

# Digital Learning:

Meeting the Challenges and Embracing the Opportunities for Teachers



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## **Digital Learning: Meeting the Challenges and Embracing the Opportunities for Teachers**

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## Background: Advancing Education to the Digital Age

Today’s students are often called “digital-age learners”— reflecting their technological savvy and free-agent approach to learning. With their iPods, iPhones, computer games, social media pages, and text messaging, these digital-age students have access to resources and knowledge beyond traditional school structures and practices. These students are “less dependent upon traditional education institutions for knowledge acquisition and are much more self-reliant, exercising their internet-based skills to aggregate data and information.”<sup>1</sup>

These evolving student characteristics and the increased presence of technology and digital resources certainly provide challenges for schools as they work to adapt and embrace this rapidly changing environment. Issues like access and resources, teacher training and professional development, and structures and delivery methods must be addressed. However, the digital learning era also provides great opportunity to help schools advance student learning and acquire 21st century skills. These opportunities include:

### **Increasing Student Enrichment:**

Using technology can make the K-12 learning experience more meaningful, challenging, and engaging for students;

### **Addressing Teacher Effectiveness:**

Leveraging digital technologies and data management can support effective and efficient evaluation of learning and data-driven instruction;



### **Mitigating Inequality:**

Creating a technology-enriched curriculum can create additional learning opportunities for many high-poverty, urban, rural, and other underserved students who might not otherwise have access to these important tools; and,

### **Preparing Students for Success:**

Teaching students effectively to use technology will help them to achieve success in post-secondary education and in the global economic workplace.

## **Digital Learning and Teachers**

Research has consistently shown that one of the most important factors contributing to a student's success is the quality of teaching he or she receives. Fully leveraging the opportunities of digital learning and technology in the classroom will require a shift in the role and skills of teachers. Among other roles, teachers will need to<sup>2</sup>:

### **Facilitate Learning:**

The teacher's role shifts from instructional "owner"—the lecturer who owns the content—to instructional "designer"—the facilitator who creates and guides learning experiences.

### **Provide Technical Expertise:**

Teachers will need to be comfortable with navigating technology and digital resources to support the learning of students.

### **Leverage Technology to Individualize Instruction:**

The facilitation of learning includes the use of technology to guide students and customize activities to meet individual student needs.

### **Use Technology to Transform Assessment and Foster Data-driven Instruction:**

Technology and digital learning offer teachers the ability to collect and interpret various points of student assessment data. Teachers will need to be trained in how to use these data effectively to inform instruction and increase student learning.

# Advancing Professional Development and Teacher Training

With the expansion of digital learning and technology in the classroom, the training and professional development of teachers must transition to fully realize the potential of these resources to foster student learning. This encompasses using technology, both to guide instruction and to measure, evaluate and understand student learning through data-driven instructional methods. In addition to this shift in role, many teachers lack proficiency with technology. These gaps—the teacher role in digital learning environments and teacher technology skills—prevent digital learning and technologies from being used effectively. To make the transition from the traditional role of disseminating content knowledge to that of instructional design in guiding students' discovery and application of information, teachers require a significant investment in time and learning. Teachers have cited professional development as an important component of preparing them to use technology effectively in instruction<sup>3</sup>.

Preparing teachers to take full advantage of technology for learning will require new professional learning content centered on several key ideas and skills, including:

- 1. Designing relevant, rigorous learning tasks** that leverage the power of technologies and the Internet;
- 2. Developing facilitation** and collaboration strategies;



**3. Creating classroom systems** and routines that support collaborative and independent learning;

**4. Establishing guidelines** for ethical and appropriate use of digital media and content;

**5. Using various technologies and the Internet** in instructional planning and decision-making;and,

**6. Using digital technologies in evaluation of learning** (assessment, data-driven decision making, portfolios, etc.)

To support the development of these skills and build teachers' comfort with technology will require a strong commitment to professional development. But the reality of creating and implementing professional development systems to move toward the goal of all students becoming technologically literate and all teachers leveraging the power of technology in their classrooms will require an approach that goes beyond policy requirements and the establishment of standards. Effectively scaling up professional development for teachers on the use of technology to guide instruction will involve broad access, ongoing support and accountability. Specifically, policymakers, districts and schools need to ensure:

#### **Teachers are Provided Multiple Opportunities to Attend Professional Development:**

If the professional development is designed for face-to-face delivery, offer it on several dates and at various times to accommodate teacher schedules.

#### **Opportunity for Accessing Professional Development Online:**

Face-to-face workshops can be adapted to an online environment. Consider designing new workshops to be delivered online.

#### **Professional Development Models are Adapted:**

For example, if the learning outcome is that teachers flip their classrooms (students driving the instruction), then the training could be flipped as well.



## Alternatives to Traditional Professional Development:

These include Twitter chats, online forums, and Skype being offered to teachers.

## Follow-up Support:

Instructional technology-support teachers can use their expertise to assist classroom teachers in implementing strategies and activities learned in professional development.

## Commitment to Accountability

### to Evaluate Effectiveness:

Professional development is not effective unless it causes teachers to improve their instruction and results in the desired outcomes for students. Schools and districts must evaluate the effectiveness of their efforts.<sup>4</sup> One evaluation technique is to include an observation component in professional development granting credit for the training only after the observation is completed.

## Texas: Putting Principles into Action

A group of Texas school districts is working to effectively integrate digital learning into the classroom. The Texas High Performance Schools Consortium, consisting of 23 school districts, was created by the state legislature to inform the governor, legislature, and commissioner on transforming Texas public schools through the implementation of digital learning, rigorous learning standards, multiple assessments,



and local control. School districts in the Texas High Performance Schools Consortium are working collaboratively to implement the principles of the Texas Association of School Administrators New Vision for Public Education,<sup>5</sup> which include using digital information and technologies to transform teaching and learning.

Key to the success of these consortium-district technology initiatives is building the capacity of teachers to become instructional designers in a digital environment, providing instruction and learning supports for students in new and innovative ways. These districts illustrate how schools can put principles into action, foment the integration of digital learning, and advance the professional development and support of teachers to advance instruction and student learning. The experiences of two consortium districts, Northwest Independent School District and McAllen Independent School District, provide helpful insight into the efforts and policies necessary to successfully integrate technology into classroom instruction.

## Northwest Independent School District

Northwest Independent School District (NISD) is committed to graduating future-ready students, and technology is an essential learning tool to realize that vision. In order to facilitate the new digital learning environment, the district strategically equipped every classroom with both teacher and student technology, including 1:1 student devices in grades 6-12, supported by a robust wireless infrastructure. While access to technology resources is important, engaging students in authentic learning is the critical element in the new digital learning environment.

Recognizing that technology alone does not transform classroom instruction, Northwest provides technology-integration professional development delivered in a variety of formats to accommodate teachers' learning styles and schedules. The opportunities offered by the district illustrate several best practices of quality professional development. **Face-to-face classes** are offered during the summer and periodically throughout the school year. **Online classes allow teachers to “attend” at their convenience.** The district promotes **alternative avenues for professional development** such as the use of social media, including Twitter and Pinterest, and **encourages educators to connect and collaborate with colleagues** without the restrictions and constraints of traditional professional development.

These professional development efforts have resulted in innovative, student-centered learning that illustrates the promise of digital-age learning:

### **Foster Student Engagement:**

For Ashley Chapman, NISD Instructional Technology Support Teacher, technology transformed her classroom. ***“As a former secondary science teacher, the student engagement and achievement that I observed as a result of technology integration was astounding. My students were engaged and invested in the educational process. They consistently met and exceeded the standards and I attribute this success to meaningful use of technology in the classroom.”***

### **Promote Individualized Instruction:**

Technology also allows for differentiation and student choice. Whether the tool is a desktop application or web-based, technology has allowed students to create, design, experiment, and organize in a way that paper and pencil do not allow. This empowers students and increases motivation.

### **Assess Learning to Strengthen Instruction:**

Teachers have embraced technology to assess student learning. Formative assessments using polling technology such as classroom performance systems or online tools like Socrative support data-driven instruction— allowing the teacher to adjust instruction in real time based on immediate access to data. Traditional assessments delivered through a learning management system provide students immediate feedback.



## Advance Assessment Practices:

Technology allows assessment in ways that require higher-level processes than any state standardized test can produce. Teachers have evaluated learning with technology in a variety of non-traditional ways, including having students build conceptual models in STEM engineering classes; develop websites in history and business classes; create stop-motion videos in biology classes; and, design public service announcements in environmental science classes including such topics as research-based support of or opposition to hydraulic fracturing.

*“Rather than the teacher creating an assignment and the students doing it, technology has allowed our students to become creators of meaningful products from the knowledge acquired through the use of technology. Technology has become an outlet for higher-order thinking and questioning.”*- Todd Rodgers, Principal, Northwest Middle School.

## McAllen Independent School District

When the McAllen Independent School District (MISD) superintendent Dr. James Ponce was approached by a community member proposing that the district get computers for a specific classroom, he responded, “Why not every classroom? Why not every student?” Ultimately, **every one of the 25,000 students in grades K-12 was issued an iOS device** (either an iPad or iTouch) to support anytime, anywhere learning. This was the beginning of the district’s Transforming Learning in Classroom, Campus, and Community (TLC3) framework.

The technology has not only transformed MISD classrooms into student-centered, inquiry-based learning centers, but has also changed the teachers’ role. No longer the sole purveyors of information, teachers now also facilitate learning, guiding students to discover their own solutions and a deeper understanding of content and concepts.

As the teachers’ role changed so did their professional development needs. The **district initially responded with a train-the-trainer model of professional development** to build capacity on each campus. **A core group of teacher leaders was trained** on technology integration, and they in turn organized groups of teachers on their own campuses to lead professional development and change in the classroom.

Today teachers are supported with a variety of professional growth opportunities including:

### **Creation of a Campus-Planning Period:**

In addition to a traditional conference period, teachers also have a campus planning period that is utilized for professional learning and student data analysis.

### **Reinforcement Through Instructional Coaches:**

Master teachers support and coach teachers in all aspects of classroom instruction and student learning. These instructional coaches reinforce professional learning and help teachers implement best practices through job-embedded professional learning. Coaches model the strategies learned in the instructional-technology sessions in the teachers' classrooms, allowing them to observe how to implement the new methods.

### **Establishment of Professional Learning Communities:**

Professional learning communities host face-to-face instructional technology sessions for training in digital teaching strategies. The sessions include time for teachers to create innovative, engaging lessons aligned to the National Educational Technology Standards for Students to support the development of 21st century skills<sup>6</sup>.



## Implications for Business Leaders

Community members and business leaders know the importance and impact of high-quality, effective schools. Enhancing and strengthening teacher effectiveness in the use of digital technologies and digitalized content is at the heart of transforming teaching and learning in our classrooms. Business and community leaders can encourage teacher effectiveness through the integration of technology and support by:

1. **Developing mentorships** as part of teacher professional growth programs;
2. **Working with teachers** to create real-world content connections in classroom learning;
3. **Investing in schools and teachers** (technologies, expertise, funds) focused on effective teaching and use of technologies; and,
4. **Spotlighting teacher successes** and sharing them throughout the community.

## Implications for Policymakers

State-level policy plays an integral role in establishing expectations and standards for schools and teachers. Policymakers can provide both direction and support for increasing teacher effectiveness in the digital environment, including:

1. **Broaden current policies related to teacher effectiveness and accountability** in recognition of the changing role of teaching and learning in the digital era. Technology and digital learning provide great opportunity for state policymakers to foster a new era of teacher effectiveness and accountability. This includes multiple assessment results to determine student learning.
2. **Support professional development programs that recognize and leverage the power and impact of technology and the digital environment on teaching and learning.** The teacher's most important role is to be a designer of academically rigorous and engaging experiences for students. Policymakers need to

ensure teachers have access to high-quality professional development opportunities that help utilize technology for instruction and student learning. They can do this by articulating standards and expectations for professional development and teacher training programs.

**3. Find ways to fund and support equitable access to state-of-the-art technology** for all public school teachers and children to meet the demands of the digital global economy. Research clearly shows that “effective teaching is the most important school-related factor in student achievement, yet access to effective teaching remains widely uneven and inequitably distributed.”<sup>7</sup> Technology has the potential to improve the effectiveness of teachers in every classroom, but only if there is access to this technology. Policymakers should prioritize investments in classroom technology and teacher training, particularly in high-need schools and districts.

#### NOTES:

1 **Burkholder, K.** (2012). The Impact of a Technology Integration Academy on Instructional Technology Integration in a Texas School District. Unpublished dissertation. Nova Southeastern University. Ft. Lauderdale, Florida.

2 Adapted from International Society for Technology in Education and Redefining Teacher Education for Digital-Age Learners.

3 Gray, et al. 2009, as cited in Burkholder (2012), *ibid*.

4 Burkholder (2012), *ibid*

5 **The Public Education Visioning Institute.** (2008) “Creating a New Vision for Public Education in Texas.” Texas Association of School Administrators/Texas Leadership Center. Retrieved from <http://www.tasanet.org/sites/tasa/files/visioning/workinprogress.pdf>.

6 **ISTE National Education Technology Standards** (2008). International Society for Technology in Education. Retrieved from <http://www.iste.org/docs/pdfs/nets-t-standards.pdf?sfvrsn=2>.

7 **Alliance for Excellent Education.** (2012). The Digital Learning Imperative: How Technology and Teaching Meet Today’s Educational Challenges. Washington D.C. Retrieved from <http://www.all4ed.org/digitallearningdigital-learning-national-leadership>.



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