initiative, encourages innovation and accountability, and promotes transformative use of ICT

Steps to Success

- Collaborate with state, national, and regional policymakers to review and update the policy framework. Strive for a coherent, flexible framework that aligns policies regarding curriculum standards, content, assessment, professional learning, teacher evaluation, and other relevant areas.
- Involve a wide range of stakeholders in policy formation: teachers, students, administrators, parents, community members, and others depending on the area of focus.
- Join with other schools, school systems, educational organizations, and government representatives to influence the development of policy standards as needed.
- Streamline procedures so that future policy adjustments can be made without undue bureaucracy.
- Communicate policies to all stakeholders.
- Review and update policies regularly to ensure they keep up with evolving requirements.

Develop policies that:

- Maximize the value of investments in mobile devices by facilitating their use throughout the school day and beyond. Promote one-to-one (or more) device deployment, implement ubiquitous wireless networks, and consider collaborating with government, business, and community organizations to create a community wireless network.

- Build success by allowing time to plan and manage all aspects of an educational technology initiative. For a major initiative, expect to spend a full year in holistic planning, policy refresh, modernizing and aligning curriculum and assessment, professional learning, content development, and creating an anywhere, anytime digital learning environment.

- Empower teachers, principals, and other school leaders to make the fullest use of digital platforms and resources before the initiative and as you move forward. Provide ongoing time, resources, and support for continued planning and evaluation, professional learning, lesson planning, content selection, and other aspects of transformation. Promote the use of instructional coaches and mentors.

- Support self-directed, blended-learning options for professional learning. Offer continuing education credits for just-in-time online courseware.

- Support the use of high-quality virtual learning, distance learning, and digital content resources. Shift textbook funds to digital content and platforms.

- Ensure that virtual courses and digital content meet high expectations for rigor and appropriateness.

- Give students flexible ways to meet graduation requirements and demonstrate mastery of curriculum requirements, including 21st century, transversal skills.

- Ensure that device choices and infrastructure planning start from the learning objectives and curricular requirements.

- Define responsibilities and procedures in case mobile devices are lost, stolen, or damaged. Aim for an approach that encourages students to take responsibility for their devices but avoids burdening families unduly. Work with insurers to offer coverage that meets the needs of schools and families.

- Safeguard confidential information by establishing what data will be collected; how it will be used, accessed, and stored; and how any data breach will be handled. Review contracts with software and service providers to limit or forbid the use or sharing of student data for anything other than its intended educational purposes. Conduct security audits to ensure privacy policies are being followed.

CASE STUDY
A Robust Policy Framework in Singapore

In less than 50 years, Singapore has transformed from an impoverished nation with no compulsory education to an economic powerhouse whose students lead the world in a variety of education metrics. Most recently, Singapore's 15 year-olds scored highest among 40 OECD nations on the 2012 PISA assessment of problem solving.

Singapore's success stems in part from a long-term commitment to education and a coherent policy frame-work. Since 1997, Singapore's leaders have created three five-year master plans for education, each focused on preparing students to lead in the global knowledge economy and each including a strong ICT element. The most recent master plan emphasizes the importance of delivering a student-centric, values-driven education organized around a vision of engaged learners, high-quality schools, caring educators, and parents as supportive partners. Elements of Singapore's policy framework include:

- Encouraging local innovation within a consistent overall framework
- Aligning education with the nation's social and economic objectives and a clear vision of the future
- Making a strong commitment to success for every student
- Placing a high value on teachers, including recruiting from the top third of graduates and providing differentiated professional learning for educators on the job
- Using ICT to support curriculum and assessment goals
- Creating synergy between the use of ICT in education and throughout Singapore's society and economy
- Taking a holistic and systematic approach to planning and implementation
- Ongoing research to identify what works—both to modify and improve Singapore's own practices and to learn from others around the world

Read about projects conducted by the Singapore National Institute for Education's Centre for Research in Pedagogy and Practice: https://www.nie.edu.sg/research-centres/centre-research-pedagogy-practice-crpp.

See OECD's profile of Singapore education: *Singapore: Rapid Improvement Followed by Strong Performance,* 2010. http://www.oecd.org/countries/singapore/46581101.pdf

15-year olds scored **highest** among 40 OECD nations on PISA **problem solving**

Strong commitment to the success of **every student**

Resources

- The *Intel® Education Transformation Policy Guide* (Robert B. Kozma, Ph.D., principal author, 2013) provides a four-phase model for developing national and state policies to support education transformation. The guide feature case studies, reports, best-practice policy documents, videos, and other resources, and an online tool is also available. Download the guide at: http://www.intel.com/content/www/us/en/education/evaluations/ict-policy-development-guidebook.html

- The Landmark for Schools Project's AUP 2.0 is a wiki with resources and examples of acceptable use policies: http://landmark-project.com/aup20/pmwiki.php

- McRel International, formerly Mid-Continent Research for Education and Learning, provides resources on balanced leadership: http://www.mcrel.org/

- UNESCO T*ransforming Education: The Power of ICT Policies,* edited by Robert B. Kozma (2011): http://unesdoc.unesco.org/images/0021/002118/211842e.pdf