Digital Content Strategy Guide

Setting the Stage for a Digital Transformation

INSIDE

Digital Content Strategy Guide

Introduction

This Digital Content Strategy Guide will assist you in creating a plan for your school or district to bring digital content/curriculum to students, teachers, administrators and parents. This plan will help you set the strategy for leveraging existing digital assets, acquiring new digital content and ensuring the effective implementation of digital content within your school or district. It is meant to be easy to navigate and highly useable with several sets of questions, models and advice to consider, and an abundant amount of resources to explore.

This guide provides you with the information you need to develop a framework that ensures effective policy and practice throughout the educational experience. This framework is sustainable in systematically achieving the instructional goals and outcomes your school or district desires, outcomes that can — and undoubtedly should — prepare students to compete in the global society.

The guide also provides best practices in the selection and implementation of digital assets that maximize your investment in digital content by helping you to assess what you are doing now, what is working and what to leverage in the next stage. It suggests productive collaborations with industry, community leaders and parents to acquire and produce the content you need and want. In short, it can help guide you toward better and more productive practice.

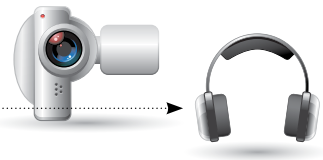
"Digital learning is the great equalizer. It holds the promise of extending access to rigorous high quality instruction to every student across America, regardless of language, zip code, income levels, or special needs."

From Digital Learning Now
(http://www.digitallearningnow.com)
report of same name, released December 1, 2010.

Defining Digital Content

The consensus among both current instructional and technology leaders in schools and industry experts is that 'digital content' is all content that is electronic in nature that supports or acts as the curriculum and helps students learn. It may include delivering traditional content used in the classroom through a technology-based mechanism. But it also is much more than that.

Digital content includes:



Video: films, TV programs, YouTube segments, vodcasts

Audio: music, lectures, podcasts

Instructional games and simulations: WolfQuest (http://www.wolfquest.org) and River City (http://www.gse.harvard.edu/academics/masters/tie/faculty/dede.html)

Web 2.0 tools: collaboration, research, quiz tools (http://school.discoveryeducation.com/schrockguide/edtools.html)

Textbooks and workbooks: available digitally or online from both large companies and more specialized publishers

Reference books: Encyclopedia Britannica (http://www.britannica.com/)

Open educational resources: including student and teacher-created items

Digital content can be as simple as an article scanned into a computer for one class and as complex as all instructional materials being digital.

Digital content may be used throughout the instructional day and to be effective, must be focused on the desired learning outcome. You will see digital content implemented in blended learning environments, online courses, virtual schools, and in private and public schools including charter schools. As technology continues to evolve, what can be accessed as a teaching/learning tool, learning object, learning experience or environment will change, extending everyone's reach and grasp.

Ultimately, digital content can provide multiple avenues of delivery to enable students to have a personalized experience that aligns to different learning styles, educational goals and overall learning outcomes.

A reminder of how far we have come...

Early 1960s

A student doing homework in her room after dinner and encountering a challenge that requires research only had recourse to an encyclopedia (if her family owned one), a textbook if she had it with her, a call to a knowledgeable friend or relative, or waiting until the next day to use the library at school or the local public library after school.

10 Advantages
of Using Digital Content

Digital content provides many benefits:

1 **Allows greater efficiency and timeliness in updating information**
Textbooks and other trade books often take more than a year to be updated and usually longer to be created.

2 **Helps teachers and students create their own instructional and learning resource repositories**
Teachers and students can produce, recombine and repurpose content to create their own resources and libraries. Teachers can easily prepare differentiated versions for different classes and students.

3 **Enables anywhere, anytime learning**
Students can access their materials at any time. Late-night learners can be as easily satisfied as early-morning ones. Digital content breaks the barriers of the classroom walls.

4 **Facilitates personalized, tailored learning experiences, enabling all students to access appropriate materials for learning**
Data banks containing detailed student information focus learning around student need. In addition, teachers can more easily deliver materials to students with special needs.

Even today, in many schools one can hear the COW (computers on wheels) making its way down the corridor. Computers on wheels are the only way some students have access to technology during school time. They take turns, are not necessarily able to keep their work in the computer and find they may not have a computer when they need one.

5 Engages students in learning

Today's young people go nowhere without their smart devices. They are a digital generation and education that does not take that into account has students 'power off.' Digital content allows students to use the devices to which they are accustomed and helps them remain engaged throughout the learning process.

6 Makes immediate feedback possible

With technology-based assessment, students and teachers recalibrate teaching and learning appropriately and "just in time." This can help drive instruction and push students to accelerate to better outcomes. Summative evaluation is also easily accessible and teachers can see how well students are learning a subject in order to make informed teaching decisions.

7 Allows students to match materials with preferred learning modalities

Students own their learning as they utilize multiple digital assets and explorations to guide their learning in a personalized, productive manner. Students produce materials to demonstrate their knowledge and show mastery of learning outcomes. These productions may become learning objects for fellow students. One thing to note is that students need to develop appropriate digital literacy skills in order to evaluate the reliability of various online sources.

8 Saves students' backs by eliminating the need for heavy book bags

Students no longer have to tote heavy backpacks from school to playground to home.

9 Enables better management of the inventory of resources

Everyone with permission can access the "storeroom" to see what is available and what is needed as well as who is using what. School leaders can easily determine gaps and fill them.

10 Makes community use of school intellectual resources possible

In the same way that students log on outside of school, so may community members use those resources with the proper planning and agreement with the schools.

How Far We Have Come...

In the past, a teacher in a junior high school put together her own source book of "protest literature" for a course she was teaching to seventh, eighth and ninth graders. She made copies of poems, short stories and newspaper articles for the students; bound the documents; and handed each student a folder. The benefits of this are much like some of the benefits digital content can bring to the table — up-to-date and diverse information that is easy for students to access.

10 Key Questions to Establish Your Current State

If you need to get a measure of where you are, here is a set of questions you may use to determine the state of the system vis-a-vis digital content:

1 What is the current inventory of content and what digital content is being used?

- ✓ Textbooks
- ✓ E-books
- ✓ Newspapers and magazines
- ✓ Videos
- ✓ Webinars
- ✓ Other

2 What percent of students and staff use digital content? At what levels?

3 How is it being used?

- ✓ Reference
- ✓ Regular instruction
- ✓ Compensatory instruction
- ✓ Enrichment
- ✓ Homework

4 What online courses are offered?

5 What is the policy around students taking online courses from outside providers?

6 What types of alternative courses are offered?

- ✓ Hybrid (mix of face-to-face and online learning)
- ✓ Online
- ✓ Distance learning

7 What is the system technology plan and how is it aligned with curriculum and standards?

8 What delivery systems are used?

- ✓ Own server
- ✓ Server as part of a collaborative
- ✓ Cloud
- ✓ All of the above

9 What digital devices do educators have in school and at home?

10 What kind of access do our students have?

- ✓ One-to-one provided by the schools
- ✓ One-to-one (students bring their own computers)
- ✓ Computer labs
- ✓ COWs
- ✓ Some mixture of the above

10 Essential Questions to Ask About Your Strategy

Whether you are starting the planning or have already begun, here are some questions you should ask yourself and your team. The answers you arrive at will tell you how much work needs to be done before you complete the plan.

1. What is the vision and what are the goals for transforming the learning environment?
2. What kind of technical, instructional and leadership expertise is there to handle this transformation?
3. How is the digital content strategy aligned to student outcomes?
4. How is existing digital content being leveraged to impact student learning goals?
5. How are we providing access and ensuring enough capacity?
6. What are the timelines and rollout procedures?
7. What are the check-in points to ensure we are aligning with the vision and moving with the timeline?
8. How will we assess student learning in this new medium?
9. What is the organizational capacity to provide professional learning and the ability to create outcome-based learning?
10. What level of community participation will there be in this process?

The Planning Process for Migration

As with any other strategic planning process you undertake in your schools,[1] you will need to establish goals, objectives, strategies, (perhaps even) tactics and measurable outcomes for the use of digital content.

You will want to analyze the strengths, weaknesses, opportunities and threats of your system and ask questions like:

- What are we doing with digital content right now?
- Do we know of anything we should be doing, but aren't?
- What will developing a digital content plan mean for us?
- What will we lose and what are the potential political costs and the financial burdens?

Then identify the instructional objectives:

- What should students know and be able to do?
  - What do state and national standards say they need to know and do?
  - Are there cultural norms to be observed?

You then move to content and instructional decisions:

- What content and skills must we teach for students to meet standards and high-stakes testing requirements?
- How much of what is taught will be mandated by instructional leaders and how much will be left to individual teacher discretion?
- What learning experiences must students have?
- What learning environments are best for success?
- What skills will students need to be career and college ready?
- What is each student's preferred learning style?
- How can we capitalize on their strengths while compensating for their weaknesses?
- How can we ensure that it is about the "whole child"[2] and not about the very attractive latest "cool" tool or trend?
- What attitudes and predispositions should they develop?

Finally you move to strategy:

- What steps should be taken to enable students to achieve those objectives?
- What resources are needed to enable students to achieve those objectives?

Everyone we interviewed during research for this strategy guide expressed a variation of this statement: **"It is about the right tool for the job. Choose your device with that in mind. Don't choose the device and then try to figure out how to use it."**

Many people teaching today may remember when textbooks started to migrate to technology with resources included on a CD as an accompaniment. Many schools continue to receive electronic copies of textbooks on CDs as supplements to the print material.

You include infrastructure decisions as part of the resources:

Bandwidth: Broadband access to the Internet and adequate wireless connectivity both inside and outside school should be sufficient. Access should not be an obstacle.

Clear entry point: The welcome "page" should be uncluttered and intuitive.

Easy navigation and manipulation: Directions, menus and icons should all be easy to understand and use.

Security: This is a complex but essential issue in protecting confidential information about students and faculty, about communications, and about the integrity of the entire electronic system.

Robust managed wireless infrastructure: Central control and sufficient capacity are essential for all students and educators who want and need to be online at the same time.

Standardized device configuration: All devices accessing the network must meet the same requirements for capacity and applications.

For most educational leaders, infrastructure decisions require expert knowledge which can come from internal and collaborative IT specialists, business partners or potential vendors. A clearly written advisory entitled, "Assessing technology readiness to support digital learning initiatives" is available from Dell at http://i.dell.com/sites/content/business/solutions/power/en/Documents/ps1q11cl-20110197-anthony.pdf.

From the National Technology Plan

4.2 Recommendation: Ensure that every student and educator has at least one Internet access device and software and resources for research, communication, multi-media content creation, and collaboration for use in and out of school.

4.3 Leverage open educational resources to promote innovative and creative opportunities for all learners and accelerate the development and adoption of new open technology-based learning tools and courses. Found on p. XIII.

Challenges to Overcome

Experienced educators identified the following issues as challenges:

Systemic Thinking

This is not a quandary for one teacher and one classroom at a time, probably not even one school at a time. The entire system needs to be considered and involved in the movement to digital content for the results to be significant. The size of the system is, of course, a key element. A large city district may have to phase in a plan while a small district can institute the plan in one stage. Nonetheless, the infrastructure decisions need to be made for the largest component from the beginning.

One respondent suggested we should be looking at this as a nation. Why does each educational institution or authority have to "reinvent the wheel?"

Funding

Money is not everything, but it must be factored in. "Money supports paper content," according to our experts, although this is starting to change. Some states have statutes that do not allow multi-year subscriptions. The cost conundrum is how to determine the return on investment of creating digital content. It depends on the cost models that providers will have. It involves figuring out how to ensure that the schools are getting the best product and service for what they spend. The schools need to keep track of utilization metrics. In some districts, choosing content will depend on what the state chooses. There are state standards and now the Common Core Standards.

Will there be savings with digital content? All of this remains to be seen. Fortunately, private industry is speaking with education about these issues and about how to make the transition to digital content work and the actual implementation beneficial and reasonably priced. It's important to remember and consider that having a strategy for transitioning to digital content can also have a large impact on actual cost savings. When digital content is implemented in a piecemeal fashion, implementation may be more costly in the short term.

Need for Renewal

There is a need to refresh regularly to keep the technology current. Because the use of digital content is dependent on the availability of technology, it is not a one-time investment. A schedule for replacing and upgrading hardware infrastructure needs to be part of the total plan.

Need for Timely Rollout

A digital content strategy naturally demands an increase in digital devices for student access. This sharp increase in the number of devices poses a challenge for IT staff already tight on resources. An emerging trend of desktop virtualization is beginning to address this challenge. With desktop virtualization, districts can utilize lower-cost thin clients that consume less energy and are easier to maintain. It also allows IT staff to manage a diverse range of applications and user data easily from a central location and quickly provision them to users on an as-needed basis.

Professional Learning

Teachers need to be prepared to integrate digital content into their curriculum and their instructional practice when it is time for an implementation. Leadership in the school can encourage teachers to be innovative and to fully embrace instructing in an environment of digital content. In many schools a culture change is required to enable collaboration and knowledge production (not just consumption) by students and teachers.

Professional learning should be strategic and widely available. According to our experts, "Current supports do not aid digital work." Some teachers are hesitant to use technology, while other teachers are eager to but do not have access. Professional learning needs to be tailored for each group depending on teaching styles and how comfortable and proficient educators are with technology.

Access

How can teachers and students get to the digital content? The ideal scenario is that each student will have access to his or her own device. However, funding and other issues can make this a hard goal to accomplish and schools are using a multitude of methods to provide access to students. Computers on carts, computer labs and "bring your own device" initiatives all go a long way in filling in the gaps. Here it is important to note that Internet access for students should comply with the Child Internet Protection Act (CIPA). For more information on CIPA, visit www.fcc.gov/cgb/consumerfacts/cipa.html.

The Marketplace

Finally, for the moment, the digital content marketplace is fractured. The major publishers do not yet have a comprehensive strategy to develop and distribute digital content. Many smaller content companies, nonprofit organizations and teachers are also creating content, so it is difficult for school districts to make sense of where all the content is and how to use and align it to the curriculum.

Immediate Dilemmas to Confront

Collaboration Between IT and Curriculum and Instruction

In some schools, technology leaders (whatever their title) and the instructional leaders may not always be completely aligned. Historically, many decisions about infrastructure and learning tools have been made because certain choices were less expensive (school budgets are always inadequate) without attention to why a particular choice would be better for a specific learning outcome.

For a school district to operate a successful digital content program, technology leaders and instructional leaders need to both have a sense of ownership and accountability, and should share a common vision for implementation to more effectively collaborate.

Here are some other dilemmas that need to be confronted:

Ensuring the LMS (learning management system) and CMS (content management system) are Robust

Procuring an LMS or a CMS may sound very appealing and may seem like the solution to managing digital content. However, putting a single "product" in place is not a strategy. It is one decision you will need to make as you develop a comprehensive plan.

Online Learning vs. Digital Content

Providing online courses and/or requiring an online course for graduation is useful and even desirable, but confuses the digital content issue. A digital content approach is much larger than online courses, although the latter may be part of the plan.

Online education depends on digital content, but digital content is not online learning.

Importance of Providing Digital Content for Everyone

Virtual schools must use digital content, but digital content should not be limited to just virtual schools, home schoolers (who have benefited enormously from the availability of digital content), or students engaged in credit recovery for graduation.

Public schools, charter schools, private schools and non-traditional schools all may enhance teaching and learning through the use of digital content and by providing blended or hybrid educational opportunities for students, as well as teachers. All institutions need to ensure that they are not just replicating traditional instruction methods online, but are taking full advantage of all that digital content can provide.

Who and What May Aid in the Process?

Consortiums and Collaboratives

In Massachusetts there is a nonprofit collaborative organization for school districts in each of the seven regions of the state. Their original purpose was to provide special services for students in low-incidence delivery programs. They soon became purveyors of other services such as professional learning and group purchasing (small school districts benefit financially from aggregating). This kind of organization is perfect for providing planning services and economies of scale. Two examples are EDCO (http://www.edcollab.org/) and The Educational Collaborative (http://www.tec-coop.org/).

Collaboration with Industry

On page 19 you will find a list of actions you may take to partner productively with vendors in your area. In addition to the financial and curriculum development aspects of such a relationship, career development opportunities for students (shadowing, internships, speakers) and professional enhancement for educators (internships) may be created for mutual benefit. There are many models of this across the country, such as Leadership Initiatives for Teaching and Technology (LIFT2) (http://www.lift2.org/).

Local Government

Since a major portion of the financial support for schools comes from local government bonds and taxes, schools must take the leadership in getting everyone to the table and ensuring that accurate data is in the right hands. Union County Public Schools in North Carolina paid for the first two years of one-to-one devices for the middle school from its own budget. To ensure that the schools would continue to get support in the future, leaders "shared the benefits," bringing constituents into the schools to see what was happening with students in classrooms. They started with board members and then invited parents. The schools require one evening's participation by the parent before the student receives a device. Parents learn about safety, policies and taking care of the computer. The communication department provides information to the local media.

It is possible to share resources with local government. IT services are often the target to provide efficiency and cost savings. However, priorities and exact job descriptions are necessary to prevent confusion and, even worse, lack of attention at the moment it is needed.

Professional Associations
These membership organizations often have the mission and capacity to assist educators in professional learning and advocacy. School systems may take a team of educators (more than one person is desirable so that they may support each other in influencing their colleagues when they return to school) to conferences to learn about other schools' implementation stories and the latest information. Visits by a team to some of those schools are also powerful learning experiences.

Community Groups
Sharing the challenges and rewards with the community helps you to get support from the citizenry and local government. In the "Creating a Digital Content Team" sidebar, you can see the value of including community members in the process.

Creating a Digital Content Team

A team to make decisions about digital content must be in place. This team needs to view digital content as an enterprise resource with acquisitions that may be written off as capital expenses.

The instructional side must be integrally involved. The team should consist of these titled and/or equivalent positions:

- Assistant superintendent for curriculum and instruction
- IT administrator
- Technology instructional specialist
- Teacher from every level
- Subject matter leaders in all disciplines
- Principal from each level
- A few secondary students

In addition, the team should be advised by a broad-based community group which includes:

- A municipal leader
- Business partners
- Parents
- Community organizations representatives
- If possible, a local member of the state legislature (or his/her aide)

Giving each of these representatives a voice will enhance decision-making and provide support for community outreach and advocacy, especially when funding is needed. Such an advisory committee builds partnerships for future development purposes.

The Current Landscape: A Wide Variety of Approaches

A Glimpse of the K-12 Side:

1. Los Angeles Unified School District, Calif.

LAUSD is the third-largest school district in the nation and has a website with all of its online initiatives.
http://sites.google.com/site/onlinelearninglausd/

2. Henrico County Public Schools, Va.

The district developed the Teaching Innovation Progression Chart to provide teachers with a structure for self-reflection and growth. These rubrics are designed to focus teachers on the integration of 21st-century skills across the content areas.
http://henricostaffdev.org/2010/01/19/teaching-innovation-progression-chart-tip-c/

All digital activities the school district engages in can be found at http://henricostaffdev.org/21/.

3. Hall County Schools, Ga.

Hall County Schools partnered with Dell to develop a new learning environment that brings together all the critical components of learning into one interface to empower teachers, students and administrators toward a blended learning environment. It is called HALLCOnnect and students can access the site with laptops, tablets and smartphones.

4. Vail School District, Ariz.

The district has a variety of digital content initiatives, including:

- a one-to-one program at Empire High School where students are issued a laptop instead of textbooks;
- an Internet Bus that turned a traditional school bus into a rolling study hall; and
- a program at Cienega High School where students bring their own laptops for use in classes instead of textbooks.

http://www.vail.k12.az.us/?s=Digital+content

"For us to sustain and stay on the front edge, we have to engage those forward thinkers around us."

Dr. Aaron Turpin
Executive Director of Information, Technology, and Assessment
Hall County Schools
Hall County, Ga.

"The way students are learning is changing, and districts must change, too. Much of what students have learned since they were born has come through a digital image such as television, iPods or computers."

Will Schofield
Superintendent
Hall County Schools
Hall County, Ga.

5. Union County Public Schools, N.C.

UCPS developed School Website Guidelines which help to steer people to the right resources.

Internet Acceptable Use Guidelines for Employees, PDF version
http://webcp.ucps.k12.nc.us/forms_manager/documents/AUP_employee_1.pdf

6. Hacienda La Puente Unified School District, Calif.

The district developed the DIGITAL project, funded from a federal Ready to Teach grant, to improve middle school students' mathematics skills.
http://www.hlpusd.k12.ca.us/rtt

A Glimpse of the Higher Education Side:

Higher education institutions made the move to digital content before K-12:

1. Massachusetts Institute of Technology, Mass.

MIT led the way by placing all its courses on the Web with OpenCourseWare.
http://ocw.mit.edu/index.htm.

An example of current offerings: BLOSSOMS (Blended Learning Open Source Science or Math Studies) is designed "to develop a large, free repository of video modules for high school math and science classes created by gifted volunteer teachers from around the world, seeded initially by MIT faculty members and by partnering educators in Jordan and Pakistan."
http://blossoms.mit.edu/.

2. Harvard University, Mass.

Harvard followed by placing its collections on the Web.
http://digitalcollections.harvard.edu/related_resources.html.

3. Cornell University, N.Y.

Now many universities are digitizing their library holdings to preserve them, but also to make them more readily available to researchers. K-12 schools can benefit from that. One example is the Cornell University Library Digitization project.
http://www.library.cornell.edu/svcs/serve/scholarly.

Two Useful Resources

1. Curriki, K-12 Open Curricula Community is a nonprofit empowering educators to deliver and share curricula.

http://www.curriki.org/

2. SREB-SCORE Initiative: The Sharable Content Object Repositories for Education Initiative. The goals of SCORE are to improve teaching and learning, and achieve costs savings through a multi-state K-12 and higher education initiative to share digital learning course content among colleges, universities and schools in Southern Regional Education Board (SREB) states. SCORE membership is limited to SREB state education agencies and to schools or colleges designated by those agencies.

http://www.srebonlineteachers.org/digitalContent.html

A Glimpse of the Provider Side:

1. Microsoft, Partners in Learning is a multi-faceted program designed to help teachers use technology better in their practice.
http://www.microsoft.com/education/pil/partnersInLearning.aspx.

2. PBS, Pearson Education, and BBC Worldwide, Discovery Education streaming and streaming plus provide access to a topic- and keyword-searchable library of more than 155,000 items, including full-length video programs, clips, articles, still images and interactive activities.[3]

3. Houghton Mifflin Harcourt Brace provides a guide for teachers, Using the Harcourt Ebooks, as well as resources for online learning. A look at http://www.eharcourt.com/ shows the range of services. See http://www.hmhco.com to view offerings.

A Glimpse of the Legislative Side:

State legislators have a significant role to play. Because education is a state function, states have the capacity to deliver on many initiatives. Especially in local control states, the state can assist educators in determining what should be "standardized" and what should be differentiated.

Here are 10 actions a state can take:

- Not limit the providers that can be used
- Require online experience for high school graduation
- Not have seat time requirement for graduation
- Require digital content alignment with state standards
- Require that teachers be prepared to teach with technology and provided with the resources such as professional development and equipment
- Administer high-stakes tests digitally; and encourage digital formative assessment
- Allow the purchase of digital content with textbook and supplies funding
- Ensure high-speed broadband for schools, teachers and students

How to Work with Business, Industry and Vendors

1. Join an advisory committee for the company: If such an opportunity is not available at the time you are reaching out, approach the company. It is better to identify a person (ask if any parents of students work for the company and ask for the parent's help) to speak with than to make a "cold call."

2. Listen to what they say: Schools can benefit from where businesses say they need to focus.

3. Ask them about what they are willing to do for the school: Sometimes businesses are constrained in what they can offer. It is good to know that up front.

4. Ask them how the schools can help them: Schools can help to train business personnel, provide compensatory education for special groups and help develop professional programs for the company.

5. Tell them what you need: They may not be able to help, but might propose an alternative solution or provider.

6. Create a team to partner with them to follow through: If the relationship has the promise of a long and mutually beneficial future, having several people in the mix spreads the benefits to both sides.

- Ensure all students and teachers have Internet access devices
- Require that technology plans include digital content as a strategy

Adapted from Digital Learning Council Report
http://www.digitallearningnow.com/

State Responses to the Digital Content Movement

- In February 2011, the Georgia Senate voted 45-5 to expand the definition of "textbook" to include technical equipment.

- Florida has partnered with iTunes U offering "… an additional way to access the valuable educational content available from Florida's school districts, state agencies, and nonprofit organizations. Florida on iTunes U brings together teaching, professional development, and cultural resources for educators and students." See http://etc.usf.edu/floridaitunesu/index.html.

  In addition, the state Board of Education requires that by the 2014-15 school year all "instructional materials" reviewed by the state be "digital." Typically, the state reviews printed textbooks. It has deleted requirements that districts spend half their "textbook money" on state-approved books and instead require they spend half on "digital content."[4]

Alabama is the third-leading provider of K-12 distance learning.

Maine was the first state to commit to one-to-one access for every student and thus is the leader in providing each student with a powerful learning tool. (Doug Levin, SETDA, April 2, 2011)

- Utah passed a law in March 2011 that enables public schools, including charter schools, to receive state payment for offering online classes. The bill also continues funding for the Electronic High School for another year before requiring the school to compete with other providers for dollars.

- California created the "Free Digital Textbook Initiative" to provide students, teachers and parents with access to free digital high school textbooks that meet California's rigorous academic content standards in 2009.[5]

- Texas passed legislation that allows schools and teachers to use traditional textbook funding for digital content and technology in 2010.[6]

Global Movement to Digital Content

While this guide is focused on practices in the United States, it is useful to note where we stand in comparison with other nations. A December 2010 article by Joseph Tryble states:

> *China and India are positioned to take a lead in digital publishing including e-books for use in higher education, digitalising existing content or developing digital avatars of print textbooks with enhanced features which, for example, can show scientific diagrams in greater detail.*[7]

According to one of our experts:

- In some countries, content is mandated and lessons scheduled for everyone at the same time. In this "hands-on approach," governmental ministries heavily mandate and generate what content is to be used. The Middle East is an example of this approach.

- In others, there is a "hands-off" approach. For example, in the United Kingdom, there are standards to which textbook companies write their books and lesson plans, but uniformity of approach by schools is not mandated.

  In some ways, of course, these issues are similar to the United States. We have local control states like Massachusetts and Wisconsin, and centralized control states like Texas and California.

Rules and Policies that Need to be in Place

Understanding that "the digital content lifecycle consists of six primary phases: create, update, publish, translate, archive and expire" (http://www.digitalrightsdirector.com/digital_asset_management.html), it is important to:

Centralize and "command" certain processes

There should be a single operational approach to:

- Management of assets: inventory, metrics, assessments
- Procurement: practices, forms, intake mechanisms
- Delivery: how to provide the content to users for consumption and production

Define quality

- Has the content been evaluated? If so, by whom?
- If not, is there sufficient "testimony" from similar school districts so that your team can predict if it will work in yours?

- Content must be aligned to a number of standards
- Your instructional leaders should check out the authenticity and accuracy of the material

Require professional learning
- Align the offerings to the goals established

Develop and maintain responsible behavior
- Anti cyber-bullying policies
- Acceptable use policies
- Anti-plagiarism mechanisms (respect for Fair Use and copyright)
- Responsible sharing, e.g. Creative Commons: http://creativecommons.org/

Conclusion

Finally, some brief words of advice. Try to avoid:

1. Choosing devices before you have a digital content strategy in place or before you have fully considered how they will be used.

2. Implementing digital content one classroom at a time or in a 'piecemeal' approach. Pilots are fine, but that means some planning has occurred and they are part of an overall strategy.

Assessing Risks

In addressing risks associated with media and digital technology, one should consider:

Content risks – This includes exposure to potentially offensive or harmful content, including violent, sexual, sexist, racist or hate material.

Contact risks – This includes practices where people engage in harassment, cyber-bullying and cyber-stalking or violate privacy.

Conduct risks – This includes lying or intentionally misinforming people, giving out personal information, illegal downloading, gambling, hacking and more.[8]

3. Moving slowly or not at all because we are in a transition period. We will be transitioning for many years to come, but the time to act is now.

While no one can create a plan for you in a document like this guide, we have instead worked to identify and organize the elements you must consider as you begin planning. Much of the information you can also use as part of a tool kit for educating the people and organizations from which you need to acquire well-informed support.

We have given you a rationale, several sets of questions you must answer, some models to explore, resources to examine, suggestions for working with community and business partners, and advice about how to proceed. We have also provided you with some tools to develop and implement a digital content strategy. The next steps are yours. They are important steps because they can vastly improve the education of your students. They also direct your system into the inevitable future of learning.

Key Resources:

1. Digital Learning Council: The Elements of Digital Learning, along with actions for lawmakers, were released at the 2010 Excellence in Action National Summit on Education Reform on December 1 in Washington, D.C.
http://www.digitallearningnow.com/

Measuring Progress to Quality Digital Learning: In 2011, the initiative will begin grading each state based on the Elements of Digital Learning. The first report card will be released at the 2011 Excellence in Action National Summit on Education Reform on October 12 and 13 in San Francisco, Calif.

2. COSN
This document provides education leaders with advice on policies and procedures for technology use.
http://www.cosn.org/Portals/7/docs/Web%202.0/Acceptable%20Use%20Policies%20Web%2020%20Mobile%20Era.pdf.

3. Keeping Pace with K-12 Online Learning
"Online learning at the K-12 level has grown so much in recent years that the main issue in most states is no longer whether or not online learning is occurring, but rather how it is being implemented."
http://kpk12.com/

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Caveat: This guide contains many urls. Urls sometimes disappear. If you find one that is no longer viable, we apologize and suggest searching for a similar topic.

Endnotes:

[1] Visit http://www.balancedscorecard.org/ to view the Balanced Scorecard for systemic planning. Also see http://www.celtcorp.com/LeadershipOrganizationalDevelopment.aspx for a version designed for schools by CELT.

[2] ASCD's position can be found at www.ascd.org

[3] Aronowitz, Scott, "Discovery Aligns Digital Content to Common Core Standards," THE Journal, Jan. 1, 2010.

[4] http://articles.orlandosentinel.com/2011-01-18/news/os-state-board-priorities-20110118_1_school-grades-middle-or-high-schools-john-padget

[5] http://www.edweek.org/dd/articles/2009/10/21/01e-curriculum.h03.html

[6] http://k12blueprint.com/k12/blueprint/cd/Texas_Digital_Content_Brief.pdf

[7] http://www.universityworldnews.com/article.php?story=2010121022040248&mode=print

[8] http://www.knightcomm.org/digital-and-media-literacy/issues-to-consider-when-implementing-digital-and-media-literacy-programs/

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The Center for Digital Education (CDE) is a national research and advisory institute specializing in K-12 and higher education technology trends, policy, and funding. Along with its research services, CDE issues white papers and conducts the annual Digital School Districts and Digital Community Colleges surveys and award programs as well as hosts various K-12 and higher education events throughout the nation. CDE also supports the Converge media platform comprising the Converge Special Reports, convergemag.com, and custom publishing services.

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