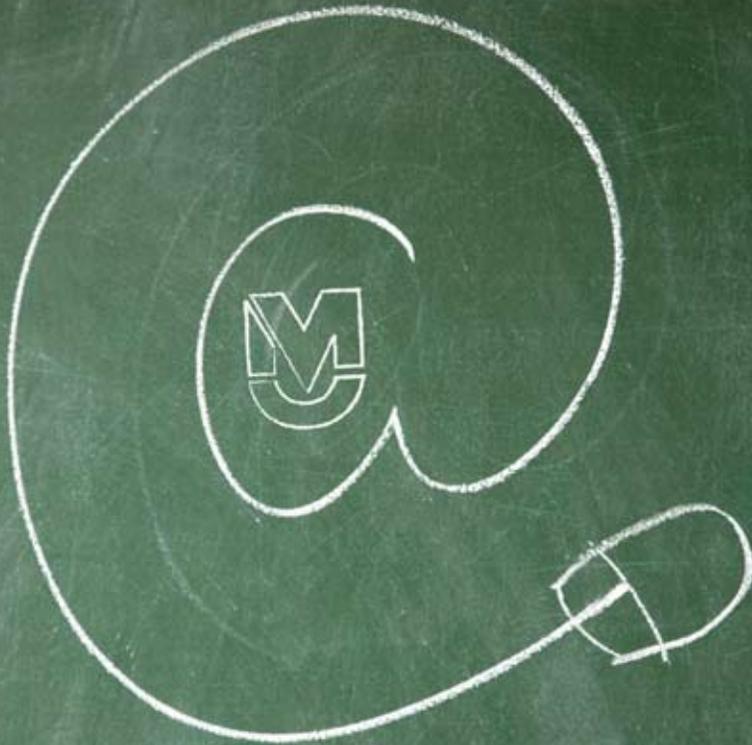


Planning Guide for **Online and
Blended Learning**



**CREATING NEW MODELS
FOR STUDENT SUCCESS**

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Background and Purpose



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Online learning is growing at a rapid pace and holds great promise as an instructional strategy to expand and customize learning opportunities for many students. Some national experts predict that 50 percent of all high school classes in the U.S. will be taught online before the end of this decade. This planning document was prepared to help meet requests from school leaders and others that seek support to expand their use of online and blended learning models.

MVU urges school and community leaders to develop strategic plans that leverage new and innovative delivery models. The need for change has become more pronounced as students expand their use of mobile technology and school budgets face new constraints. School districts that are not prepared to offer online and blended learning options for students may experience increased competition for enrollments from a variety of public and private online providers, including other Michigan districts.

The *Michigan Virtual University* developed this planning document as a practical resource to assist school board members, administrators, teachers, parents and others in meeting student needs. This document presents an overview of online and blended learning, offers guiding questions to support local planning efforts, identifies standards for teaching in online and blended environments and provides student and district planning rubrics.

Many schools continue to face challenges as they take steps to transform their delivery models to extend and deepen student learning, while integrating use of the technology. MVU believes that a school district’s plan for online learning should be closely aligned with its technology infrastructure investments and its school improvement planning process. As such, this planning document was developed to align to the strands and standards found in the Michigan School Improvement Framework.

I would like to thank John Watson and Chris Rapp from Evergreen Education Group for their support and assistance in developing this planning document. I hope this document helps facilitate a strategic planning process to expand the use of online and blended learning. MVU stands ready to offer support and assistance and I encourage you to contact our offices to explore how we can help you develop an implementation plan for online learning that addresses local needs.

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Section 1:

Introduction to Online and Blended Learning



HOW TO USE THIS RESOURCE

This document is designed to serve educational leaders in Michigan who are tasked with integrating online and blended learning planning into the larger school improvement planning effort. Written as a practical guide, this document is organized into narrative sections that present key focus areas for district and building leaders. In addition, all sections are linked to the Michigan School Improvement Framework and supporting planning documents are offered in the appendices.

Direct linkages to the **Michigan School Improvement Framework** and its associated strands and standards will be offered in a simple boxed format at the end of sections 3 through 6.

The end of each section will contain a reference to planning documents included in the **Appendices**.

The rapid growth of online learning in the last decade presents educators with an opportunity to transform education and meet the needs of a much broader, diverse group of learners than has been served in the past. In Michigan and across the country, online learning programs are supporting education reform and driving differentiation and individualization of instruction for students. School districts are improving the academic experience for the student by beginning to integrate online learning into their school improvement planning process to help support the unique needs of each student.

The successful introduction of online learning begins with an organized strategic planning process that includes key stakeholders, targeted student groups and a defined set of educational goals. School leaders need to consider four focus areas that serve to support the district's online learning goals: content acquisition and development, teaching and professional development, technology, and program operational issues such as student services, budgeting and evaluation.

1.1 Online learning definitions

Online learning has grown dramatically in K-12 education, creating countless new opportunities for students and educators, and, in many cases, demonstrating improved student outcomes. The national K-12 online education landscape includes state virtual schools, online schools that attract students across entire states and programs run by individual school districts for their own students. Students may take one course from an online provider in order to supplement their brick and mortar school catalogs (a supplemental program),¹ may take all of their courses online (a full-time program) or may blend online resources with traditional classroom teaching.

Many terms and definitions in the field — such as online learning, blended learning, hybrid learning, virtual schools and cyberschools — do not have commonly understood definitions. Online learning is teacher-led instruction delivered primarily via the Internet that includes software to provide a structured learning environment, and where the student and teacher are separated geographically. It may be synchronous (communication in which participants interact in real time such as video conferencing) or asynchronous (communication that is separated by time such as email or online discussion forums). It may be accessed from multiple settings (in school and/or out of school buildings).

Blended learning combines online learning with face-to-face instruction. It is becoming increasingly important as many school districts are adopting online learning for reasons other than the distance component — mostly because of the ability to use online instruction and resources to enhance learning opportunities and outcomes, and to personalize learning. In a single district, students may access online resources most often while sitting in a classroom, often with a teacher or paraprofessional either leading or assisting with instruction. In other instances, students may shift a portion of the time normally spent in classrooms to engage in online activities completed at home. The recent report [The Rise of K-12 Blended Learning](#)² from the Innosight Institute provides great detail and specific examples of the many types of blended learning models.

1.2 History of online learning

Over a century, we have witnessed the gradual evolution of distance learning — from “snail mail” correspondence courses to television, videoconferencing, satellite, Internet applications (online learning), and now mobile learning. Early distance learning programs created educational opportunities for rural students in places like Alaska, where brick-and-mortar schools were geographically unreachable for some students. Many schools took baby steps into distance learning with credit recovery programs, first on CD-ROMS and now often online using a computer-based instructional approach. As technology and broadband access improved, online programs expanded to meet the needs of home school students, adult learners, advanced students seeking academic challenges beyond their brick-and-mortar school catalog and student athletes seeking flexibility.³

While K-12 online learning continues to grow rapidly, the shape and pace of growth is uneven. Constrained education budgets, new policy developments and changing technologies are accelerating growth in some areas while slowing growth in other segments, but the overall trend persists. As of summer of 2011, online learning opportunities are available to at least some students in all of the 50 states plus Washington, D.C. No state, however, provides the full range of potential online learning opportunities — supplemental and full-time options for all students at all grade levels.⁴

1.3 The national landscape

Mapping the digital schooling frontier is difficult because the territory changes rapidly, and the myriad definitions and program designs can blur the map. Although somewhat limited by what is tracked, the data below provide a national view:

- Forty states have state virtual schools or state-led online initiatives. While their sizes vary dramatically, Florida Virtual School reported more than 250,000 course enrollments (one course enrollment equals one student enrolled in one semester-long course).
- Thirty states plus Washington, D.C., have at least one full-time online school serving students from multiple districts or statewide. Nationally an estimated 250,000 students are attending full-time online schools, an annual increase of 25%.

- Individual school districts operating online programs for their own students make up the fastest growing segment of K-12 online learning. It is estimated that 50% of all districts are operating or planning fully online (including virtual charters) and blended learning programs.
- The National Center for Education Statistics estimates 1.8 million course enrollments in K-12 online courses in its report *Distance Education Courses for Public Elementary and Secondary School Students: 2009-10*.⁵
- According to the [National Alliance for Public Charter Schools](#), there are 219 virtual charter schools nationwide, and another 142 that identify as blended or hybrid models.
- Much of the recent growth in online and especially blended learning is largely happening in district-sponsored online and blended learning programs, largely in the form of supplemental enrollments. Measuring this growth is difficult, as districts typically do not have to report online or blended enrollments.

A recent development in the K-12 online learning world is the growing number of schools, districts and states with online learning requirements. Michigan, Alabama, West Virginia and Idaho require an online course or approved online learning experience prior to graduation, and Memphis Public Schools requires a full online course for graduation.

This trend is also indicative of the overall state of online learning. The Sloan Consortium reported in [Class Differences: Online Education in the United States](#) that approximately 5.6 million higher education students enrolled in at least one online course in fall 2009, almost one million more than in the year before. In addition, online learning is quickly becoming the most efficient way to deliver continuing education and professional development for teachers and other professionals. When implemented well, online learning gives teachers an opportunity to transform the educational experience — to meet the needs of a broader group of learners, individualize instruction, and transform education for everyone — and should not be seen as a replacement for either the traditional high school experience nor for individual teachers.



KEY DEFINITIONS IN ONLINE LEARNING

Online learning is teacher-led instruction delivered primarily via the Internet that includes software to provide a structured learning environment, and where the student and teacher are separated geographically.

Blended learning is a hybrid instructional delivery model where students are provided face-to-face instruction, in part at a supervised school facility away from home and partially through computer-based and Internet-connected learning environments with some degree of student control over time, location and pace.

1.4 Types of online education programs

Online programs vary in many of their key elements. A set of the defining dimensions of online programs, represented in Figure 1,⁶ describes whether the program is supplemental or full-time; the breadth of its geographic reach; the organizational type and operational control; and location and type of instruction. Some of these attributes may be combined or operate along a continuum (e.g., location and type of instruction).

Of the 10 dimensions listed in Figure 1, four are especially significant:

Comprehensiveness (supplemental vs. full-time):

One important distinction is whether the online learning program provides a complete set of courses for students enrolled full-time or provides a small number of supplemental courses to students enrolled in a physical school. Full-time online schools typically must address the same accountability measures as physical schools in their states.

Reach:

Online learning programs may operate within a school district, across multiple school districts, across a state or, in a few cases, nationally or internationally. The geographic reach of online learning programs is a major contributing factor to the ways in which education policies can be outdated when applied to Internet-based delivery models.

Delivery (synchronous vs. asynchronous):

Most online learning programs are primarily asynchronous, meaning students and teachers work at different times, communicating via email and discussion boards.

Type of instruction (from fully online to fully face-to-face):

Many programs are now combining the best aspects of online and classroom instruction to create a variety of blended learning experiences.

Figure 1

THE DEFINING DIMENSIONS OF ONLINE PROGRAMS

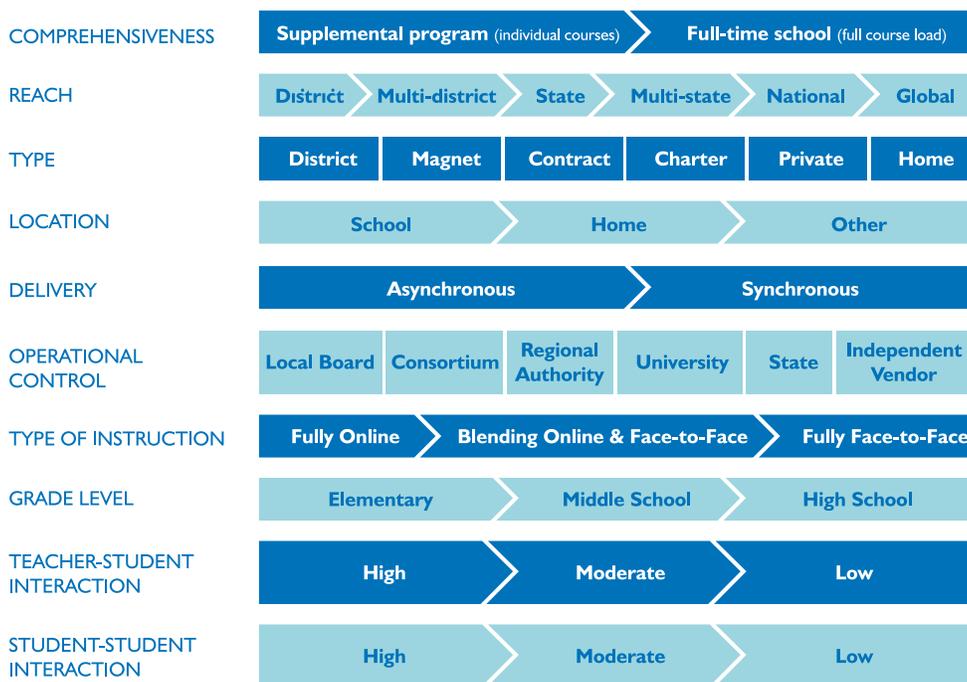


Figure adapted from Gregg Vanourek, A Primer on Virtual Charter Schools: Mapping the Electronic Frontier, Issue Brief for National Association of Charter School Authorizers, August 2006.

As online learning evolves into new models that include blended learning, personalized instruction, portable and mobile learning, and computer-based instruction, other defining dimensions come into play as well (Figure 2). The level of instruction that includes online components may be a learning object, lesson/unit, a single course or an entire curriculum. A course that includes online instruction may expand learning beyond the school day or school year, or it may still be defined by classroom hours. The roles of teachers and students may be quite similar to their roles in a brick-and-mortar classroom, or they may change dramatically as learning becomes more student-centered. Educational leaders need to understand the possible dimensions of their online programs to help inform planning and decision making that leads to high quality offerings for students.

Figure 2

THE DEFINING DIMENSIONS OF BLENDED LEARNING MODELS

		LEVEL OF BLENDED LEARNING			
		Less Online Instruction	More Online Instruction	Mostly Online Instruction	
		Learning Object	Unit/Lesson	Single Course	Entire Curriculum
Characteristics of Instructional Models	INSTRUCTIONAL MATERIAL LEVEL				
	INSTRUCTIONAL RESOURCES	Course minimally uses digital content , resources, and tools to supplement instruction	Digital content, resources, and tools expand and enhance the curriculum and content	Use of digital resources and tools are integral to content, curriculum and instruction	
	ASSESSMENT	Whole-class assessments, used primarily in the classroom, during the school day as the primary means of feedback	A combination of traditional and online assessments are used inside and outside the classroom	Greater amount of digital, real-time data and feedback allow for individualized instruction	
	COMMUNICATION (Student / Teacher & Student / Student)	Occurs primarily synchronously and in the physical classroom	Is a mixture of synchronous & asynchronous and may be in the physical classroom or online	Occurs primarily asynchronously and online or from a distance	
Student-Centered Instruction	ATTENDANCE REQUIREMENTS	Students are required to attend a physical classroom 5 days a week	Students attend a physical classroom less than 5 days a week and work online at other times	Students have flexible physical classroom and/or location attendance requirements	
	STUDENT LEARNER'S ROLE	Student is primarily the recipient of teacher provided instruction. Teacher sets day-to-day pace		Student takes active role in learning with reliance on digital content, resources and tools. Student has more control of own pace	
	INDIVIDUALIZATION OF INSTRUCTION	All students expected to complete same instructional pathway	Students engage with digital content to customize their instructional pathway	Students engage with digital content and have multiple pathways that are competency-based and not tied to a fixed school calendar	
School Considerations	INSTRUCTIONAL SUPPORT MODELS	"Direct student learning" through traditional teacher roles and staffing models	"Facilitate student learning" through a team approach with a significant reliance on technology-based tools and content	"Coordinate student learning" through the expanded use of technology-based tools and content, as well as the effective use of outside experts and/or community resources	
	INSTRUCTION SCHEDULE AND LOCATION	Fixed daily schedule, instruction primarily in physical classroom	Mixed schedule of online and physical instruction	Highly flexible schedule, with instruction is possible 24x7. Learning centers support instruction	
	ACCESS TO ACADEMIC STUDENT SUPPORT	Support is school-based, and provided primarily by the teacher during the class period	Support structures (e.g. online tutoring, home mentors, and technical support services) in place 24x7, in addition to teacher support		
	TECHNOLOGICAL INFRASTRUCTURE	School or classroom based with students using shared classroom computer resources. Access to infrastructure ends with class period	Available across school campus with students checking out computers from a lab or bringing their own. Access to infrastructure is during school hours	Available on and off campus with students using their own device. Access to infrastructure is 24x7	

© International Association for K-12 Online Learning

Figure 2: Defining Dimensions of Blended Learning Models. From [National Standards for Quality Online Courses](#) Version 2, October 2011. Adapted from [Defining Dimensions of Blended Learning Models](#), Michigan Virtual University.

SECTION 1 — ONLINE LEARNING PLANNING DOCUMENTS

Section 2:

Developing an Online Learning Strategic Plan Aligned to the Michigan School Improvement Framework



The importance of strategic planning is not exclusive to the process of acquiring technology for use in schools, but it may present certain challenges and opportunities given the new and unique nature of online learning. Educational leaders in Michigan are encouraged to utilize the online learning planning resources presented in this document as part of their broader Michigan school improvement planning process.

This and subsequent sections of the document are organized to support the integration of online learning planning into a comprehensive district planning process. The Michigan School Improvement Framework presents a five-strand structure for organizing school improvement plans. The strands are:

1. Teaching for Learning

2. Leadership

3. Personnel & Professional Learning

4. School & Community Relations

5. Data & Information Management

Online learning supports the process of transforming instruction and serving students in a unique, often individualized approach. Each strand contains several standards that can be significantly impacted by including online learning in the overall planning process. Although all standards are impacted by a well-developed online program, several have critical connections to any digital program; these include curriculum, instruction, assessment, instructional leadership, professional learning and data management.

2.1 Standards for quality

For Michigan school administrators seeking resources to assist in planning an online program, *Michigan Virtual University* has developed a School District Planning Rubric for Online Learning (Appendix B) that offers district and schools leaders a path toward transformative online learning in several categories. Examples of district practices are offered in four progressive stages — Foundation, Emergent, Innovative and Transformative — in the categories below.

- Leadership
- Curriculum Planning
- Curriculum Delivery
- Student Expectations
- Policy
- Assessment and Reporting
- Professional Development
- Learning Places and Spaces
- Communities

Taking leadership as an example, school districts at the foundation level are still in the process of developing a comprehensive vision for online learning, and decisions regarding the use of online tools and resources are disconnected and sporadic. As a district moves toward emergent leadership a vision and plan for online learning has been developed and aligned with the overall district curricular goals, but the adoption of online learning solutions is still driven by a small cadre of enthusiastic staff members. Innovative leadership is represented by a vision and plan that is understood, articulated, and shared across the district. Leadership for online learning implementation is distributed across the district, and teacher collaboration is focused on improving online instructional strategies. Once online learning leadership has reached the transformative stage there is a sustainable culture of online learning, and effective and innovative approaches to online learning are widely shared and routinely celebrated.

District leaders can use this tool to help evaluate the evolution of their online program and develop a clear roadmap that moves the district toward the transformative side of the continuum.

In addition to the *MVU* resources, iNACOL offers the [National Standards for Quality Online Programs](#). This document “is designed to provide states, districts, online programs and other organizations with a set of quality guidelines for online program leadership, instruction, content, support services, and evaluation.”⁷ This resource corresponds to several of the Michigan strands and standards. The document also includes a self-evaluation form that allows a district or school to identify areas of strength and weakness in an existing district online learning program. This document is best utilized in conjunction with two additional iNACOL standards documents: one focused on quality online teaching⁸ and the other focused on quality online content⁹ (these resources are presented later in this document).

2.2 Involving key stakeholders

Online learning is assuming a higher profile role in many communities across Michigan. This public exposure places a great emphasis on stakeholder involvement to help the online or blended program succeed. Involving key stakeholders in the planning and keeping them informed as the program grows will help the district or school garner the support needed. Whether the planning is occurring at the district or school level, the stakeholder list will likely include:

- Students
- Parents
- Teachers
- Building-level administrators and district staff
- Other regional or statewide online and blended learning organizations
- Colleges and universities

In many instances the group may also include local businesses, school board members, community organizations, former students and others. Make sure to involve those who are committed to program success and those who bring a unique skill or diverse viewpoint.

2.3 Needs assessment and market analysis

Conducting a needs assessment can be an effective way to start a strategic planning process. Consider the following items from the Mississippi Department of Education’s [Guidelines for the Development of a Local District Needs Assessment](#) when gathering data and considering an online or blended learning program.

- Identify the current educational needs and target the “gaps” that might be served by an online program.
- Prioritize those educational needs.
- Identify existing district, school or community resources that currently serve those needs.
- Specify the gaps between existing resources and existing prioritized needs. Can online learning serve those gaps?

As you work through the needs assessment process, it is important to engage a variety of school district stakeholders in the items above. Soliciting input from students, parents, teachers, community members, business leaders and others will give you a diverse view into service gaps and possible solutions. There are numerous effective methods to gather input including stakeholder surveys, focus group-style meetings and interviews with key opinion leaders.

Once a needs assessment is complete, it is important to consider the competition the district may face. This is especially key in environments where full-time online schools are engaged in enrollment marketing activities statewide. Even if the district is just starting a pilot project or other targeted online program, it helps to understand the messaging used to draw students away from their district of residence. The iNACOL [How to Start an Online Learning Program](#) website offers an excellent set of questions to consider when designing a marketing and promotion plan for an online program. Some of the key questions include:

- How will you distinguish your program from other programs?
- How do other programs market to the same populations of students, and how effective are their marketing strategies? What marketing strategies will you use?
- How will you track the impact of your marketing strategies to ensure effectiveness?

2.4 Vision, mission and goals

Once the research above is completed, and the best group of stakeholders to guide the process has been identified, the district or school can move to articulating the mission, vision and goals of the online learning program. According to the [Strategic Thinking Institute](#), the mission of your organization “is a clear, concise and enduring statement of the reasons for an organization’s existence today. A vision represents future purpose, providing a mental picture of the aspirational existence that an organization is working toward.” Both the mission and vision guide concrete actionable goals for the organization. In most cases, the online or blended learning program will be operating within a larger district structure with its own vision, mission and goals. Working to make sure all are aligned will provide the greatest likelihood of student success. Examples of mission and vision statements used by successful online learning programs include:

Michigan Virtual University

Mission - “To serve as a catalyst for change by providing quality Internet-based programs that strengthen teaching and learning for K-12 education.”

Vision - “To provide leadership by expanding, improving and innovating learning opportunities for K-12 students and educators.”

Florida Virtual School

Mission – “To deliver a high quality, technology-based education that provides the skills and knowledge students need for success.”

Vision – “To transform education worldwide — one student at a time.”

Riverside Virtual School, California

Mission – “It is the RVS mission to provide a rigorous, college-preparatory online school program that meets the needs of 21st century learners; preparing graduates for successful careers in a competitive global marketplace. This includes opportunities for accelerated learning, Advanced Placement courses, & credit recovery.”

City of Angels School, Los Angeles

Mission – “The mission at City of Angels School is to provide a standards-based, individualized instructional program that provides a rigorous, quality education to all of our students.”

Vision – “Every student at City of Angels School will know, understand and have skills and personal attributes as described in the Expected School-wide Learning Results.”

2.5 Start-up resources

As a district moves forward in the strategic planning process, it is important to plan for the start-up resources needed to get your online or blended learning program launched. Main cost categories will be discussed in other sections of this document, but in brief they include costs related to instruction, content development or purchasing, technology infrastructure and software, professional development, administrative staffing and online providers’ fees. In many instances it is challenging to budget for a new program because it is hard to predict enrollment numbers. Consider establishing an independent budget for the online program, so cost can be closely tracked and details don’t get lost within a larger district or school budget.

Be aware of the pitfalls of underfunding a new online or blended program in its first year of operation. Many parents and students will be keeping a close eye on the success of a new program, and a lack of sufficient funding can lead to poor initial impressions. Investing a little more in year one or two can lead to success that will generate positive student outcomes and word-of-mouth marketing that will contribute greatly to the success of the program.

2.6 Creating district policies to support online learning

As part of online learning strategic planning, be sure to investigate current district- and school-level policies. Given the unique nature of online learning, school boards often find that they must modify existing policies or create new policy to support student participation in online learning. Figure 3 offers guidance regarding potential policy changes.¹⁰

Figure 3

Access & Equity	Teacher-Related Policies
Student Eligibility and Course Options	Contracts and Licensur
Special Education and English Language Learners	Teacher-Student Contact Time
Legal Obligations such as Section 508	Teacher Evaluation
Residency and Attendance	Intellectual Property
Access to Technology	
Curriculum & Instruction	Student-Related Policies
Class Size	Acceptable Use of Technology
Course Completion and Drop/Add	Academic Integrity
Seat Time and Interactivity Requirements	Liability for Students Outside the School Building
Course Quality Assurance	Seat Time Requirements

Figure 3: Online Learning – Potential Impacts on District and School Policies. Adapted in part from the iNACOL *How to Start an Online Learning Program* website.

2.7 Considering the four key focus areas

The following four sections of this document present a detailed roadmap to guide district leaders through the planning process in four key focus areas: content acquisition, teaching and professional development, technology and program operations. Each section is linked to the corresponding strands and standards in the Michigan School Improvement Framework. These sections offer essential questions to consider, and practical advice from online learning practitioners with deep experience establishing new programs and working to grow existing programs.

SECTION 2 — ONLINE LEARNING PLANNING DOCUMENTS



Appendix A – Planning for Online Learning: A Companion Resource to the Michigan School Improvement Frameworks

Appendix B – School District Planning Rubric for Online Learning

Section 3:

Content – Acquisition and Development Considerations



Utilizing high quality content positions a program to be successful in meeting student needs. Online courses and content are available in several categories to serve specific educational goals including core courses, Advanced Placement, credit recovery, electives and other specialized, modular content often designed for short courses or blended learning programs. Leveraging what was learned during the strategic planning process will help focus content acquisition efforts in one or more of these categories in a cost-effective manner.

Michigan school administrators charged with starting or growing an online program need to consider several program-level questions before moving forward on content acquisition or development.

- What grade levels will be served?
- Is the program going to offer a full-time curriculum, or offer supplemental courses to particular groups of students?
- Are certain types of students or courses (e.g., honors or credit recovery) the main focus of the program?
- Fully online or blended courses: is the program expanding its course catalog with new courses, or transforming existing face-to-face courses with digital resources?
- Individualized or cohort-based: Will the content be self-paced to allow students to progress at their own pace, or cohort-based where students move through the class in a group?
- Continuum of instruction: How self-directed will students be? What role will the teacher play? How interactive will the course be?

- Traditional school calendar: Will the courses be open-entry/open-exit? How flexible will courses be within that structure?
- What prior experience do students and teachers have with online courses?

Once these decisions have been made, content can be built and/or purchased in learning objects (small chunks of content), modules or full courses. Many programs ease into online learning with a credit recovery program; in fact, this has been the case throughout the history of distance learning, even prior to online courses. Offering credit recovery is a way to meet the needs of a group of students not being effectively served or motivated in a traditional classroom, who may be more likely to succeed in a flexible learning environment.

Choosing one area with which to test the waters of online learning is a starting point for many programs. Whether with an official pilot or simply with a small group of students, the program can train a small group of teachers and administrators, establish relationships with online providers, learn some lessons and adjust appropriately for future online offerings.

3.1 Build, buy/license or mix?

Once the area(s) of content is identified, a decision must be made as to whether to build, buy/license or take a mixed approach. The answer to this question depends on a wide variety of variables, including:

- Expertise of the district and school staff.
- Time and resources available to build content.
- Time until the courses need to launch.
- Funding available for start-up costs vs. funding available for ongoing course upgrades and maintenance.
- Need for customization of course content.
- Compatibility with school improvement planning goals.
- Unique student needs.

3.1.1 Build

Pros:

Building content in-house gives a staff complete control over the content, allowing for total customization during both the course build and course maintenance processes. The program retains the rights to the courses; some online learning programs have had success in selling or exchanging high quality content to other programs.

Cons:

Individual schools and districts cannot match the investment and expertise of state and national organizations building online courses. Building high-quality content requires highly skilled instructional designers trained in designing online content and issues related to accessibility. Launching an initial catalog of courses can be a time-consuming and costly undertaking that requires specialized staff, depending on the complexity and depth of the courses built. Ongoing content revision costs are variable, depending on the program's content review cycle and the amount of media-rich content in the courses.

3.1.2 Buy/license

The most common method of content acquisition is licensing, as opposed to a sale in which the buyer acquires perpetual rights to the course material. Content can be licensed in learning objects, in full courses or full programs of study. There are many [ways to license content](#), including per user, annual, membership, enrollment and perpetual models. The models, just like the online providers, are constantly changing and expanding.

Pros:

The key benefit to buying or licensing content is the dozens of content providers building high-quality, interactive content modules and courses that are readily available. In addition, full course catalogs can be up and running immediately. In some cases content providers will sell content for an up-front cost and then an ongoing licensing fee that is attractive compared to development costs. Some providers allow for customization. The use of content provider modules combined with district-developed content is a mixed approach also worth considering. Some content providers have the expertise to build content that meets accessibility requirements.

Cons:

Content does not come customized for the district's needs or even state requirements, and may or may not be able to be customized once acquired. Contracts must be carefully reviewed to understand thoroughly the up-front and ongoing costs. Administrators must confirm the consistent quality of courses across all disciplines, not just the courses demonstrated to promote a sale. Buying content does not grow the internal online content development capacity of the district.

3.1.3 Mix

The decision to build, buy and/or license might be different for different parts of a program. Even within individual courses, some programs choose to buy content objects and create custom-designed courses, mixing approaches. It also might change as the program matures and builds staff expertise. All programs handle this decision a little bit differently, but it might be helpful to talk through the logic with an administrator of an online learning program with a similar set of educational goals and targeted student groups.

The [How to Start an Online Learning Program website](#)¹¹ offers a comprehensive [analysis](#) of the pros and cons of the build vs. buy discussion, as well as more details about licensing.

3.2 Open educational resources

When building a catalog of online learning content, Michigan administrators should also consider the availability of **Open Educational Resources** (OER). These elements are defined as “teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software and any other tools, materials, or techniques used to support access to knowledge.”¹²

There are a variety of OER organizations that offer online content appropriate for K-12 use including [The National Repository of Online Courses/Hippocampus](#), (NROC) [Multimedia Educational Resource for Learning and Online Teaching](#) (MERLOT), [OER Commons](#), [Curriki](#) and many more. For districts considering the use of OER content, planning for the time and resources needed to gather, evaluate and often modify this content is critically important. The use of OER content does not preclude the need to have online instructional design expertise committed to district course development efforts.

3.3 iNACOL Standards of Quality for Online Courses

Regardless of how content is acquired, evaluating the quality of digital content to support an online learning program can be a challenging but important process. The recently updated [iNACOL National Standards of Quality for Online Courses - Version 2](#) offer administrators a practical tool for content evaluation. Many experienced online and blended programs across the country have used locally modified versions of these iNACOL standards when reviewing content for purchase or evaluating the creation of their own content. The standards address the extent to which the online course, module or learning object meets or exceeds quality criteria organized in the following sections:

- “Content: The course provides online learners with multiple ways of engaging with learning experiences that promote their mastery of content and are aligned with state content standards.
- Instructional Design: The course uses learning activities that engage students in active learning; provides students with multiple learning paths to master the content based

on student needs; and provides ample opportunities for interaction and communication student to student, student to instructor and instructor to student.

- **Student Assessment:** The course uses multiple strategies and activities to assess student readiness for and progress in course content and provides students with feedback on their progress.
- **Technology:** The course takes full advantage of a variety of technology tools, has a user-friendly interface, and meets accessibility standards for interoperability and access for learners with special needs.
- **Course Evaluation and Support:** The course is evaluated regularly for effectiveness using a variety of assessment strategies, and the findings are used as a basis for improvement. The course is kept up to date, both in content and in the application of new research on course design and technologies. Online instructors and their students are prepared to teach and learn in an online environment and are provided support during the course.¹³

To effectively use these standards, the district should establish an online content review committee comprised of district staff and students with varied expertise including online content/curriculum, online instructional design, assessment, technology interoperability and usability. If the committee members lack experience in online learning, consider supplementing the group with outside experts while offering district members online learning professional development opportunities to prepare them for this role.

3.4 Common core standards

The [Common Core State Standards Initiative](#), “a state-led effort to establish a shared set of clear educational standards for English language arts and mathematics,” has been adopted by Michigan and 45 other states as of early 2012. The standards apply to all courses, regardless of delivery method. The approval of the Common Core state standards allows for development and eventual implementation of shared content and assessments aligned with those standards. As districts acquire or develop online content, ensuring alignment with the Common Core is essential.

3.5 Outputs — tracking student outcomes with a linkage to online content

One final, forward-thinking element to consider when acquiring online content is the opportunity to link individual courses, modules or learning objects directly to student achievement. Online learning technology allows the linkage of individual digital content elements to specific learning objectives (supporting the standards), and the subsequent student assessment that measures student knowledge.

Creating these linkages provides teachers and administrators with the opportunity to engage in a rapid evaluation of online content, modifying or replacing content that is not supporting student learning. To enable this level of sophisticated content evaluation requires up-front planning when building or buying online content, and resource commitment to link content to learning objectives and standards within the **Learning Management System (LMS)**.



Michigan School Improvement Framework

Items presented in this section have direct impact on the following Strands and Standards:

Strand I – Teaching for learning	Strand II – Leadership	Strand IV – Data & Information Management
Standard 1 Curriculum Standard 3 Assessment	Standard 1 Instructional Leadership	Standard 1 Data Management Standard 2 Information Management



SECTION 3 — ONLINE LEARNING PLANNING DOCUMENTS

Appendix A – Planning for Online Learning: A Companion Resource to the Michigan School Improvement Frameworks

Appendix B – School District Planning Rubric for Online Learning

Section 4:

Teaching and Professional Development



Successful student outcomes derive from a quality classroom experience – regardless of whether that classroom is a brick-and-mortar or online environment. However, online and blended teaching requires additional skills that should be identified and developed. Compared to a classroom teacher, an online teacher’s role is likely to be more heavily weighted toward guiding and individualizing learning; engaging in effective digital communication with students; assessing and grading students using unique online tools; and, in some cases, developing the online course content and structure. Combine the development of these skills with the desire to give students greater control over the time, place, path and pace of their learning, and you understand what it takes to be an effective online teacher.

4.1 Academic goals drive teaching and professional development needs

Michigan school administrators charged with starting or growing an online program can revisit the set of program-level questions described in the previous section, but now with an eye toward how they influence teaching and teacher preparation. Questions to consider include:

- What grade levels will be served? The online and blended teaching methodologies and technologies differ between elementary, middle and high school programs.
 - Will the program be full-time online or supplemental? Relationship-building and communication strategies with students differ between program types.
 - Are certain types of students or courses (e.g. honors or credit recovery) the main focus of the program? How does this influence the professional development offered to the teachers?
 - Will the program offer fully online or blended courses? Teaching and associated technology needs differ based on the course type.
- Will the program emphasize individualized or cohort-based learning? While cohort-based learning allows for more communication between students, allowing the students to have more control over path and pace helps to individualize the learning.
 - Will the course be heavily facilitated by the teacher? What role will the teacher play and how involved in the learning process will she or he be? How interactive will the course be?
 - When will professional development happen in a school calendar that may be year-round?
 - What will be the teacher-to-student ratio in online classes?

4.2 Standards for online teaching

Fostering high quality teaching entails two elements: the teaching that occurs in the online environment, and creating good online teachers through pre-service programs and ongoing professional development. The [National Standards for Quality Online Teaching Version 2](#) provides a set of standards for administrators to help establish and evaluate best practices in online teaching and learning. The standards are organized in the following sections:

- “The online teacher knows the primary concepts and structures of effective online instruction and is able to create learning experiences to enable student success.
- The online teacher understands and is able to use a range of technologies, both existing and emerging, that effectively support student learning and engagement in the online environment.
- The online teacher plans, designs, and incorporates strategies to encourage active learning, application, interaction, participation and collaboration in the online environment.
- The online teacher promotes student success through clear expectations, prompt responses and regular feedback.
- The online teacher models, guides, and encourages legal, ethical and safe behavior related to technology use.
- The online teacher is cognizant of the diversity of student academic needs and incorporates accommodations into the online environment.

- The online teacher demonstrates competencies in creating and implementing assessments in online learning environments in ways that ensure validity and reliability of the instruments and procedures.
- The online teacher develops and delivers assessments, projects and assignments that meet standards-based learning goals and assesses learning progress by measuring student achievement of the learning goals.
- The online teacher demonstrates competency in using data from assessments and other data sources to modify content and to guide student learning.
- The online teacher interacts in a professional, effective manner with colleagues, parents, and other members of the community to support students' success."
- And for those teachers with some level of content development responsibility. "The online teacher arranges media and content to help students and teachers transfer knowledge most effectively in the online environment."¹⁴

4.3 Teacher recruitment and hiring

In order to begin the teacher recruiting and hiring processes, it will be helpful to create a profile of a successful online or blended teacher in the district. This will include answering the following questions:

- Will the district be hiring teachers from within, or hiring new teachers?
- What course format(s) will the teacher teach? Fully online or blended?
- Is the district prepared to train teachers with no prior online or blended experience, or is the district looking specifically for teachers with experience?
- Will teachers be full-time or part-time in the online or blended program?
- Must teachers be located in a physical building in the district or can they work from home?
- What other contractual issues must the district be aware of and address prior to recruiting or hiring?

The iNACOL *How to Start an Online Learning Program* website also investigates this [issue](#), offering more detail around some of the questions to be answered and issues to be considered.

4.4 Professional development for online and blended teachers

Pre-service training and professional development are necessary for teachers to master a new teaching environment. The iNACOL publication [Professional Development for Virtual Schooling and Online Learning](#) emphasizes this point by stating that one of the myths related to the professional development

required to support online learning is "any regular classroom teacher is qualified to teach online," especially if the quality online content has already been prepared or purchased.¹⁵

Successful online programs recognize this myth and many have professional development requirements specific to their online teachers. In addition, a small number of university teacher preparation programs have launched or are developing certificate programs in online teaching and other continuing education options. Some states are considering a certification specific to online teachers. The 2010 [National Education Technology Plan](#) recommends developing "a teaching force skilled in online instruction."¹⁶

[Continuous Quality Improvement Through Professional Development for Online K-12 Instructors](#), from Dr. Richard Ferdig of Kent State University and [Michigan Virtual University](#), explains why professional development for teachers is such a critical part of an online program, and makes several important recommendations for both policymakers and online educators.¹⁷

4.5 Preparing the first-time online & blended teacher

As the online learning field expands, there is a growing recognition that teaching online requires a new and different skill set than the brick-and-mortar classroom, as noted in the standards described above. There are a handful of states that require professional development or certification for online teaching above and beyond the standard teaching requirements. Wisconsin requires 30 hours of professional development designed to prepare a teacher for online teaching. For states where this type of training is not required, there are key online facilitation and teaching skills fundamental to all teachers working in an online or blended environment for the first time that should be addressed prior to leading a course. These can be attained in a variety of ways, as discussed below.

The [University of California-San Diego](#), the [University of Illinois](#), and the [University of Wisconsin](#) are among the growing number of universities offering teacher preparation programs specific to online learning. These programs cover the standards mentioned previously, including online instructional design, and typically offer a practicum. However, these programs are clearly the exception, and most teacher preparation programs, including those in Michigan, are not focused on online or blended learning. In a recent [survey](#) of 830 teachers nationwide from Boise State University, only 5% reported having an endorsement in online education.¹⁸

Whether to design training in-house or outsource its development and facilitation is a question with similar implications to the build and/or buy discussion in the Content section of this document. The answer will depend on district in-house expertise, timing, funding and access to existing resources. National external providers include the State Virtual School Leadership Alliance Professional Development Series.

In January 2010, [Michigan Virtual University](#) launched an [Online Teaching and Learning Mastery](#) (OTLM) program through [Michigan LearnPort](#). The Mastery program utilizes a series of face-to-face or teleconference sessions structured around an introductory three-week course and three core courses, each

seven to eight weeks in length. This series of courses is aimed at developing new knowledge and pedagogical skills combined with practical applications. These courses are designed to cover a wide array of information and develop a deeper understanding of the role of online instructors, the role of the online learner and the application of online learning tools. Access is provided to a Web-based social networking site designed to create and support a community of practice. Other courses, including *Integrating Blended Instruction into Your Classroom*, are available through *Michigan LearnPort* to enrich a teacher's understanding of basic concepts for teaching online and in blended situations. These shorter courses serve as a vehicle to meet the needs of a broad teacher population that may not yet need the more in-depth curriculum offered through the OTLM program.

Teachers moving from a brick-and-mortar classroom into an online or blended environment may still struggle with the transition. Setting up a mentoring program will allow teachers to learn from each other. [Online Teacher Support Programs: Mentoring and Coaching Models](#) offers suggested models and examples of mentoring programs.¹⁹ In addition, there are a number of online forums where online and blended teachers can share information, including [TeacherStream](#), [iNACOL](#) and the [International Society for Technology in Education](#) (ISTE).

Though many of the skills specific to online learning are shared across disciplines, professional development that is specific to each discipline — math, science, language arts, physical education, etc. — can introduce teachers to resources, content ideas and technology tools that would be particularly helpful. Several state virtual schools organize their teacher professional development in discipline groups.

4.6 Supporting online & blended teachers in year one

Some teachers report that the first year of teaching online is similar to the first year of teaching — learning new methods of delivering content, communicating and assessing; communicating with parents differently; even the hours can be dramatically different. Supporting teachers in their first year in an online or blended environment by providing a structure for communicating challenges, brainstorming solutions and sharing lessons learned is a common strategy for building a successful team of online and blended teachers.

The online learning classroom more naturally supports individualized learning than most physical classrooms; however, this creates its own challenges in terms of classroom management. The teacher's role becomes more of a guide through the learning process,²⁰ including:

- Assessing student understanding of learning objectives.
- Creating and facilitating group discussions.
- Developing group projects.
- Making necessary adjustments to course resources.
- Responding to students' questions and concepts they find most challenging.

In the student-centered online learning environment, ongoing communication with teachers and other support professionals is critical. Tools used include email, instant messaging, online chatting, video chatting, phone calls and text messaging. Some programs establish requirements for how often teachers must log on to the LMS; others establish guidelines for how quickly a teacher must respond to a student contact. Regardless of whether a guideline is mandated, teachers should set expectations with each class, and follow through on the expectations. The online learning environment is an excellent way to promote collaboration between students. Using threaded discussions, group chats and group emails, it becomes easier to pull in the "quiet" students from the back of the classroom.

In addition to the increase in communication between the teacher and students, many online teachers see an increase in parent communication. With the increased access to the learning environment, many parents get more involved in their student's academics than in a brick-and-mortar class. Taking advantage of the tools included with the LMS — like giving parents access to the online syllabus and gradebook for their child — gives more information to the parents without relying on individual communication. It is also critical to set expectations with parents about the frequency of communication and email response times.

4.7 Supporting the experienced online and blended teacher

In the first year of teaching in an online learning environment, it is hard not to focus on the technology, which provides a different way of delivering content, communicating with students, promoting collaboration and assessing student progress. However, the technology is simply a teaching tool to be learned; as a teacher's comfort level rises with each tool, dealing with the tools becomes easier, and the class flows more naturally. At that point, the experienced teacher is ready for additional learning opportunities, which may include:

- Working with students with disabilities: Due to its individualized nature, online learning can be beneficial for students with disabilities, but it also presents certain challenges related to accessibility for students with visual, auditory and physical impairments. The research paper [Virtual K-12 Public School Programs and Students with Disabilities: Issues and Recommendations](#) offers valuable suggestions for working with students with disabilities.
- Working with at-risk learners: The individualized nature of online learning can also benefit at-risk students. The iNACOL brief [An Exploration of At-Risk Learners and Online Education](#) identifies the need for ongoing communication and support from teachers, administrators, learning coaches, counselors, tutors and special education coordinators.
- Project-based learning is "an instructional approach built upon authentic learning activities that engage student interest and motivation. These activities are designed to answer a question or solve a problem and generally reflect the types of learning and work people do in the everyday world outside the classroom."²¹ The Project Based Learning website has specific [resources](#) for online teachers.

- Psychology of online learning: online teachers with six or more years of experience reported their greatest training need was in the psychology behind motivating students and dealing with cyber-bullying.²²
- Enhancing the online course: Experienced teachers sometimes take on the role of developing or updating the course, and are able to align the instructional design and course tools to better design the online course to meet their students' needs.

4.8 Evaluating online teachers

Online teachers can be evaluated on many more dimensions than most traditional classroom teachers. This is possible, in part, because of the nature of the LMS technology, which captures teacher-student interactions, class discussions and course content in a way that is not possible in a traditional classroom. The asynchronous nature of a threaded discussion allows school administrators to “listen” unobtrusively to the conversation much more easily than observing a traditional classroom discussion.

In many online programs and in a growing number of brick-and-mortar programs, student feedback about instructors is another component of teacher evaluation. This information is typically gathered through anonymous online surveys conducted once or more per term. Even when student feedback is not used as part of the formal evaluation process, it is still normally provided to teachers for use in their self-assessments.

Online learning offers the opportunity to transform the educational experience to better meet the needs of specific groups of students, to prepare students for the 21st century, and to allow teachers to build a new set of skills related to teaching. Designing a program to include teacher recruiting, hiring, training and ongoing support will result in better student outcomes and successful teachers. In addition, a key goal of an effective online teaching program is to see educators move to a place of increasing awareness, purposeful thought and predictive ability that drives different, effective instructional practices.



Michigan School Improvement Framework

Items presented in this section have direct impact on the following Strands and Standards:

Strand I – Teaching for learning	Strand II – Leadership	Strand III – Personnel & Professional Learning
Standard 1 Instruction	Standard 1 Instructional Leadership Standard 2 Shared Leadership	Standard 1 Personnel Qualifications Standard 2 Professional Learning



SECTION 4 — ONLINE LEARNING PLANNING DOCUMENTS

- [Appendix A – Planning for Online Learning: A Companion Resource to the Michigan School Improvement Framework](#)
- [Appendix B – School District Planning Rubric for Online Learning](#)
- [Appendix C – MVS Student Readiness Rubric for Online Learning](#)

Section 5:

Technology Supporting an Online and Blended Learning Environment



“While online educators often point out that teachers, and not computers, are at the heart of online learning, technology systems are clearly an important component of an online school. Computer hardware, software, and connectivity are essentially the facilities of an online or blended learning school, much as classrooms and buildings are the facilities of a physical school. These tools not only provide information and data to manage the program, but also help teachers become more innovative and effective at their jobs.”²³ In all cases, educational goals should drive the technology choices.

5.1 Interoperability and total cost of ownership

Technology decisions in support of an online and blended learning program can be complex, and individual decisions can often have long-term impacts. Creating a strategic instructional technology plan for a district or school is essential, and considering online and blended learning objectives as part of that plan is critical. One key issue to consider as part of that plan is **interoperability** between technology systems. “Historically, the case for interoperability — the seamless sharing of data, content and services among systems or applications — has not been compelling in the K-12 education marketplace. The growing popularity of cloud computing, online learning, data warehousing, sophisticated analytics, accountability reporting and performance management tools all increase the need for interoperability.”²⁴

Total Cost of Ownership (TCO) is another important issue to consider as part of the planning process. [The Consortium for School Networking \(CoSN\)](#) offers quality, in-depth advice to K-12 leaders regarding this issue. “TCO is a concept developed in the late 1980s designed to provide insight to the real cost of computing. More than providing a different perspective on the IT capital and operations budget, TCO takes into account indirect, or non-budgeted costs, as well, and presents costs and metrics on a per-client-computer basis.”²⁵ Both of these issues stress the fact that technology decisions that support online and blended learning programs are often long-term commitments, and leaders run significant financial and student achievement risk when decisions are made in isolation or rushed based on expiring funding.

5.2 Initial technology decisions

When starting or growing an online or blended learning program, there are a variety of important technology issues that need to be addressed. Each of these will be discussed in more detail later this in section.

- Learning Management System (LMS)
- Student Information System (SIS)
- Internet connectivity — bandwidth considerations
- Synchronous tools, end devices, and mobile learning
- Professional development for technology staff

5.3 Choosing a learning management system

The iNACOL [How to Start an Online Learning Program](#) website describes an exemplary set of LMS features. Below is a representative sample:

- Ability to create course shells and manage the content for the course shells.
- Ability to organize course content into units or chapters and lessons or individual content items within a unit or chapter.

- Ability to create accounts with different roles and privileges (e.g., student, teacher, mentor, parent, administrator and more).
- Ability for teachers to post announcements.
- Threaded discussion boards or forums for asynchronous discussions.
- Assessment system to allow for online quizzes and exams.
- Drop box capability for turning in assignments.
- Online gradebook.
- Integrated email system or interface to an external email system.
- Wikis, blogs and other web 2.0 tools.
- Ability to run a variety of [reports](#) such as how frequently students are logging in, how long they are spending on specific tasks, course rosters and student progress information.

5.3.1 Issues to consider when choosing an LMS²⁶

Choosing a learning management system is a key early decision for an online or blended learning program. Any LMS decision should be made in the context of a program's educational goals and driven by how this tool will serve the current and future needs of students. Below is a partial list of issues to consider when making an LMS choice:

Instructional features and components

Many LMSs have a set of base features that are similar, but vendors often attempt to differentiate their products through some level of unique functionality. While examining each LMS, begin to create a list of mandatory features to serve the district's online or blended program. This exercise is important as more features are not always better, especially from a non-technical user's perspective.

Course/content development tools

If the plan includes building online or blended content, then engaging in a thorough analysis of course development tools within each LMS will save significant time and effort in the long run. If district teachers and other staff will be involved with content development, make sure there is a solid understanding

regarding the initial ease of use of the LMS course development tools, in addition to the sophistication of the tools as teachers become more experienced and skilled in content creation.

Content compatibility

Many districts will license some, if not all, of the online and blended learning content. Gaining a deep understanding of how licensed content will function in the LMS is critical. Almost all content providers will be able to demonstrate their online content in the most common LMSs, but natively embedding that content in the LMS to take advantage of the system features and functionality is a critical next step that is not always offered. Be sure to confirm that the online and blended learning content imports easily in the LMS and embeds "natively" into the assessments, discussion boards, wikis, blogs, gradebook and other features. Coordinating LMS and course content choices can save time, while also creating intuitive, easy to navigate courses for students.

It is also important to confirm that any content you license or create is compatible with the Shared Content Object Reference Model (SCORM) standard. "SCORM is a set of technical standards for e-learning software products. SCORM tells programmers how to write their code so that it can play well with other e-learning software. It is the de facto industry standard for e-learning interoperability."²⁷ Developing or licensing content that adheres to SCORM provides the district with the flexibility to move content between LMSs.

Hosting the LMS

Although most (but not all) LMSs will allow locally hosted, vendor hosted and third-party hosted options, having a clear understanding of the staffing and costs associated with all hosted options is important. This links back into the issue of Total Cost of Ownership (TCO), as each approach requires a different resource investment. A thorough TCO analysis will help the district make the best decision.

Training for all types of LMS users

Planning for LMS training for both teachers and administrative staff is a key component to consider when making this central online learning decision. Some LMS providers offer training as part of their licensing package, while others rely on third party organizations to provide this training. Be sure to consider the costs and time associated with supplying this training to users, both on the instructional side and the administrative side. In addition, the LMS organization should present a plan to support the local LMS administrator. This staff person will configure and manage the LMS, and will need consistent support from the provider organization to keep the service running smoothly.

5.3.2 Commercial vs. open source

In addition to the important LMS decision points listed previously, choosing between an open source or commercial LMS has its own set of unique considerations. Table 1 provides some attributes to consider with each solution.²⁸

Table 1

Commercial Solution	Open Source Solution
Developed by a commercial vendor and typically provided at a cost.	Developed by a community and typically provided at no cost under general public license.
Trial periods may be available for review and evaluation.	Little or no cost to obtain the system, low risk in piloting.
Initial start-up may be easier.	Customizing the system can support the organizational needs.
Vendor installs and configures system to meet the needs of the institution.	Installation and configuration requires technical expertise and development time or the use of a third party contractor.
Vendor maintains the system functionality.	Maintenance requires technical expertise or the use of a third party contractor.
Customization of the system and content may be limited.	Customization requires technical expertise or the use of a third party contractor.
Technical support may be available from the vendor (often 24x7).	Institution staff provides in-house technical support or uses third party contractor for support.
Vendor may provide documentation for users.	Community of users often generates support documentation. Documentation is created or customized by the institution. Documentation may be available through third party contractor.
Ongoing licensing costs required.	Ongoing human resource or third party contractor costs to maintain and update.
Loss of control on adoption of newer versions of product.	Many nonprofit or governmental organizations prefer the non-commercial solution.

Table 1: Commercial solution vs. Open source solution

5.4 Student information systems

A student information system (SIS) is a [software application](#) used by schools and educational organizations to manage student data and generate a variety of reports. SISs often store and manage demographic data, assessment scores, schedules, attendance, discipline records, special education data and more. They may also provide online student registration, a portal for parents and manage many other student-related data needs in a school. The SIS is an administrative tool familiar to all physical schools, but also important in unique ways for online or blended learning programs.

5.4.1 LMS/SIS integration

Working toward a tight integration between the SIS and LMS can be an important step in helping harness data to support instructional and administrative decisions at various levels in a district or school setting. LMSs provide a wealth of data about student engagement and achievement in addition to the effectiveness of the chosen course content. In most cases, districts or schools that are interested in starting or growing their online and blended learning programs will be heavily invested in an existing SIS. Planning in advance for automated data transfer between these two systems will help avoid significant time commitments associated with manually entering student data. If not planned well, this task of moving data between administrative systems can often fall to the teachers, which takes valuable time away from instruction.

5.4.2 Desirable SIS features and functionality

Whether working with an existing SIS or not, districts or schools have the opportunity to license a new SIS for the online and blended learning program. A representative sample set of key features and functionality should include:

- Designed to serve the needs of full-time, supplemental and blended learning formats.
- Integrates cleanly with the program's LMS with registration data flowing in and student data flowing out.
- Includes a student data "dashboard" both for teachers and administrators.
- Supports multiple levels of administrator access, so that individual schools can access student data for course approval and other purposes.
- Allows students access to application, course registration, fee or tuition payment, grades, transcripts and drop requests, including the option for managing rolling enrollments.
- Consider Software as a Service (SaaS) model if the district prefers to avoid the challenges of a local installation, hardware purchase, ongoing maintenance costs and retaining technology expertise.
- Significant ability to customize features (e.g., custom roles, templates, personal customization of data).

- Tracking capabilities for student information (e.g., communications, grades, transcripts, and external data like Individual Education Plans) and faculty (e.g., tracking performance, certifications, and teaching load).
- Security of student information and other sensitive data.

5.5 Internet connectivity

Whether piloting an online or blended learning program, or challenged with issues of scaling efforts across the school or district, planning for bandwidth needs is critical to success. The Consortium for School Networking offers detailed technical support and the modeling needed to determine the amount of bandwidth needed and the hardware and support services to effectively deliver that bandwidth to students, teacher, and administrative staff. Those technical details are beyond the scope of this document, but additional resources are available at the [Consortium for School Networking](#).

5.5.1 Bandwidth in schools

Online and blended learning programs have significant bandwidth requirements that impact district and schools, especially at scale. Much of the content found in online courses today is media rich with video, audio, animations, simulations and often real-time instruction through web conferencing. Consider a school-wide plan to offer an immersive blended learning world languages experience for students. If large numbers of students visit the computer lab and click on the Spanish video at the same time, grinding the school Internet network down to a crawl, then all the wise instructional and content planning could be for naught.

5.5.2 Student Internet access outside of school

One of the goals of most online and blended learning programs is to extend the school day beyond the walls of a building. This means ensuring all students have access to online learning content in their home, in a community center or possibly on a mobile device. Districts and schools need to plan for Internet access, especially in situations where socio-economic factors or geography limit students' options. For districts considering full-time online programs, planning for this access becomes essential for student success in the program.

5.6 Additional technology decisions

In addition to LMS, SIS and Internet connectivity issues, there are other technology decisions that impact online and blended learning programs. These include the use of tools for synchronous communication, choosing devices to be used by teachers and students, mobile learning, and professional development for technology staff.

5.6.1 Synchronous tools — Web conferencing

Web conferencing tools that allow real-time communication and instruction on the computer are an essential part of almost all full-time online learning programs and are now being used commonly in supplemental and blended learning. Typical web conferencing tools include the following features:

- Voice-over IP audio
- Audio bridge to a separate telephone conference system
- Desktop video
- Text chat
- Shared whiteboard
- Application and computer desktop sharing
- Ability to conduct polls of participants
- Ability for participants to express themselves with various icons (e.g., clap hands, confused face and more)

Many web conferencing tools are designed to integrate well with particular LMSs. This integration can provide an ease-of-use advantage that aids in scheduling synchronous meetings and provides access to those meetings as embedded objects within the LMS course. As is the case in the LMS decision, there are a variety of web conferencing options, both commercial and open source.

5.6.2 End user devices

While the choice of student and teacher devices for accessing online and blended learning content involves a crucial set of decisions, it is beyond the scope of this document to provide a technical analysis of the specifications of laptops, netbooks, tablets, mobile phones and other devices. Broadly, district leaders should consider long-term educational goals, interoperability and total cost of ownership when making end-user device decisions.

For districts or schools interested in “one-to-one” initiatives where the goal is to have one device for every student and teacher user, [The Anytime Anywhere Learning Foundation](#) website offers excellent analysis of the challenges and opportunities of moving in this direction, along with contacts for districts and schools that have implemented one-to-one initiatives.

5.6.3 Mobile learning²⁹

Mobile devices and mobile learning are growing areas of experimentation for many online and blended programs. This development is driven in part by increased student access to mobile devices. According to survey data from Project Tomorrow, 44% of high school and 33% of middle school students have access to a smartphone, a 42% increase in just one year.³⁰

Anecdotal evidence suggests that mobile learning is likely to grow as quickly as other elements of online and blended learning. Mobile learning is generally understood to mean the act of accessing curriculum and instruction via devices that travel with students to a variety of locations beyond the school building. The typical mobile learning adoption plan features tablets, smartphones, personal digital assistants and other handheld devices — the kinds that are now a ubiquitous part of many students' lives outside of school.

The arrival of netbooks and tablets is blurring the mobile learning line — they are clearly mobile devices, but are not as small or as easily mobile as the other devices. Ultimately, however, the way students access learning is more important than the device. If a student uses a smartphone to start an online course in a classroom, participates in a virtual discussion on the bus home and takes an assessment from the front porch that evening, that's clearly mobile learning. That same student might engage in the same activities on a 1.5 pound, \$300 netbook.

The other distinguishing feature of mobile learning is its content focus, which has so far not been on whole courses or even lessons so much as on discrete “learning objects” such as tutorials, practice activities and skill-builders. The conventional wisdom is that the small screen and keyboard size of mobile learning devices makes longer-form learning tedious and possibly even bad for students' health.

5.6.4 Professional development for technology staff

One final but essential item to consider as part of technology planning for online and blended learning is training and professional development for the staff who support the online learning operation. Section 4 of this document highlights the importance of teacher professional development. The same need applies to those who administer the LMS and SIS, support the bandwidth and end-devices, and ensure the interoperability of all systems. In addition, online delivery tools can provide relevant professional development services for all educators and administrators, as discussed in Section 4.

Michigan School Improvement Framework

Items presented in this section have direct impact on the following Strands and Standards:

Strand II – Leadership	Strand III – Personnel & Professional Learning	Strand V – Data & Information Management
Standard 3 Operational Resource Management	Standard 1 Personnel Qualifications Standard 2 Professional Learning	Standard 1 Data Management Standard 2 Information Management

SECTION 5 — ONLINE LEARNING PLANNING DOCUMENTS



Appendix A – Planning for Online Learning: A Companion Resource to the Michigan School Improvement Framework

Appendix C – MVS Student Readiness Rubric for Online Learning

Section 6:

Key Program Operational Issues



In addition to content, teachers and technology, there are a variety of other critical operations processes to consider when starting or growing an online or blended learning program. Districts and schools are also faced with the challenge of adapting traditional student services to support the online learner, who is often located at a distance. Depending upon the program type, full-time online or blended, district and school leaders may need to consider promotion and marketing activities.

Building or growing an online or blended program requires a unique approach to budgeting and staffing and can often involve the creation of new staffing models that do not necessarily fit well into existing budget templates. Working with the instructional staff and key district stakeholders to help everyone understand these new models is important. As with any new initiative, establishing a program evaluation process early on can help identify areas of weakness and engage in consistent program improvement. Because online and blended learning are seen as new educational approaches to many in the community, establishing a process that measures outcomes will be important to many stakeholders. For example, an online program serving drop-outs may have different benchmarks for success than a program designed to serve honor students. Not to be overlooked, evaluation data will also play a key role in promoting the program to potential students, parents and other community members.

6.1 Student recruitment — enrollment marketing³¹

Engaging in an organized, sustained enrollment marketing and promotion plan is often not a core competency of many school district offices, but as competition from charter schools, especially those supported by for-profit companies (both physical and online), increases, crafting and delivering the right message to students and parents becomes an increasingly

important function. Many educators don't think that marketing is necessary or even appropriate, perhaps based on a view that education shouldn't be "sold." This is a narrow view of marketing, however, as it also includes explaining new programs and options to students and parents who may have limited understanding of online learning. Across Michigan and many other states, educational management organizations (EMOs) are currently engaged in sophisticated enrollment marketing campaigns for full-time online schools. Recent policy changes in two western states (Utah and Idaho) are increasing parent and student choice at the individual online course level and opening opportunities to a variety of online and blended course providers, both public and private. Now more than ever, marketing and promotion of online learning and blended learning is becoming commonplace.

6.2 Student support services

Ensuring student success in online and blended learning extends beyond the instructional environment into the support structures established to help students succeed. Districts and schools are familiar with many of these student services, but in almost all cases, they must be adapted to serve the online learning student effectively. It should be noted that there are significant differences between serving students in a full time online environment, supplemental environment or a blended environment. Many of the services discussed below are designed to support full-time online students. *MVU* has an [Online Learning Orientation Tool](#) that is under revision as of early 2012, and can help students embrace online learning and acquire the understanding, knowledge and skills needed to be successful online learners.

Counseling, enrollment and orientation

Physical schools typically provide counseling and mentoring to students. Online schools are moving in this direction as well by instituting online counseling support for students. This support varies based on the type of online learning program. Whether the program is fully online or blended, counselors need professional development to understand how to work effectively with students and their parents in an online learning environment.

The first contact between a prospective online student and the online school is an important step in ensuring a successful transition to online learning. It is important to establish procedures to help guidance counselors (and other online learning staff) mentor students through the process of enrolling and participating in online courses. These procedures should cover issues such as:

- An initial checklist of points to cover with students and parents.
- A pre-enrollment survey to challenge students' preconceptions of online learning and to determine their level of readiness for this new modality.
- A student orientation course before the first academic course to set performance expectations, familiarize the student with the LMS and identify any technical support issues.
- A review of online learning policies to cover grading requirements, student discipline, and warning and probation policies.

The MVS has published a set of resources in the [Mentoring Matters Guidebook](#) that supports school mentors and parents.

Technical support

Student access to robust technical support relieves one of the key barriers to student success in online and blended learning while removing a significant burden from teachers. To reduce initial technical support calls, many programs use automated checks of bandwidth, versions of Flash, Acrobat and Java, and other plug-ins required of students. Tutorials and online orientation sessions familiarize students with the LMS and the strategies for learning online to assist in a smoother transition to the environment. Many programs make help desk support available at all times by phone, email and chat, and many have or are instituting service ticket systems to track student support communication and results. Lastly, schools should provide technical support to students through channels other than the teachers, so the teachers are not required to play the tech support role.

Academic support and mentoring

Technical support is just one component of helping students learn online; the other key component is academic support. This may include, but is not limited to, the following set of tools and techniques to ensure a smooth transition to online or blended learning. In some programs, teachers handle these duties, but in a few instances, full-time online programs build a team with a teacher and an academic coach to support students.

- Assessments of student progress at regular intervals.
- Support materials like student handbooks.
- Guidelines for conduct (both students and teachers).
- Organization of students into groups/cohorts.
- Tutoring services.
- Pre-course tests that measure a student's readiness for the online learning experience.
- Expectation of the parent and family roles in the student's experience, parents' role in monitoring course progress, conference calls with teachers, and face-to-

face opportunities for students and parents.

Communication is the key element of student support. Students should never feel that they do not know where to turn with a question or problem, and should be able to easily reach their online teacher, mentor, facilitator, learning coach or other source of assistance.

Special education

Processes and plans needed to support special education students will vary significantly based on whether the online learning program is full-time at a distance, local and blended, or somewhere on the continuum between these two models. Regardless of the online learning model, educators have the same responsibilities for meeting the needs of students with disabilities as they have in a physical school environment. This includes the development and implementation of Individual Education Plans (IEPs), and an alignment with district policies for special education students to be allowed to participate in alternative forms of education that require special adaptations.

Website accessibility is an important issue for many special education students. When choosing an LMS or acquiring online content, ensure the program conforms to [Section 508](#) of the U.S. Rehabilitation Act.

Learning centers

Many full-time online learning programs are now offering academic support to their students through nontraditional learning centers. In most cases, these learning centers are located outside physical school buildings and set up with computer labs and adults — who may or may not be certificated teachers — to supervise the student's online learning. In some programs, students are required to spend scheduled time in the learning center during the week, and in others, they use the facility on a drop-in basis or by appointment.

6.3 Budgeting and staffing

The approach to budgeting and staffing is highly dependent upon where the program falls on the continuum from full-time online learning at a distance, to blended learning at the course level in a physical school.

6.3.1 Budgeting for new instructional models

Budgeting for an online or blended learning program can be significantly different than a traditional building- or district-level budget. In a full-time online school, a leader will need to decide if the program will employ full-time instructional staff, or if part-time or adjunct teachers will cover individual courses. In a blended learning model, districts and schools may choose to staff an online lab with non-credentialed (paraprofessional) personnel to support the certified classroom teachers. In both cases, there is a need to set aside sufficient funds to either build or buy online content to support the program. The content choice is critical and can be costly, depending upon the degree of responsibility for instruction that is placed on these digital resources.

In addition to instruction and content costs, districts must consider end-user devices (laptops, tablets or some other solution), Internet connectivity, the licensing of an LMS and possibly a synchronous web conferencing tool. These decisions will differ significantly depending on whether the program is full time with students at a distance or blended with students in school-based lab settings. District leaders must also consider the costs associated with integrating the existing SIS with the chosen LMS, or in some cases licensing a SIS that is designed to serve the needs of online and blended learning programs.

Employing a dynamic leader and other administrative staff to support the online or blended learning program is important. If plans include offering a full-time online school, the Online Principal or Director will need to be the type of person who is equally comfortable as an instructional leader, technology leader and enrollment marketing leader. A program will also need staff to cover student services responsibilities such as a registrar, counselor, special education advocate and high stakes testing administrator. Lastly, if a full-time online program or other school of choice is the goal, districts must budget sufficiently for marketing and promotion for the school.

6.3.2 Staffing and compensation models

Regardless of program type, most costs will be invested in instructional and administrative staff. In addition to the traditional model that places approximately 25 students in an online class with a single teacher, there are other models emerging to support both online and blended learning. Some full-time online schools are organizing their instructional staff and roles differently. In some programs, students are served by a lead teacher, grader and academic coach. In these programs, the lead teacher will work with a much higher number of students than in a traditional school environment, and the grader and academic coach take on some instructional roles. They may not hold the same certifications as the lead teacher. In blended programs that utilize online lab environments, non-certified adults may staff these labs. The money that is saved is directed toward the purchase of digital content or the employment of other staff that support student achievement.

Online teacher compensation models vary significantly, with some employed at the same rate as traditional classroom teachers, while others are employed as adjuncts and compensated per course or per student enrolled in each course. Lastly, compensation models for online programs or school leaders vary, but recruitment can be challenging, as the pool of teachers with deep, successful experience in online or blended classes is limited.

6.4 Program evaluation³²

Because online and blended learning is still relatively new, online schools sometimes have to demonstrate quality and results in ways that may exceed the requirements that physical schools meet. One way that online schools address quality and performance concerns is by building an evaluation process into the strategic plan and conducting regular program evaluations. Program evaluations aim to answer this basic question: Is the program meeting its mission and goals, as well as the expectations of the stakeholders and

community? For online and blended learning programs, some examples of questions to target in the evaluation may include:

- Are student outcomes meeting program and state expectations?
- Can improved student outcomes be demonstrated, including evidence of competency and content mastery?
- How satisfied are stakeholders, including students, schools and parents, with their experience with the program?
- Are course completion rates and student-to-teacher ratios meeting expectations and comparable to other high-quality online programs?

6.4.1 Internal or external evaluation?

Program evaluations fall into two categories: internal (conducted by the program staff) or external (conducted by someone outside the organization). Internal evaluations have the advantage of timeliness, as they can generally be scheduled conveniently at any time during the year, and rely on staff members who have a thorough knowledge of the program being evaluated. In addition, no fees go to outside evaluators (although internal time, if properly accounted, may be equally costly). External evaluations bring a fresh look at a program from someone removed from the pressure of stakeholders or program staff. There are no personal relationships to cloud the examination of the program, and an outside perspective may bring flaws to light that go unseen by staff too close to the situation to recognize the problems. In addition, external evaluations often carry greater validity with stakeholders. However, the cost of external evaluations can be high and the process takes additional time to bring the evaluator up to speed on the processes and metrics of the program being evaluated.³³

6.4.2 Pieces of the evaluation puzzle³⁴

Although the specifics of an evaluation vary significantly, an evaluation usually starts with an examination of the program's mission to determine whether it is meeting its organizational goals. If the goal of an online program is to give students more opportunities for recovering course credits in order to graduate, then two evaluation measures could be the number of credit recovery courses being offered, and the completion rate for students in those courses. If the mission of the online program is to increase 21st century learning opportunities for a district's students, possible evaluation criteria should include the number of new courses available to students, the increase in student proficiency in use of web 2.0 tools, and the increase in teachers' use of web 2.0 tools in classroom and online instruction.

Evaluations are commonly based on one or more of stakeholder surveys, outcomes data and reviews of internal processes.

- Outcomes data vary based on program type. Supplemental programs often rely on course completion rates and results of Advanced Placement

exams, while full-time and blended programs can report data of state assessments and other measures common to all public schools in a state.

- Surveys may be conducted with students, parents, teachers, educators and other stakeholders. They may be done at multiple times of year; for example, students may be surveyed every semester while parents are contacted once per year.
- Internal processes such as course development may be benchmarked against other programs, or standards such as those published by iNACOL. In addition, the evaluation may report financial information, staffing levels, and similar organizational metrics.
- Accreditation review and certification procedures.

6.4.3 Leveraging LMS data

Online and blended learning programs have access to an extensive amount of data that students and teachers generate when interacting with the LMS. Designing an evaluation process that taps into this data stream can provide program leaders with valuable information about instructional effectiveness, online

content quality, and student behavior patterns as they relate to increased achievement. Setting up a process to track this LMS data and put it to use can be challenging, but the longitudinal rewards can prove to be significant.

6.4.4 Evaluation data as a promotional tool

While the program evaluation process is designed primarily to improve an online or blended learning program, a secondary benefit is the generation of data to serve both the enrollment marketing messaging and stakeholder reporting. Decision-makers, whether parents or politicians, are influenced by data that show the online or blended learning program meeting the mission and goals by filling the “gaps” identified in the needs assessment. Many of the EMOs operating full-time online programs are sophisticated users of evaluation data in the parent and political realms, while some districts and schools are still evolving in their effective use of data as a promotional tool.

Conclusion

Today’s global economy requires new instructional and technology-enabled approaches in public education. To be competitive, students and teachers need to do more than just learn about technology, they need to use it to create powerful teaching and learning environments that are engaging, effective and relevant. The reach and impact of online learning in Michigan is growing at a rapid pace. Experts predict that 50 percent of all high school classes in the U.S. will be taught online before 2019.

All schools face planning challenges as they take steps to transform their delivery models to stimulate, extend and deepen student learning while integrating technology. School district planning for online learning should be built on its technology infrastructure investments and be closely aligned to its school improvement planning process. This document is designed to facilitate a more deliberate online and blended learning planning process, with the goals of improving student outcomes and integrating technology in the most effective manner possible.

Michigan School Improvement Framework

Items presented in this section have direct impact on the following Strands and Standards:

Strand II – Leadership	Strand III – Personnel & Professional Learning	Strand IV – School & Community Relations
Standard 3 Operational Resource Management	Standard 1 Personnel Qualifications Standard 2 Professional Learning	Standard 1 Parent/Family Involvement Standard 2 Community Involvement

SECTION 6 — ONLINE LEARNING PLANNING DOCUMENTS



Appendix A – Planning for Online Learning: A Companion Resource to the Michigan School Improvement Framework

Appendix C – MVS Student Readiness Rubric for Online Learning

Asynchronous

Communication exchanges which occur in elapsed time between two or more people. Examples are email, online discussion forums, message boards, blogs, podcasts, etc.

Blended Learning

Blended learning is a hybrid instructional delivery model where students are provided face-to-face instruction, in part at a supervised school facility away from home and partially through computer-based and Internet-connected learning environments with some degree of student control over time, location and pace.

Blog

As a noun, a website or a section of website used for expressing ideas and opinions of users in multiple modalities, often maintained by one leader. As a verb, maintaining or adding content to an ongoing asynchronous discussion housed at a target website.

Educational Management Organization (EMO)

Organizations that contract to provide management and administration services for public school agencies such as charter schools.³⁶

Full-Time Program

Full-time online schools, also called cyberschools, work with students who are enrolled primarily (often only) in the online school. Cyberschool means a full-time online instructional program for students that may or may not require attendance at a physical school location.

Interoperability

The ability to exchange and use information (usually in a large heterogeneous network made up of several local area networks).³⁷

Learning Management System (LMS)

The technology platform through which students access online courses. An LMS generally includes software for creating and editing course content, communication tools, assessment tools and other features for managing the course (Northwest Educational Technology Consortium, 2005).

Learning Object

An electronic media resource (or digital file or collection of files) targeting a lesson objective, standard or a lesson concept, that can be used and reused for instructional purposes.

Online Learning

Teacher-led instruction delivered primarily via the Internet that includes software to provide a structured learning environment, and where the student and teacher are separated geographically. The term does not include print-based correspondence education, broadcast television or radio, videocassettes and stand-alone educational software programs that do not have a significant Internet-based instructional component. (U.S. Department of Education Office of Planning, Evaluation, and Policy Development Policy and Program Studies Service, 2010). Used interchangeably with Virtual learning, Cyber learning, e-learning.

Online Instructional Program

A course of study provided in an interactive, computer-based and Internet-connected environment, in which students are separated from their teachers by time or space, or both, and in which a certified teacher is responsible for providing direct instruction, diagnosing learning needs, assessing student learning, prescribing

intervention strategies, reporting outcomes and evaluating the effects of instruction and support strategies.

Open Educational Resources (OER)

Teaching, learning and research resources that reside in the public domain or have been released under an intellectual property license that permits their free use or re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software and any other tools, materials or techniques used to support access to knowledge.³⁸

Open Source

Open source software is defined by its attached license guaranteeing anybody rights to freely use, modify and redistribute the software.³⁹

Seat Time

The amount of instructional time to earn a credit (Carnegie Unit), usually measured by attendance in a brick and mortar school.

Student Information System (SIS)

Is the institutional database(s) managing student records, information, courses and grades. Often it is part of a larger

enterprise resource planning system that includes billing, payment, payroll and other administrative functions.⁴⁰

Supplemental Program

An online program that allows students to take less than a full load of online courses.

Synchronous

Online learning in which the participants interact at the same time and in the same space.

Total Cost of Ownership (TCC)

TCO is a concept developed in the late 1980s designed to provide insight to the real cost of computing. More than providing a different perspective on the IT capital and operations budget, TCO takes into account indirect, or non-budgeted costs, as well, and presents costs and metrics on a per-client-computer basis.⁴¹

Wiki

A restricted or open website developed collaboratively by a community of users, allowing any user to create, add and edit content.

Appendix A

Planning for Online Learning: A Companion Resource to the Michigan School Improvement Framework

Strand I: Teaching for Learning	Strand II: Leadership
<p>The school holds high expectations for all students, identifies essential curricular content, makes certain it is sequenced appropriately and is taught effectively. Assessments used are aligned to curricular content and are used to guide instructional decisions and monitor student learning. Schools/districts have a cohesive plan for instruction and learning that serves as the basis for teachers' and students' active involvement in the construction and application of knowledge. Intentional processes and practices are used by schools and teachers to facilitate high levels of student learning. Schools/districts systematically gather and use multiple sources of evidence to monitor student achievement.</p>	<p>School leaders create a school environment where everyone contributes to a cumulative, purposeful and positive effect on student learning. School leaders create and sustain a context for learning that puts students' learning first. Structures and processes exist to support shared leadership in which all staff has collective responsibility for student learning. School leaders organize and manage the school to support teaching for learning.</p>
<p>Key Characteristics with Sample Discussion Questions:</p>	
<ol style="list-style-type: none"> 1. Curriculum <ul style="list-style-type: none"> • Does the curriculum planning process support online options for students? • Is the online curricula developed in a collaborative environment that allows educators to jointly develop and share curriculum plans, resources and best practices? • Does the online curriculum support the Common Core State Standards and the Grade Level and High School Content Expectations in core content areas? • Has the school/district within its curriculum review process integrated online curriculum and alignment to other delivery models? 2. 21st Century Skills <ul style="list-style-type: none"> • Does the school/district plan for online learning include student goals to practice and develop 21st century skills related to information, media and technology literacy? 3. Instruction <ul style="list-style-type: none"> • Are online and blended instructional models used as an integral strategy to personalize curriculum and support students as they collaborate with experts and participate in authentic, local, and global learning communities? 4. Student Experiences <ul style="list-style-type: none"> • Does the school experience for students allow alternatives to traditional school calendar courses, seat-time rules & fixed classroom schedules? • Are students provided opportunities for flexible scheduling and mastery learning? 5. Assessment, Performance Data and Student Portfolios <ul style="list-style-type: none"> • Does the school/district make use of online assessment tools that support adaptive testing to develop prescriptive learning options for students? • Does the school/district make use of an online student information system that provides students, parents, educators and administrators with easy access to student learning performance data? • Are online portfolios used by students to showcase personal goals, provide evidence of learning, capture individual reflections and store teacher feedback that travels with the student as they move between grade levels and schools? 6. Learning Places <ul style="list-style-type: none"> • Does the school/district actively support anywhere, anytime learning for students? • Can the school/district adapt to diverse student learning needs that support personalized timetables, curricula and physical spaces? • Does the physical school environment accommodate current and emerging technologies? 	<ol style="list-style-type: none"> 1. Vision <ul style="list-style-type: none"> • Has the school/district adopted a vision for the effective use of online and blended learning as a strategy to drive reform and improve student performance? • Is the vision informed by a strong student, parent and educator voice? 2. Alignment <ul style="list-style-type: none"> • Are the goals for online learning aligned to the school's/district's existing school improvement process and related technology plan? 3. Instructional Leadership <ul style="list-style-type: none"> • Do school leaders initiate and encourage participation in rigorous dialogue and debate about ways in which teaching and learning can be improved using online and blended delivery methods? 4. Knowledge of Online Curriculum, Instructional Practices and Assessment <ul style="list-style-type: none"> • How knowledgeable are school leaders about online and blended learning instructional strategies? 5. Technology Infrastructure <ul style="list-style-type: none"> • Can the school's/district's technology infrastructure accommodate 1-to-1 computing? 6. Policy <ul style="list-style-type: none"> • Have school/district leaders adopted policies that govern the review, selection and use of online tools, resources and instructional approaches used in the district?

Strand III: Personnel and Professional Learning	Strand IV: School and Community Relations	Strand V: Data and Information Management
<p>The school has highly qualified personnel who continually acquire and use skills, knowledge, attitudes and beliefs necessary to create a culture with high levels of learning for all. School/district staff qualifications, knowledge and skills support student learning. Educators in schools/districts acquire or enhance the knowledge, skills, attitudes and beliefs necessary to create high levels of learning for all students (National Staff Development Council).</p>	<p>The school staff maintains purposeful, active, positive relationships with families of its students and with the community in which it operates to support student learning. Schools actively and continuously involve parents and families in student learning and other school activities. The community-at-large is supportive of and involved in student learning and other school activities.</p>	<p>Schools/districts have a system for managing data and information in order to inform decisions to improve student achievement. The school has policies, procedures and systems for the generation, collection, storage and retrieval of its data.</p>
<ol style="list-style-type: none"> 1. Collaboration <ul style="list-style-type: none"> • Do teachers use online content, tools and resources to collaborate and to share curriculum plans and resources across the school district and collaborate with other schools, developing and sharing curriculum plans, resources and approaches? • Are effective and innovative approaches to online learning widely shared and routinely celebrated? • Do school/district leaders use external partner expertise in online learning to expand their knowledge, skills and attitudes? • Do the school's/district's professional development programs explore new ways of teaching and learning, which are enabled by online learning tools and digital content? 2. Learning Communities <ul style="list-style-type: none"> • Do educators participate in online professional learning communities, including enrollment in online courses and/or blended learning experiences with educators from outside their school/district to create shared instructional resources, brainstorm solutions and share best practices? • Do all educators and administrators participate in online professional learning communities? • Do teachers participate in sustained online and blended professional learning that is collaborative, embedded in teacher practice and responsive to individual teacher goals? • Are there mechanisms in place to support teachers who embed online and blended learning in their classrooms? 	<ol style="list-style-type: none"> 1. Communications <ul style="list-style-type: none"> • Is the vision for online and blended learning understood and embraced by the broader school community? • Do students and educators participate in virtual learning experiences that support local and global collaboration? • Do the online experiences enable all students to learn within and beyond the traditional classroom? • Do students have a deep understanding of how their use of technology devices combined with online tools and digital content support and enhance their learning, both within and beyond the traditional classroom? 2. Collaboration <ul style="list-style-type: none"> • Has the school/district established collaborative arrangements with other schools, higher education institutions, nonprofit organizations and local businesses to design and deliver online instructional support resources, tools and courses? 3. Choice <ul style="list-style-type: none"> • Can students and their parents select instructional delivery models that best meet their needs? • Do the school district's programs aim to develop students who use technology and online tools in ethical and safe ways within and beyond the district's boundaries? 	<ol style="list-style-type: none"> 1. Evaluation <ul style="list-style-type: none"> • Does the school district utilize a review process to continually evaluate online resources and content available from external providers? • Does the school district regularly review new technologies and their use, making appropriate changes to its policies and educational programs as part of a reflective and data driven decision process? 2. Planning <ul style="list-style-type: none"> • Is the school's/district's strategic planning process continuous, proactive, informed by research and supported by key stakeholders? 3. Decision Making Communications <ul style="list-style-type: none"> • Has the district/school implemented a continuous quality improvement process that relies on the effective use of student achievement to drive teaching and learning decisions? • Does the district use online tools to manage the student assessment process? • Is access to online assessment data easily obtained by educators, students and parents? • Are online portfolios used by all students to showcase personal goals, provide evidence of learning, capture individual reflections and store teacher feedback? • Does the school district make use of a secure, integrated student information system that provides ubiquitous access to all aspects related to student learning?

Appendix B

School District Planning Rubric for Online Learning

	Foundation	Emergent
Leadership	The school district leadership is developing a vision for online learning. A plan for online learning has not been developed and strategies for implementation are rather ad hoc. Individual teachers and school administrators make decisions about the sporadic use of online tools, courses or instructional resources.	A vision for online learning has been developed by the school district leadership. Implementation of the vision relies on enthusiastic individuals to drive the adoption and use of online learning solutions. The plan for online learning is connected with the district's overall curricular goals. The plan has been shared with students, teachers, administrators, support staff, parents and community members. The plan identifies resources, including a budget to support implementation and is monitored and reviewed internally.
Curriculum Planning	Curriculum plans are beginning to incorporate online learning delivery strategies. There is evidence of the integration of online or blended learning activities in some curriculum areas. Online resources are primarily used as stand-alone or supplemental instructional activities. Individual teachers make their curriculum planning resources available on the school intranet. A review process to evaluate online tools, resources and courses available from external providers does not exist.	Individual teachers or teams develop curriculum plans that include online and blended instructional strategies to address targeted student learning goals. Individual teachers access a wide range of digital resources and tools to integrate content and resources into curriculum planning. Teachers access and build curriculum plans online. The school develops a structure for teachers to share their curriculum plans in a collaborative online environment. An informal process to evaluate online tools, resources and courses available from external providers is in place.
Curriculum Delivery	The use of online tools, resources and courses in the delivery of curriculum is incidental, rather than planned across the school district. Online learning is largely used for supplemental or stand-alone instructional activities. In general, students do not have access to online courses available from accredited providers. Individual teachers are beginning to pilot fully online and blended learning environments with a limited group of students.	Individual teachers use online and blended learning strategies through varied approaches in some curriculum areas. The use of online tools, resources and courses in the delivery of curriculum provides options for students that best meet their individual needs. Some students have opportunities to use online and blended instructional approaches to learn independently, in small teams or in large groups. The use of online courses from accredited providers helps the school district to address critical content gap areas such as world languages and Advanced Placement.
Student Experiences	In general, the school experience for students reflects a traditional school calendar based on seat-time requirements, class schedules and face-to-face instruction. Most students are not provided with regular opportunities to participate in online and blended learning activities.	A limited number of students routinely engage in online learning activities. Some students are beginning to participate in blended learning environments that offer greater flexibility regarding classroom-based instructional time requirements. Other students are given the opportunity to enroll in online courses from accredited providers.
Policy	The school district has adopted a standard Internet usage policy for students and employees.	The school district has adopted policies that govern the adoption and use of online learning programs, including the selection process for online course providers and digital content publishers.

Innovative	Transformative
<p>A vision for online learning has been developed with substantial input from classroom teachers, is clearly understood, articulated and shared across the school district. The plan for online learning is aligned with the district's strategic goals and integrated with district's school improvement process. The plan is guided by relevant research and the use of data. Leadership for online learning is distributed across the school district. There are high levels of teacher collaboration focused on improving the effectiveness of teaching and learning with online and blended instructional strategies.</p>	<p>There is a sustainable vision for a culture of online and blended learning, that is understood, embraced and embedded across the school community, and is informed by a strong student and parent voice. The plan for online learning includes student goals for 21st century skill development. Strategic planning is continuous, proactive, informed by research and supported by key stakeholders. School leaders initiate and encourage participation in rigorous dialogue and debate about ways in which teaching and learning can be improved using online and blended delivery methods. Educators at all levels are encouraged to use online delivery models with students as well as for their own professional development. Effective and innovative approaches to online learning are widely shared and routinely celebrated.</p>
<p>There is a school district approach to curriculum planning that integrates the widespread and frequent use of online and blended learning activities. The integration of online learning into curriculum planning supports the needs of individual learners. Online learning is viewed as a key strategy to support higher-order thinking, decision-making, communication, collaboration, creativity and problem-solving. There is an emphasis on effective, evidence-based pedagogical approaches to learning and teaching with online content, resources and communication tools. Curriculum planning occurs in an online environment that fully integrates teaching, learning, assessment and reporting, enabling teachers to plan collaboratively and share curriculum plans and resources.</p>	<p>Online and blended learning is integrated into curriculum plans across all areas of the school district. Teachers use online content, tools and resources to collaborate and to share curriculum plans and resources across the school district and collaborate with other schools, developing and sharing curriculum plans, resources and approaches. An online environment transforms the curriculum planning process, supporting 21st century skill development and student-centered curriculum design. Online content, tools and resources are used to create dynamic, personalized learning plans that integrate effective digital environments and resources, and include authentic learning opportunities and connections beyond the school. The school district has a robust review process to continually evaluate online tools, resources and courses available from external providers.</p>
<p>The school district is developing internal capacity to offer online and blended curriculum delivery models across the school district to enhance teaching and learning by providing flexible access to student-centered learning resources, tools and environments. Student learning is extended beyond the traditional school calendar and students are challenged through authentic learning contexts that require inquiry, collaboration, communication and problem-solving. Online and blended delivery models are used extensively to differentiate instruction and personalize learning for students. The school district also actively promotes online course options available from accredited providers to students and parents.</p>	<p>Online and blended curriculum delivery models are a natural part of the teaching and learning process for all students across all curriculum areas and grade levels. Students have rich learning opportunities that extend their capacity to learn independently and interdependently in online and blended environments that are not based on seat-time and traditional school calendars. Teachers and students learn together in flexible learning environments with high levels of autonomy. Students and educators participate in virtual learning communities with cohorts to collaborate locally and globally to create knowledge, and enable all students to learn within and beyond the traditional classroom. The school district has established collaborative arrangements with other schools, higher education institutions, nonprofit organizations and businesses to design and deliver instructional support resources, tools and courses.</p>
<p>A majority of students routinely engage in online and blended learning activities as an integral part of their school experience. Students and their parents are able to select instructional delivery models that best meet their needs. The district has successfully implemented support structures that enable students to benefit from customized learning plans. Students routinely participate in online learning programs with students and educators from outside their district.</p>	<p>Students have a deep understanding of how their use of technology devices, combined with online tools and digital content, support and enhance their learning, both within and beyond the traditional classroom. Online and blended learning models are integral to personalized curriculum, supporting students as they collaborate with experts and participate in authentic, local and global learning communities. The school experience for students is not predicated on a traditional school calendar, seat-time or classroom schedule. All students benefit from a highly customized learning plan based on their individual needs and preferences.</p>
<p>The school district has adopted policies that govern the evaluation process to determine the effectiveness of online and blended learning programs using relevant data. The district has also adopted policies that outline the use of online and blended programs to support educator professional development.</p>	<p>The school district regularly reviews new technologies and their use, making appropriate changes to its policies and educational programs as part of a reflective and data driven decision process. The school district's programs aim to develop students who use technology and online tools in ethical and safe ways within and beyond the district's boundaries.</p>

Appendix B continued.

	Foundation	Emergent
Assessment & Reporting	An online environment to integrate assessments into learning activities is used by some teachers. Students are independently developing ways to record their academic achievements electronically. Teachers store student progress reports on the school system and print these reports to distribute to parents.	Online systems are established to support students and teachers to develop ways to store work electronically for sharing, reflection and archiving. Individual teachers make assessment data available online for students. Some students use online portfolios to store work electronically. The student progress reports are printed and/or emailed to parents.
Professional Development	Most professional development programs are delivered in face-to-face settings. The district's professional development plan does not have a specific focus toward developing teacher proficiency in online or blended delivery models. Individual teachers experiment with using online and blended instructional strategies with students to support their classroom goals.	The district's professional development plan is linked to increasing educators' confidence and capacity to facilitate online and blended instructional strategies. There are pockets of teachers working collaboratively on professional learning activities focused on effective learning and teaching with the use of online tools and digital content.
Learning Places & Spaces	There is limited access to computer technology tools and student access is largely teacher-directed. The school ensures that security and privacy needs are met. In general, the physical layout of classrooms is not designed or adapted to accommodate the use of online and blended learning environments.	Access to a range of technology tools is flexible across the school district with multiple fixed access points for students to use. Wireless technologies are accessible in parts of the school district. The district ensures that security and privacy needs are met. The district has a flexible physical layout, enabling various student groupings for collaborative and personalized learning to occur.
Learning Communities	Student learning communities operate largely on a face-to-face basis in classroom settings.	Online tools and resources are used to support communication and sharing within the school community for both students and educators.

Adapted with permission from State of Victoria, Australia (Department of Education and Early Childhood Development)

Innovative	Transformative
<p>The school district makes effective use of online assessment platforms and reporting tools by connecting relevant curriculum plans and student learning goals. Online portfolios are used by a majority of students to showcase personal goals, provide evidence of learning, capture individual reflections and store teacher feedback. Parents have online access to up-to-date and ongoing information on their student's progress.</p>	<p>The district has implemented a continuous quality improvement process that relies on the effective use of student assessments. The district uses robust online tools to manage the assessment process. Online access to assessment data is easily obtained by educators, students and parents. Online portfolios are used by all students to showcase personal goals, provide evidence of learning, capture individual reflections and store teacher feedback. The online environment provides a learning history that travels with the student as they move between grade levels and schools. A secure, integrated student information system provides ubiquitous access to all aspects related to student learning.</p>
<p>The district's professional development plan includes a major reliance on the use of online and blended delivery formats. All educators have proficiency in using online platforms to access professional development services. In addition, most teachers are skilled at teaching in online and blended environments. Professional learning opportunities are ongoing and strategic.</p>	<p>Teachers' professional development programs explore new ways of teaching and learning, which are enabled by online learning tools and digital content. All educators and administrators participate in online professional learning communities. Teachers participate in sustained online and blended professional learning that is collaborative, embedded in teacher practice and responsive to individual teacher goals, whole school and system priorities, as well as relevant data and research.</p>
<p>There is flexible access to technology tools, including mobile technologies, anywhere, anytime within the school. Access to online digital resources is available outside of the school buildings. The school district ensures that security and privacy needs are met. Learning occurs in flexible physical learning environments, with furniture, technology and storage accommodating customized curriculum delivery models. Student learning spaces that are not part of individual classrooms are available, with fixed and wireless computer and online access.</p>	<p>The school provides students, parents and teachers with secure, flexible, anywhere, anytime, technology-enabled access to collaborative learning spaces, resources, school information, student learning and assessment information to support student learning. The school district's infrastructure can accommodate 1-to-1 computing. There is an anywhere, anytime learning environment not bound by physical time and space. The learning environment adapts to diverse learning and teaching styles and needs, and is supported by personalised timetable, curriculum and physical spaces. Physical layouts respond to, and accommodate, current and emerging technologies.</p>
<p>Online tools and resources enhance the nature and quality of learning communities, supporting an increased ability to communicate, share, collaborate, investigate and co-create within local and global communities.</p>	<p>Synchronous, mobile and other emerging technologies are used to create a range of dynamic, virtual learning communities, which enable students and teachers to communicate, share, collaborate and co-create with experts and with one another.</p>

Appendix C

MVS Student Readiness Rubric for Online Learning

Student Readiness	Technology Skills	Work & Study Habits	Learning Style	Technology/Connectivity
Less Ready	Student has little, if any, experience using a computer or the Internet, and has minimal desire to develop more skills in this area	Student often needs reminders to complete routine assignments, often turns homework in late and is not able to spend 5-10 hours per week on each online course	Student is not a self-directed learner and often requires real-time feedback from teachers regarding basic directions and follow-up support	Students does not have consistent access to a computer and a reliable connection to the Internet from home or from school
↓	Student has limited experience using a computer and the Internet, and has expressed a strong interest in developing more skills in this area	Student sometimes needs reminders and assistance in completing routine assignments and has pledged to spend 5-10 hours per week on each online course enrollment	Student is beginning to demonstrate the behaviors of a self-directed learner and sometimes requires real-time feedback from teachers regarding basic directions and follow-up support	Student has limited access to a computer with low-speed service to the Internet from school or from home
↓	Student has strong computer skills and detailed experience using a word processor, email application and web browser	Student rarely needs reminders or assistance in completing routine assignments and has demonstrated good independent study habits	In general, the student is a self-directed learner and does not require real-time feedback from teachers regarding basic directions and follow-up support	Student has consistent access to a computer with moderate-speed service to the Internet from home, and from school
More Ready	Student has excellent computer skills and significant experience using a word processor, email application and web browser, and is comfortable downloading information from the Internet and using other technology tools and applications, such as a learning management system (LMS)	Student does not need reminders or assistance in completing routine assignments, usually finishes homework ahead of time and has successfully completed an independent study experience or taken an online course	Student is a self-directed learner and demonstrates a high level of comfort and skill in learning new material without requiring real-time feedback from teachers regarding basic directions and follow-up support, and deals well with ambiguity	Student has daily access to a computer with high-speed service to the Internet at home and at a convenient location in the school building before, during and after regular school hours
Critical	Student has completed at least one online course, demonstrated academic success and wants to enroll in additional online courses			
Critical	Student has unique skills, interests, talents, study habits or extenuating circumstances that warrant the expanded use of online learning			

Time Management	Interest/ Motivation	Reading / Writing Skills	Support Services
Student does not manage his or her time effectively in doing research, basic studies and preparing for tests or quizzes	Student has little or no interest in the content area of the online course offering and has a negative or unrealistic attitude toward online learning	Student is reading below grade level and has experienced difficulty with routine writing assignments	In general, parents and school personnel do not actively support online learning and are unable or unwilling to provide support assistance
Student is beginning to demonstrate effective time management skills in doing research, basic studies and preparing for tests or quizzes	Student has an interest in the content area of the online course offering, but has expressed concerns about enrolling in an online course or has an unrealistic attitude toward online learning	Student is reading at grade level and has demonstrated limited proficiency with writing assignments	Student's support system is limited, parents and school personnel are somewhat supportive of enrollments in online courses
Student has demonstrated effective time management skills in doing research, basic studies and preparing for tests or quizzes	Student has an interest in the content area of the online course offering, and has a positive and realistic attitude toward online learning	Student is reading at or above grade level and has demonstrated success with a variety of writing assignments	Student has open access to school-based mentoring/ counseling services and parental support
Student has demonstrated outstanding time management skills while participating in a variety of clubs, student organizations, sports, and work activities	Student has a strong interest in the content area of the online course offering, is highly motivated to enroll in an online course and has a positive and realistic attitude toward online learning	Student is reading above grade level, has strong reading comprehension skills and has demonstrated success with complex writing assignments	Student has regularly scheduled access to school-based mentoring/counseling services, parental support is strong and district has adopted policies and identified best practices to support students as online learners

End Notes

¹ Definitions taken in part from the *National Primer on K-12 Online Learning (Version 2, 2010)*, by Matthew Wicks and published by the International Association for K-12 Online Learning (iNACOL), http://www.inacol.org/research/docs/iNCL_NationalPrimerv22010-web.pdf.

² Much of the blended learning content in this paper, including the definition of blended learning, borrows generously from *The Rise of K-12 Blended Learning*, by Michael B. Horn and Heather Staker of the Innosight Institute, <http://www.innosightinstitute.org/media-room/publications/education-publications/the-rise-of-k-12-blended-learning/>.

³ For a lengthier discussion of the history of distance learning, as well as an in-depth description of computer-based instruction, see *Keeping Pace with K-12 Online Learning (2010)*, and the article “Converging toward new powers of personalization” pp.50-53, http://www.kpk12.com/wp-content/uploads/KeepingPaceK12_2010.pdf.

⁴ Data are from the annual report *Keeping Pace with K-12 Online Learning (2011)* unless otherwise noted: <http://kpk12.com/cms/wp-content/uploads/KeepingPace2011.pdf/>.

⁵ The National Center for Education Statistics has released the first large-scale data collection effort from school districts nationwide since 2004-05 in its October 2011 release: *Distance Education Courses for Public Elementary and Secondary School Students: 2009-10*, <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012008>.

⁶ Defining dimensions of online programs: Figure included in *Keeping Pace with K-12 Online Learning (2011)*. Originally adapted from Gregg Vanourek, *A Primer on Virtual Charter Schools: Mapping the Electronic Frontier, Issue Brief for National Association of Charter School Authorizers*, August 2006.

⁷ *National Standards for Quality Online Programs* by Liz Pape, Matthew Wicks and the iNACOL Quality Standards for Online Programs Committee, http://www.inacol.org/research/nationalstandards/NACOL_Standards_Quality_Online_Programs.pdf.

⁸ *National Standards for Quality Online Teaching*, February 2008, published by the International Association for K-12 Online Learning (iNACOL), http://www.inacol.org/research/nationalstandards/NACOL_Standards_Quality_Online_Teaching.pdf.

⁹ *National Standards for Quality Online Courses Version 2, October 2011*, published by the International Association for K-12 Online Learning (iNACOL), http://www.inacol.org/research/nationalstandards/iNACOL_CourseStandards_2011.pdf.

¹⁰ This figure was adapted from the website “How to Start an Online Learning Program,” published by the International Association for K-12 Online Learning (iNACOL), <http://www.onlineprogramhowto.org/>.

¹¹ “How to Start an Online Learning Program” website, published by the International Association for K-12 Online Learning (iNACOL), <http://www.onlineprogramhowto.org/>.

¹² Atkins, Daniel E.; Brown, John Seely; Hammond, Allen L.; A *Review of the Open Educational Resources (OER) Movement: Achievements, Challenges and New Opportunities*, February 2007, retrieved from http://www.oerders.org/wp-content/uploads/2007/03/a-review-of-the-open-educational-resources-oer-movement_final.pdf.

¹³ *National Standards for Quality Online Courses Version 2, October 2011*, published by the International Association for K-12 Online Learning (iNACOL), http://www.inacol.org/research/nationalstandards/iNACOL_CourseStandards_2011.pdf.

¹⁴ *National Standards for Quality Online Teaching Version 2, October 2011*, published by the International Association for K-12 Online Learning (iNACOL), http://www.inacol.org/research/nationalstandards/iNACOL_TeachingStandardsv2.pdf.

¹⁵ Davis, N., Rose, R., and iNACOL Research Committee Working Group. *Professional Development for Virtual Schooling and Online Learning*, http://www.inacol.org/research/docs/NACOL_PDforVSandOlnLrng.pdf.

¹⁶ *Transforming American Education – Learning Powered by Technology. National Education Technology Plan 2010*, U.S. Department of Education, Office of Educational Technology, <http://www.ed.gov/sites/default/files/netp2010.pdf>.

¹⁷ Ferdig, R.E. (2010). Continuous quality improvement through professional development for online K-12 instructors. Lansing, Michigan: Michigan Virtual University.

¹⁸ Dawley, L., Rice, K., Hinck, G., *Going Virtual! 2010 – The Status of Professional Development and Unique Needs of K-12 Online Teachers*, <http://edtech.boisestate.edu/goingvirtual/goingvirtual3.pdf>.

- ¹⁹ Wortmann, K., Cavanaugh, C., Kennedy, K., Beldarrain, Y., Letourneau, T., Zygoris-Coe, V., *Online Teacher Support Programs: Mentoring and Coaching Models*, http://www.inacol.org/research/docs/NACOL_OnlineTeacherSupportPrograms08-lr.pdf .
- ²⁰ Examples taken from: Wicks, Matthew. (2010). *A National Primer on K-12 Online Learning. Version 2. International Association for K-12 Online Learning*, <http://www.inacol.org/research/bookstore/detail.php?id=22>.
- ²¹ Project Based Learning website available at <http://www.pbl-online.org/>
- ²² Dawley, Lisa; Rice, Kerry; Hinck, Glori; *Going Virtual! 2010 – The Status of Professional Development and Unique Needs of K-12 Online Teachers*, <http://edtech.boisestate.edu/goingvirtual/goingvirtual3.pdf>.
- ²³ Watson, J., and Gemin, B. *Management and Operations of Online Programs (April 2009)*, published by the International Association for K-12 Online Learning, http://www.inacol.org/research/promisingpractices/iNACOL_PP_MgmtOp_042309.pdf.
- ²⁴ <http://www.cosn.org/Default.aspx?id=244&tabid=4189>
- ²⁵ <http://www.cosn.org/Default.aspx?TabId=5118>
- ²⁶ The following article provides a thorough analysis of the Learning Management System choice; http://www.adlnet.gov/Technologies/Lab/Learning_Technology_Lab_Documents/Library/Choosing_LMS_v.2.4_20110413.pdf.
- ²⁷ <http://scorm.com/scorm-explained/>
- ²⁸ Table 2 is a modified version of a similar resource presented in the “How to Start an Online Learning Program” website: <http://www.onlineprogramhowto.org/admin/vendor-vs-open-source/>. The following web resource was also used to author this section: <http://www.idealware.org/articles/open-source-vs-vendor-provided-software>.
- ²⁹ This section was adapted in part from *Keeping Pace (2010)*, p.47, http://www.kpk12.com/cms/wp-content/uploads/KeepingPaceK12_2010.pdf.
- ³⁰ [http://www.tomorrow.org/speakup/pdfs/SU10_3EofEducation\(Students\).pdf](http://www.tomorrow.org/speakup/pdfs/SU10_3EofEducation(Students).pdf)
- ³¹ Portions of this section were adapted in part from Watson, J., and Gemin, B. *Management and Operations of Online Programs (April 2009)*, published by the International Association for K-12 Online Learning, http://www.inacol.org/research/promisingpractices/iNACOL_PP_MgmtOp_042309.pdf.
- ³² Portions of this section were adapted in part from Watson, J., and Gemin, B. *Management and Operations of Online Programs (April 2009)*, published by the International Association for K-12 Online Learning, http://www.inacol.org/research/promisingpractices/iNACOL_PP_MgmtOp_042309.pdf.
- ³³ Evaluation in Online Learning, L. Pape, M. Wicks, C. Brown, and W. P. Dickson, in *Keeping Pace with K-12 Online Learning (2008)*, http://www.kpk12.com/cms/wp-content/uploads/KeepingPace_2008.pdf.
- ³⁴ An extended discussion of inputs and outputs evaluation can be found in the following publication. Hess, Frederick M.; *Quality Control in K-12 Digital Learning: Three (Imperfect) Approaches*, 2011, retrieved from http://www.edexcellencemedia.net/publications/2011/2011_CreatingSoundPolicyforDigitalLearning/20110727_QualityControlinK12DigitalLearning_Hess.pdf.
- ³⁵ Unless otherwise noted, all definitions come from the *Online Learning Definitions Project*, published by the International Association for K-12 Online Learning, October 2011. <http://www.inacol.org/research/bookstore/detail.php?id=27>.
- ³⁶ <http://www.education.com/definition/educational-management-organization-emo/>
- ³⁷ <http://www.thefreedictionary.com/interoperability>
- ³⁸ Atkins, Daniel E.; Brown, John Seely; Hammond, Allen L; *A Review of the Open Educational Resources (OER) Movement: Achievements, Challenges and New Opportunities*, February 2007, retrieved from http://www.oerders.org/wp-content/uploads/2007/03/a-review-of-the-open-educational-resources-oer-movement_final.pdf.
- ³⁹ <http://www.oscommerce.com/about/opensource>
- ⁴⁰ <http://www.innovateonline.info/extra/definition242.htm>
- ⁴¹ <http://www.cosn.org/Default.aspx?TabId=5118>

SCHOOL LEADERS CHECKLIST

- ✓ Strategic Planning
- ✓ Alignment with Michigan
School Improvement Framework
- ✓ Content Acquisition &
Development
- ✓ Quality Teaching &
Professional Development
- ✓ Technology Tools & Investments
- ✓ Key Operational Activities



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