STATE OF MICHIGAN
DEPARTMENT OF EDUCATION
LANSING

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PUBLIC INSTRUCTION

February 27, 2006

TO: State Board of Education

FROM: Mike Flanagan

SUBJECT: Approval of the State of Michigan Educational Technology Plan March, 2006

The State of Michigan Educational Technology Plan March, 2006, *Leading Educational Transformation for Today's Global Society,* is submitted for approval to the State Board of Education. (The entire plan (including appendices) can be found at http://techplan.org.) *Leading Educational Transformation for Today's Global Society* will replace the current *Michigan State Technology Plan* Update 2004. This plan incorporates the guidance contained in the No Child Left Behind Act of 2001, Enhancing Education Through Technology, Title II, Part D; the national technology plan (*Toward a New Golden Age in American Education, January 2004);* the department strategic plan; and current high school initiatives.

Educational technology is addressed in this plan as a powerful means of improving student learning; our plan is driven by that concept, one in which educational technology serves educational objectives. The State of Michigan Educational Technology Plan March, 2006 is submitted with the intent to take the State Board of Education's (SBE) approved plan and create a framework whereby educational technology will be used as one of a set of complementary tools that can be used to address the current challenges facing the State of Michigan. The work required to position our state to compete internationally begins with properly preparing today's students for tomorrow's challenges. If, as has been noted, we are on the cusp of a new era, then we must boldly pursue strategies to ensure that we will prepare students properly. The purpose of the plan is not to underestimate the current state of affairs; rather, its purpose is to define a set of obtainable action steps that, when achieved, will create a statewide synergy making Michigan a national leader in preparing our students.

Specific SBE comments and subsequent written comments presented to the MDE team have been incorporated into the plan and are shown in **Bold** print. The working group chairs met on February 15, 2006, to review the requested changes and updates (see attachment).

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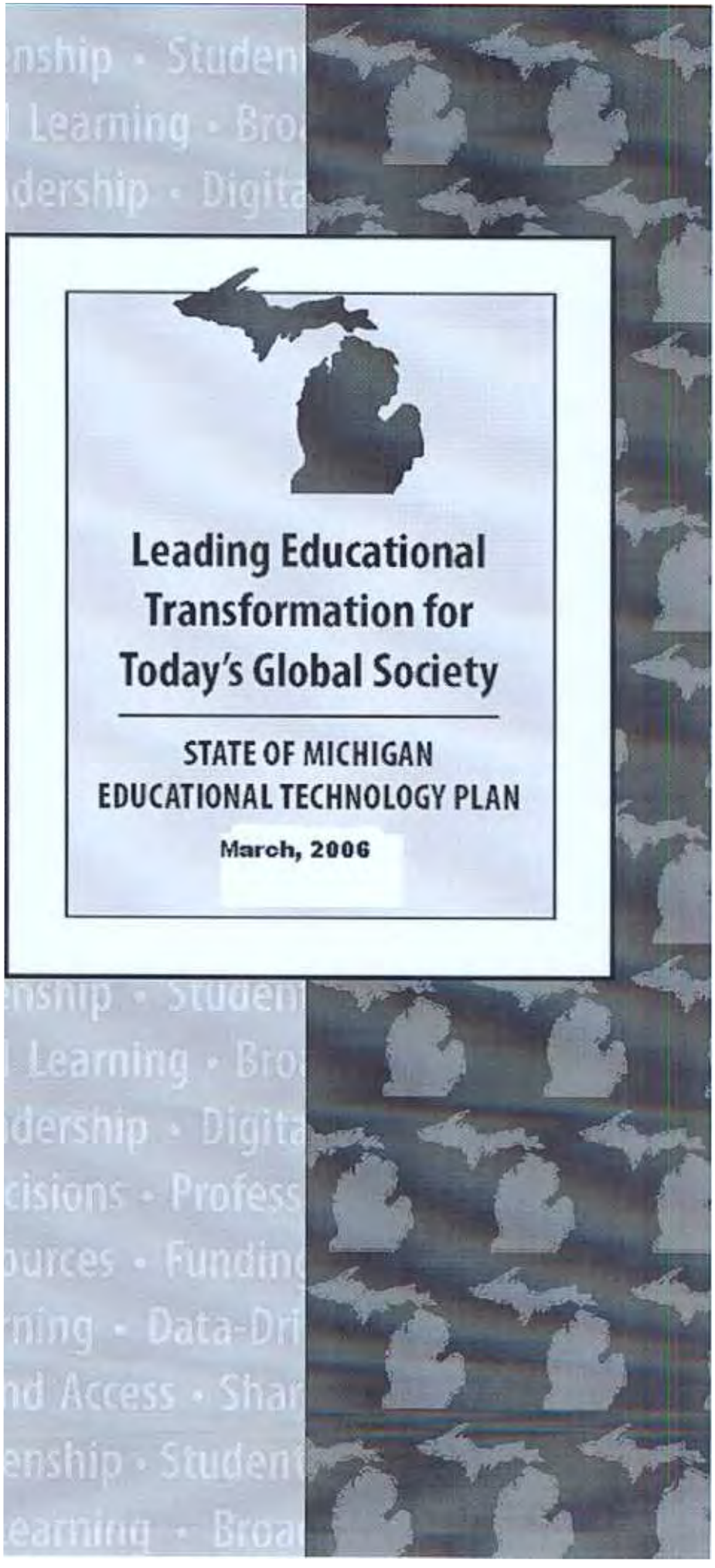
As presented, the plan does not have a budget associated with it. This plan was developed intentionally without looking at budget constraints in order to get the full range of tasks necessary to achieve our stated goal, without regard to our fiscal situation. As we start the implementation process, we have to keep in mind declining federal budgets for educational technology and limited state funding. The resources to execute this plan have been discussed extensively not only within the Michigan Department of Education (MDE) offices responsible for the plan, but also among the working groups.

Some of the costs of executing this plan are well known. For instance, in the section for data driven decision-making, the Center for Educational Performance and Information (CEPI) estimates that to reach its five year goals, they will need $15-18 million. These estimates are based on CEPI's ongoing work with the Decision Support System Architecture Consortium. This amount of money does not address the effort that will be required to provide consistent, ongoing professional development to train administrators and teachers to use the data once they have it available.

An area not so easy to budget is the goal to ensure broadband access to every Michigan classroom. The costs associated with connecting the "last mile" from fiber-optic terminal hubs to individual classrooms have been estimated in the hundreds of millions of dollars. As a result of the collaborative development of the technology plan, MDE is already working with the Department of Information Technology (DIT) and the Department of Labor and Economic Growth (DLEG) to identify innovative solutions that will help local communities and businesses in the quest to make Michigan a more technology enabled state.

The Department and the committees established to develop this plan take educational technology very seriously and know that to be successful we must embrace all of the ideas, strategies, and action steps in this plan. Once the Board has approved the plan, we will create an implementation plan with a prioritized set of tasks, each with a budget and a set of milestones, including both short-term and long-term goals. This budget information will be shared with the Board either through the Information Folder or the regular updates provided between Board meetings.

It is recommended that the State Board of Education approve the State of Michigan Educational Technology Plan March, 2006.


Leading Educational
Transformation for
Today's Global Society
STATE OF MICHIGAN
EDUCATIONAL TECHNOLOGY PLAN
March, 2006

Leading Educational Transformation For Today's Global Society

State of Michigan Educational Technology Plan
March, 2006

Executive Summary

Education in Michigan is currently facing a unique set of challenges and opportunities. It is imperative that we look intensely, carefully, and thoroughly at increased use of educational technology to meet these challenges and transform student learning.

Competition across the United States and the world is forcing this transformation. We must act or we will be far behind. Furthermore, technology is everywhere now, but incredibly, it will be even more pervasive in the future. Think about what the nation will be like, and what will be expected of our schools' graduates when this year's kindergarten class graduates from high school. Technology will be integral, ubiquitous, and for those not ready for the changes, disruptive.

This Plan has a single Goal:

Prepare Michigan students to become productive citizens in a global society

We have eight Objectives that represent the balanced approach, the systemic approach, all of similar importance, all needed to accomplish this goal.

1 Leadership

Michigan will provide leadership for educational technology in order to expand and develop transformative learning environments that increase student achievement.

2 Digital Citizenship

Every Michigan student will be proficient in technology and will demonstrate the ethical use of technology as a digital citizen and lifelong learner.

3 Student Learning

Every Michigan student will have meaningful technology-enabled learning opportunities based on research and best practice that include virtual learning experiences.

4 Data-Driven Decisions

Every Michigan educator will use data effectively for classroom decision making and school improvement planning through an integrated local and statewide decision support system.

Every Michigan educator will have the technology competencies to enable the transformation of teaching and learning to improve student achievement.

Every Michigan classroom will have broadband Internet access to enable regular use of worldwide educational opportunities.

Every Michigan educator and learner will have equitable and sustained access, through statewide coordination and support, to resources necessary to transform teaching and learning through educational technology.

Michigan will develop innovative methods of funding to transform and sustain teaching and learning through educational technology and build local, regional and statewide capacity.

Educational technology as addressed in this Plan is a powerful means of improving student learning. All our educators should be knowledgeable about the ways in which student learning can benefit from educational technology. These educators should have a supportive environment in which they can realize those opportunities. We must recognize that education cannot get there via quick solutions and initiatives; we must build a transformed educational system that is enabled by educational technology through intensive work over a period of many years.

This Plan addresses statewide policies and practices, not the technology plans of individual local educational agencies (LEAs) and intermediate school districts (ISDs). It focuses on an overall framework for leadership and determining direction, one in which state-level efforts facilitate and foster access to cooperative projects, resources and professional learning in a timely, equitable, and cost-effective manner. We must implement aggressive and deliberate strategies that both maximize the return on investments in public education during a time of ongoing fiscal crisis, and exploit the potential of educational technology for improving teaching and learning.

Preface

This Plan is the product of extensive online and in-person discussions and planning that began with a first meeting on March 21, 2005. The Charge to the Committee, along with the Purpose, Vision, and Mission that the Committee established for itself may be found in Appendix A. It reflects deliberations among over fifty people from across the education community in Michigan. Their names and affiliations are in Appendix B. Much of the discussion took place in seven distinct Working Groups, and among the Chairs of those Working Groups and the Facilitator of the Committee's work. The Working Groups were established to align in large measure with the organization of the National Education Technology Plan 2004, *Toward a New Golden Age in American Education (U.S. Department of Education, 2004).*

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The Context for this Plan

This Plan has been written within a context of recognizing both the need to improve educational achievement of Michigan students, especially those who are under-achieving, and the parallel constraints of funding challenges facing the state and schools. This is a period in which the emphasis is on improving achievement as well as possible with tried and true methods. While this is the very difficult context we all recognize and understand, it substantially understates the challenges we face in education. A combination of globalization and technology advances are racing far ahead of our responses in education.

Racing to Keep Up With Global Competition and Society

Michigan has experienced many profound changes as a result of globalization. Michigan **citizens have seen harrowing headlines about our industries and job loss in recent months and years.** The pace of change is rapidly increasing, and the impact is spreading. Many of the high-skill jobs that pay well, and the associated taxable income, are going to other nations now, and education is a key factor in how this progresses. **Students in many other nations perform substantially better than our students. We are being challenged for virtually every kind of industry and every kind of job.**

More and More Immersed in Technology

While it seems as though technology surrounds us today, there will surely be far more by the time most of today's, let alone tomorrow's, students become adults. We now have so many ways to communicate and learn from the rest of the world, with technology as an intermediary, and much more is coming that we cannot even imagine today.

A recent report from the United States Commerce Department cites statistics that (even though a few years old-2002) show 78% of children ages 12-17 go online, and 35% of 2-5 year olds, citing the latter group as having the fastest growth in use since a previous survey. Of those in the 12-17 age group, 83% said they go online more at home than at school. Further, when students in a study were asked about the learning environment of the future, they described it as one in which every student had a computing and communications device readily available and connected to the Internet, with a substantial amount of educational content and learning assistance delivered through that device. Students' practical experience is racing ahead of what is done with educational technology in most schools.

Michigan: Historic Leader, Falling Behind

For many years, Michigan had been a leader in educational technology, with programmatic leadership from the Michigan Department of Education through Goals 2000 and Technology Literacy grants, as well as other statewide efforts through the Michigan Association for Computer Users in Learning (MACUL), the REMC (Regional Education Media Centers) Association, the Merit Network, the Michigan Virtual University (MVU) and the Michigan Virtual High School (MVHS). Major investments have been made through the Teacher Technology Initiative to equip every teacher with a computer, software, training, and Internet dial-in access. Most recently there is the Freedom to Learn one-to-one teaching and learning program. Funding for these programs has diminished in recent years, and many are now ended or being maintained but not updated. The fruits of earlier statewide efforts are still seen in the quality of work done by a number of teachers and administrators. **One set of evidence about the situation in Michigan comes from a recent publication of data by *Education Week*, titled "Technology Counts 2005," where Michigan reports to have on average somewhat older computing equipment for student use.**

"Educators today must prepare students for purposeful engagement in the world. We are passing from an industrial age to the age of information and innovation. To this end, technology is a powerful instructional tool and transformative force. Policy makers must assure all students equitable access to technological tools and instruction so they are prepared to participate with confidence, competence, and creativity in a global society." (Elizabeth W. Bauer, Chair, State Board of Education Task Force on Embracing the Information Age) Overall, the picture is one in which there is a lot of talent, capability, and interest across Michigan, but a great deal more needs to be done to improve student learning through educational technology**. That strong, in-depth effort is described in this Educational Technology Plan.**

Enabling Educational Transformation

Research has demonstrated that educational technology can make an important difference when it is used in the classroom to support the current mode of teaching, such as assisting in locating information, doing rote learning tasks, or communicating with others. To achieve more significant gains, the approach to teaching changes, typically allowing more individualized or project-based learning with the teacher in a more powerful but challenging role as guide and mentor. This brings the students into a more engaged, motivating relationship with their own learning, often termed a constructivist approach to signify they are learning to build their own base of knowledge and understanding. The challenge of moving to this mode of teaching and learning is significant and requires considerable time and solid support from school administrators and fellow teachers. Educational technology is not a simple solution that is quickly applied; it is not painting the walls to give a room a fresh look. Educational technology takes wisdom and perseverance.

We need leadership at all levels that can imagine and implement a fundamentally transformed educational system that is customized for each student, is data driven and technology facilitated, is readily extended beyond traditional time and space considerations, and through which professional educators markedly increase student motivation, achievement, and readiness to be productive citizens in a global society.

Plan Overview: Eight Objectives Based on One Goal

This Plan is based upon a single goal that states both what is expected of students and the context in which they will be living:

Our Goal:

Prepare Michigan students to become productive citizens in a global society

This single goal makes clear that whatever is done with educational technology, the fundamental question is, "what does it do for each student?" **In saying this we must be sure to include the use of assistive technology when appropriate to ensure that we are including ALL students.** Failures to make appropriate and effective use of educational technology must be seen as impacting the student. This Plan addresses the primary areas in which statewide actions are needed, expressed with eight objectives that are of prime importance for achieving the goal.

A substantial degree of motivation for the Objectives is found in the National Educational Technology Plan (U.S. Department of Education, 2004) and in the No Child Left Behind (NCLB) Act. The Objectives are intended to focus current efforts and to utilize the limited level of available state-level resources.

1 Leadership

Michigan will provide leadership for educational technology in order to expand and develop transformative learning environments that increase student achievement.

Leadership at the state, regional, and local levels is central to the effective use of educational technology in improving and transforming education. This Plan recommends strengthening State leadership through the creation of the position of Chief Educational Technology Officer within the Michigan Department of Education (MDE). A second and complementary step is the creation of a Coalition for Educational Technology to facilitate important cooperative relationships among State agencies and the many associations that exist now that support the use of educational technology such as the Consortium for Outstanding Achievement for Teaching with Technology (COATT), MACUL, and others like them throughout the state.

Strategy 1

Strengthen and coordinate leadership for educational technology at the State level.

Performance Indicator

The Coalition for Educational Technology and a high level Michigan Department of Education (MDE) leadership position in educational technology are in place.

Action Steps

1. MDE will establish a position of Chief Educational Technology Officer, reporting at a top level in the organization, to provide leadership in the field of educational technology.
2. MDE will create an advisory group, called the "Coalition for Educational Technology," composed of representatives from statewide organizations, higher education and professional associations to facilitate the coordination of technology initiatives and programs to benefit students and educators.
3. The Chief Educational Technology Officer will lead the Coalition for Educational Technology and utilize it as the key group for guiding and coordinating the implementation of this Plan including its evolution and updating throughout its stated period.
4. MDE will encourage cooperation and coordination between and among the ISDs and local districts to leverage educational technology resources.
5. The State Superintendent will examine ways to enhance communication and coordination between MDE and other state agencies to ensure effective implementation of statewide technology projects.

Strategy 2

All Michigan educators will achieve Michigan Educational Technology Standards for Teachers (METS-T) or Michigan Educational Technology Standards for Administrators (METS-A) proficiency.

Performance Indicator

All Michigan educators will demonstrate METS-T or METS-A proficiency.

Action Steps

1. The State Board of Education will adopt a set of State standards for technology literacy for teachers and administrators.
2. Professional learning activities aligned with the Michigan Educational Technology Standards will be offered across the state on a regional basis to enable educators to increase their knowledge and effective use of educational technology resources to improve achievement. **A special emphasis will be placed on the knowledge and use of assistive technology and universal design. MDE will develop a program to recognize exemplary educational technology leaders who model and apply technology in support of student learning and achievement.**
3. MDE will develop a program to recognize exemplary educational technology leaders who model and apply technology in support of student learning and achievement.

Strategy 3

Coordinate the development of rubrics for assessing teacher use of technology delivering **instruction including the use of assistive technology and the philosophy of Universal Design for Learning (UDL),** ensuring information literacy, and managing instruction to improve student achievement.

Performance Indicator

Rubrics will be established to provide degrees of proficiency for the effective teacher use of technology to deliver instruction**, including assistive technology and the philosophy of Universal Design for Learning**, ensuring information literacy, and managing instruction to improve student achievement.

Action Steps

1. MDE will invite representatives of statewide professional associations and organizations, and higher education to participate in the development of rubrics for assessing teacher use of technology delivering instruction**, including assistive technology and the philosophy of UDL**, ensuring information literacy, and managing instruction to improve student achievement.
2. MDE will identify and recognize model school districts that have implemented the rubrics to advance student achievement.
3. MDE will identify model school districts that have implemented the rubrics and whose school leaders and policy makers demonstrate their active support of information literacy skill development as key to student achievement, professional learning, enhanced productivity, and preparation for lifelong learning.

Strategy 4

Generate model processes to assist school districts in developing a knowledge base for building and sustaining their capacity for systematic technology acquisition, integration, and replacement.

Performance Indicator

Model processes will exist to enable school districts to develop a knowledge base for building and sustaining their capacity for systematic technology acquisition, integration, and replacement.

Action Steps

1. The Coalition will develop model processes to assist school districts to systematically acquire, integrate and replace educational technology.
2. The Coalition will identify and design professional learning opportunities to help school board members understand the importance of utilizing educational technology as a tool for student learning and to administer school districts.

Every Michigan student will be proficient in technology and will demonstrate the ethical use of technology as a digital citizen and lifelong learner.

As the world moves ahead with increasing global competition and our lives are ever more deeply impacted by technology, it is imperative that our students become both knowledgeable about technology and develop an understanding of the ethical use of technology. We are moving beyond technology literacy into a world in which students must comprehend how to work with technology as an intermediary, how to function in virtual environments, and how to behave ethically in such a new and rapidly changing world. Students need to develop *Digital Citizenship.* We already see that by 11th and 12th grade over 94% of students use the Internet. The vast majority of teenagers go online at home rather than at school. Instant messaging is preferred over email. Indeed, basic technology fluency is not as much of an issue for students as it once was; youngsters are quickly adopting and using it.

Strategy 1

Develop for students a digital citizenship definition and curriculum for state-wide use that are aligned with MCF (Michigan Curriculum Framework) benchmarks, GLCEs (Grade Level Content Expectations) and METS (Michigan Educational Technology Standards).

Performance Indicator

All students will demonstrate proficiency in digital citizenship and ethical use of technology and information allowing them to become lifelong learners.

Action Steps

1. MDE will establish an advisory group to meet by fall 2006 to identify traits of a Michigan citizen living in a global digital environment. This group will include educators and others representing a wide range of interests including those addressing special needs of students. This group should include various stakeholders (such as curriculum, special education, technology, media specialists, colleges and universities, students, and workforce development agencies) to create a model curriculum which fully integrates the use of technology as part of the learning process.
2. Michigan Digital Citizenship Curriculum will be developed supporting the delivery of the Michigan Curriculum Frameworks (MCF), and the Grade Level Content Expectations (GLCEs).
3. The Michigan Digital Curriculum will be evaluated and adjusted annually.
4. The Michigan Digital Citizenship Curriculum should embody a broad awareness of other cultures from a global perspective.

3 Student Learning

Every Michigan student will have meaningful technology-enabled learning opportunities based on research and best practice that include virtual learning experiences.

Educational technology should be playing a major role in improving student learning throughout the curriculum. The teacher's role shifts in many ways, such as from lecturer to supporting mentor. Students are often more motivated, engaged, and learn better if their teacher uses educational technology to expand the learning experience. Insightful use of educational technology begins with facilitating student performance in areas such as gathering information and writing. It invites them to explore new means of learning such as virtual classes, video-based content, and the use of simulations to study a concept or process. Students with special needs are served more easily and **equitably through the use of assistive technology.**

Strategy 1

Identify and disseminate meaningful technology-enabled strategies to improve student achievement and learning in a global society.

Performance Indicator

All students are provided meaningful technology-enabled learning opportunities.

Action Steps

1. MDE will identify and disseminate best practices in technology-enabled teaching and learning environments that will include the use of assistive technology and Universal Design for Learning.
2. MDE will encourage research and evaluation to produce data that focuses on the growing use of Internet-based teaching and learning environments by educators and students.
3. The Coalition will identify areas where technology demonstrates promise in increasing or improving student achievement through the effective and efficient use of data.
4. MDE and the Coalition will work with Michigan colleges and universities in partnerships with classroom teachers to research and explore a variety of delivery systems, including e-learning, virtual schools, simulations, action game delivery systems, customized and individualized learning with technology.
5. The Coalition will bring together groups that will work collaboratively in identifying technology-based test preparation tools that integrate student assessments, self-paced instructional content and educator resources aligned to state standards and content expectations.

Strategy 2

Provide the necessary resources for a meaningful technology-enabled learning environment for all students.

Performance Indicator

All students will have ubiquitous access to technology, assistive technology and information resources throughout their learning day.

Action Step

1. MDE will support the development of a plan to enable ubiquitous student and teacher access to technology, assistive technology, and information resources by identifying and utilizing state, national and international best practices in technology-enabled learning environments and UDL.

2. MDE will emphasize the infusion of educational technology, including assistive technology devices and services, throughout the newly required high school curriculum recommended by the State Board of Education.

Strategy 3

All students will have the opportunity to participate in real-life experiences associated with technology-related careers.

Performance Indicator

Students will be provided opportunities to develop technical expertise to compete in a global marketplace.

Action Steps

1. MDE, in partnership with other agencies, will develop and support technology mentorship programs to empower students in real-life experiences and provide community/school service credit.
2. The Coalition will work with ISDs and RESAs to develop mentoring programs for students that offer technology related certifications.

Strategy 4

Promote and support the expectation that every student in Michigan, including students with special needs, be provided with the opportunity to learn in a virtual environment as a strategy to build 21st Century learning skills.

Performance Indicator

Prior to graduation from high school, every Michigan student will benefit from learning and using technology-based virtual tools and resources such as those required to complete an online course for credit or non-credit or complete an on-line learning experience.

Action Steps

1. MDE**, MVHS and other providers, MACUL, the REMC Association and others** will actively promote the value of virtual learning environments to educators, parents, students and policy makers.

2. The Coalition will prepare a feasibility study to determine the value of developing an online international academy to foster global international and educational opportunities, including language and cultural experiences, for Michigan's students.
3. As recommended by the State Board of Education, every Michigan student will complete at least one on-line credit or non-credit course or learning experience in order to graduate.
4. MDE will adopt and implement flexible policies that facilitate the role of the **MVHS and other providers** to deliver Michigan-based as well as global online learning opportunities for Michigan's schools.
5. MDE, **working in collaboration with MVHS** and other statewide organizations, will provide and coordinate state, national, and global distance learning opportunities.

Every Michigan educator will use data effectively for classroom decision making and school improvement planning through an integrated local and statewide decision support system.

Every educator needs to make decisions that are well-informed. A key component of NCLB is the use of a decision support system based on longitudinal data. The data must be connected across various sources over time and then delivered back to educators through meaningful reports that can be used for data-driven decision making. Timeliness of access to data supported by high data quality and increased ability to link and combine data elements must be emphasized. These recommendations are important to all of Michigan, and especially critical to assuring that we meet the requirements of NCLB and maintain full funding from that source.

Strategy 1

Simplify the process of data collection for compliance and decision support at all levels, from the classroom to the state.

Performance Indicator

ISD, LEA and PSA staff members will be able to log on to a secure online system and submit data to the state through an easy-to-use environment.

Action Steps

1. The Center for Educational Performance and Information (CEPI) will work with local school districts and other state agencies to identify duplicative sources of data collection.
2. CEPI will work with local districts and state agencies to integrate multiple data source systems and align data collection calendars to streamline the data collection process and reduce duplicative data reporting.

3. CEPI will work with state agencies and local districts to extend unique identification codes for student and educational personnel across educational data source systems, including pre-Kindergarten through university/college/adult education students, and use these identification codes to track data longitudinally over time.
4. CEPI, state agencies, and local districts will work together to exchange data to pre-populate data collection source systems to help eliminate duplicative data entry.
5. CEPI will provide role-based, secure access to appropriate data from a single Web site for specific users such as teachers, parents, and administrators.
6. CEPI will collaborate with ISDs to ensure system interoperability by creating common formats of data elements shared at the federal, state, and district levels.
7. CEPI, with vendors, ISDs, and the Department of Information Technology (DIT) will collaborate to automate connections between databases to replace manual updates by 2008.

Strategy 2

Identify, connect, and combine educational data elements in meaningful ways across various sources (e.g., personnel, financial, crime and safety, schools/facilities, and student data including assessment information and results) and longitudinally over time so that administrators and educators have the information they need to increase efficiency and improve student learning.

Performance Indicator

A collaboration of State of Michigan agencies, led by CEPI, will plan and implement a comprehensive educational data management and decision support system (DSS) that will meet federal and state reporting requirements and timelines.

Action Steps

1. CEPI will establish a plan to integrate the data systems necessary to educational decision support so that administrators and educators have the information they need to increase efficiency and improve student learning.
2. CEPI will gather requirements from stakeholders to identify and include data elements that should be connected and stored longitudinally, as well as the data outputs and reports that are critical to data driven decision making to set policy and ensure appropriate resource allocation to improve student achievement.
3. CEPI, in collaboration with ISDs, will secure funding for a state-level longitudinal educational Decision Support System (DSS) that will provide primary DSS functionality for districts and ISDs that do not have local systems.
4. CEPI, in collaboration with ISDs, will ensure that there is vertical integration between the state and local DSS implemented by ISD and LEA districts.
5. CEPI, in collaboration with other state agencies, will connect and combine student assessment data in the state-level DSS to meet the 2007 NCLB longitudinal assessment requirements.
6. CEPI, in collaboration with other state agencies, will connect and combine Single Record Student Database (SRSD) data to enable the calculation of a four-year cohort

graduation and dropout rate to meet Michigan's NCLB accountability timeline for 2007.

7. CEPI, in collaboration with state agencies and ISDs, LEAs and PSAs, will revise existing educational personnel data systems to support the collection and reporting to ensure that highly qualified teachers are in Michigan's classrooms to meet NCLB requirements.
8. CEPI, in collaboration with ISDs, LEAs, PSAs, Michigan's teacher preparation institutions, and other state agencies (e.g., Office of Retirement Services) will work to integrate data sources that can be used to assess teacher supply and demand.

Strategy 3

Provide timely return of "connected" data to all educational stakeholders as well as professional learning opportunities to help them understand how to use the data to improve student achievement.

Performance Indicator

Every educator and educational stakeholder will have access to high quality, timely data and use that data effectively for classroom decision making and the allocation of resources across schools/facilities, districts, and the state for the purpose of improving teaching, learning, and setting educational policy.

Action Steps

1. CEPI will work collaboratively with other state agencies, ISDs, REMCs, education associations, and grant-funded projects to develop and provide professional learning opportunities for MDE staff and educators on how to use data effectively for classroom decision making and school improvement planning.
2. Educators will use assessment results in determining needs for differentiating student instruction.
3. CEPI and other state agencies will work with educational stakeholder associations to develop and provide professional learning opportunities for Michigan administrators for using data from both administrative and instructional systems to understand relationships between decisions, allocation of resources, and student achievement.
4. CEPI will collaborate with districts and educational associations to develop and implement processes to "build a culture of quality data" at the local level. A culture of quality data includes processes that ensure the accuracy, timeliness, security, and utility of educational data.
5. CEPI, MDE, and other state agencies will collaborate with educational stakeholders including parents, policymakers, and the general public to build data tools and reports to help them understand available educational data and the relationship between decisions, allocation of resources, and student achievement.

Every Michigan educator will have the technology competencies to enable the transformation of teaching and learning to improve student achievement.

The application of educational technology requires not only that each teacher understand the use of the technology, but they must understand how it impacts their classroom practice. The greatest gains have been seen in research and in practice where educational technology is used to teach in ways that were not practical before. Teachers, and the methods each uses, are the keys to progress with student learning. Similarly, it is highly important that school administrators understand and can provide effective leadership about the application of educational technology. This means the competency of all educators must be addressed through professional learning. The professional learning must be an ongoing process of reflective practice, a shared effort among the educators within each school, aligned with state and national standards, and tied to curriculum objectives. This is a long-term process, with each educator continuously building their skills and knowledge, increasing the benefits to student learning. This career commitment should be seen both among current educators and in the pre-service work taking place in our universities.

Strategy 1

Provide professional learning opportunities for all educators related to integrating technology, focusing on improving student learning and meeting the Michigan Educational Technology Standards for Teachers (METS-T) and the No Child Left Behind requirements.

Performance Indicator

All educators are trained to routinely use a core body of technologies that align with standards (METS-T) that support student learning, and technology systems for analysis of data to make data-driven decisions which enhance student learning.

Action Steps

1. Educational technology should be infused in all professional learning activities whenever appropriate.
2. Under the leadership of MDE and the Coalition, a needs assessment will be developed/identified regarding technology competencies of teachers and administrators based on the METS. Funding will be sought to implement a state-wide assessment.
3. The Coalition will advocate for a revision of the Michigan School Code to include a portion of the required professional development for teachers and administrators be dedicated to developing and enhancing technology integration competencies for improving student learning.
4. A representative from the Coalition will serve on the MDE Professional Development Strategic Planning Committee.
5. MDE will provide for educators an electronic "Individualized Professional Learning Portfolio" including educational technology activities (e.g. Michigan LearnPort).
6. MDE will collaborate with statewide groups in the development of ongoing professional development in technology proficiency and curriculum integration.
7. MDE will provide professional learning opportunities relating to the collection and use of student data for decision-making related to student achievement.

8. The Coalition will develop a technology mentoring infrastructure with educators mentoring educators in supporting the utilization of technology and troubleshooting technology in the classroom.
9. MDE will pursue policies that foster the expansion of online professional learning opportunities for all educators and support personnel through online portals such as Michigan LearnPort.
10. Funding for the continuation of Michigan Teacher Network will be provided.
11. Educators will use technology resources that are identified and included on the Michigan Teacher Network as supported and aligned with the Michigan Curriculum Framework (MCF), METS, and the Grade Level Curriculum Expectations (GLCE).

Strategy 2

Provide administrators with ongoing professional learning opportunities that will meet the Michigan Educational Technology Standards for Administrators (METS-A).

Performance Indicator

Administrators and other curriculum/instructional leaders demonstrate skill in assisting and supporting teachers to integrate technology that maximizes student learning.

Action Steps

1. MDE, in collaboration with ISDs, REMCs, colleges, universities, and professional organizations will create and deliver professional learning opportunities for administrators that will be based on the METS-A.
2. The Coalition will advocate for leadership for technology integration supporting improved student learning within administrator preparation programs.
3. Members of the Coalition will meet with deans and directors of schools of higher education to urge them to enhance the technology preparation of school leaders.
4. Members of the Coalition will work with administrative professional associations to coordinate sessions at their annual conferences and regional learning forums.

Strategy 3

Ensure that teacher preparation institutions are preparing all teacher candidates to successfully utilize technology to improve student learning through mastery of the Entry Level Standards for Michigan Teachers (7^{th} Standard).

Performance Indicator

All teacher candidates demonstrate skills in utilizing technology, including assistive technology, to improve student learning prior to certification.

Action Steps

1. MDE and the Consortium for Outstanding Achievement for Teaching with Technology (COATT) will develop models for effective implementation of the 7th standard in teacher preparation programs and methods to evaluate the technology integration skills of teacher candidates.

2. MDE will work with the State teacher preparation institutions to integrate online learning in their programs and to prepare their graduates to understand online learning.
3. MDE will provide funding for the continuation of COATT.
4. **The State Board of Education will require institutions of higher education that prepare teachers to ensure that all graduates are proficient in the use of assistive technology and the theory of Universal Design for Learning to meet the learning needs of all students.**

Strategy 4

Provide professional learning activities for Michigan Department of Education staff relating to technology integration.

Performance Indicator

MDE staff attends technology integration professional learning activities.

Action Steps

1. Members of the Coalition will provide a series of monthly (beginning 2006-2007 school year) "Lunch and Learn" technology presentations inviting all MDE staff.
2. During the 2007-2008 and 2008-2009 school years, the Coalition will facilitate workshops on specific technology integration topics for the MDE staff.
3. The Coalition will provide ongoing consultation and assistance for key MDE staff.

6 Broadband Access

Every Michigan classroom will have broadband Internet access to enable regular use of worldwide educational opportunities.

Teachers can do much to shape how educational technology is applied in their classroom, but a fundamental component that must be consistently available to every educator and student is broadband Internet access, delivered in a reliable manner, to every computing device. Every teacher and every educational activity must be able to assume this. Current reports on school access to the Internet suggest a high level of availability; these are often overly optimistic figures, not representing the true level of teacher and student access. This Plan recommends that access be provided in every classroom, with broadband performance available to every computer in that classroom. Further, it is important to recognize that a great deal of Internet access occurs outside school, especially from home. Even so, such access is not sufficiently widespread that it can be assumed by teachers in making assignments. The Plan recommends efforts that assure students also have broadband access outside school. This is important not only for student learning, but also for school administration and parental communication and involvement. The importance of the recommended access in classrooms means that efforts to obtain eRate funding should be reemphasized.

Strategy 1

Provide broadband access to all classrooms by creating partnerships with state organizations, educational agencies, and providers, and expand outreach efforts to schools encouraging them to apply for eRate funding.

Performance Indicator

Every classroom has a minimum of 1.5MB connectivity to each computer device.

Action Steps

1. The Coalition, in conjunction with various State of Michigan agencies, will encourage providers to offer local school districts equitable and affordable broadband access to each building and classroom.
2. MDE will establish partnerships with the appropriate State and local agencies to acquire grants and private and federal resources for narrowband schools to expand access to and use of broadband technology.
3. MDE will collaborate with REMCs and ISDs on outreach to schools informing them of eRate opportunities.

Strategy 2

Provide broadband access to global resources for students after school.

Performance Indicator

Every student will have access to broadband Internet through multiple locations.

Action Steps

1. The Coalition will encourage ISDs and local districts and governments to create partnerships with Internet service providers to provide students and educators either free or low cost access in the community to Internet resources in an effort to support the classroom activities occurring during the instructional day. Community wireless projects are meant to supplement, not replace, the school's secure infrastructure.
2. The Coalition will encourage ISDs and local districts to create partnerships with higher education, libraries, and community centers to provide students/educators Internet access in the community.

7 Shared Resources

Every Michigan educator and learner will have equitable and sustained access, through statewide coordination and support, to resources necessary to transform teaching and learning through educational technology.

Teachers and students must have access to a wide range of online resources including information, reading materials, course content, video, data, communication with others, and resources designed to support instruction. Access to resources is fostered and efficiencies gained through statewide purchase programs. There are many Web-based resources where statewide agreements have proven beneficial to all educators and students. Video streaming (to the classroom) and videoconferencing (two-way, interactive)

are increasingly valuable classroom resources that benefit from statewide facilitation and coordination. Virtual schooling and e-learning offer new opportunities. Attention to emerging applications of educational technology, such as online video resources or formative assessments should be integral to statewide leadership efforts. At the core of technology support, it should be recognized that the majority of all basic technical questions are handled by each teacher or by assistance from other teachers, and that the statewide technical support resources for these teachers can bring important gains in more effective use of educational technology.

Strategy 1

Provide statewide access to educational technology resources for the purpose of transforming teaching and learning.

Performance Indicator

All educators and learners access and routinely use high quality online resources as part of the teaching and learning process.

Action Steps

1. MDE will work with the REMC Association and other State agencies to provide Michigan schools with universal access to high quality digital instructional content by negotiating statewide licensing agreements.
2. The Coalition and relevant stakeholders will work to establish and maintain a statewide multipoint, interactive video conferencing system.
3. The Coalition will work to establish a web portal that supports all educators in the transformation of education through technology. The portal will be easily accessible and support such items as: curriculum and lesson materials, professional development, research to support educational technology, and technology resources correlated to the Michigan Curriculum Framework and Grade Level Content Expectations, (e.g., **LearnPort** and Michigan Teacher Network).
4. MDE, **MVU**, and the Michigan Department of Labor and Economic Growth will work collaboratively with Michigan's education community to design and develop an online General Educational Development (GED) program.

Strategy 2

Coordinate and provide statewide resources for technology support so that teaching and learning can be transformed seamlessly.

Performance Indicator

All educators have access to and regularly use technology support, including local and statewide resources.

Action Steps

1. The Coalition in collaboration with vendors will provide access to online resources to provide effective and efficient means to resolve technical issues on commonly used software and hardware packages.

2. The Coalition will review and update the Technical Staffing Guidelines to support innovative educational opportunities in the classroom while still maintaining established educational technology programs.

Michigan will develop innovative methods of funding to transform and sustain teaching and learning through educational technology and build local, regional, and statewide capacity.

There is a need to find alternate sources of funding and mechanisms to reallocate current resources. These considerations should be addressed in the context of understanding that reallocations of federal support have taken place in recent years, as a part of NCLB, resulting in reductions of general statewide funding for educational technology. Furthermore, the State-based component of statewide funding for educational technology is now only about 0.04% of all state education funding. At a time when Michigan needs to increase the effectiveness of overall expenditures, we have lost important sources of leverage for doing that and appropriate action must be taken. This Plan emphasizes cooperative efforts, statewide guidelines and standards, assistance in accessing alternative sources of funding, and mechanisms that address cases where modest state funds enable significant savings for LEAs and ISDs. Our recommendations are organized to distinguish between support for innovation, for adoption of best practices, and for long-term investments. **Taken in concert with all of the recommendations in this Plan, these provide the level of state-level effort needed to sustain the advancement and transformation of education at the state, regional, and local levels within Michigan.**

Strategy 1

The Michigan Department of Education (MDE) will provide seed money for developing innovative technology enhanced programs.

Performance Indicator

Funding from the Michigan Department of Education is provided to develop and disseminate information on innovative educational programs that demonstrate impact on student learning.

Action Steps

1. MDE will secure funding for a statewide web portal that supports curriculum, lesson materials, professional learning, and research.
2. State funds will be identified to support educational technology grants that develop new initiatives, and support innovative programs and professional learning opportunities.
3. State funds will be identified to support grants for educational technology that develop new initiatives through a "revolving loan program," which would allow

districts to borrow state money to purchase technologies for innovative educational programs.

4. MDE and the Coalition will work to foster innovative projects aligned with the Plan and utilizing educational technology by establishing partnerships with educators, university/college researchers, and corporate advocates of educational technology to propose and carry out projects with grant funding from federal agencies and/or private foundations.

Strategy 2

Provide funding to help schools identify, adopt, and begin sustainable exceptional educational technology practices and communicate these findings to all state educators.

Performance Indicator

Schools will be able to identify, adopt, and sustain exceptional programs that use technology that can be funded by long-term resources.

Action Steps

1. MDE will assist districts in securing funding to sustain proven innovative projects.
2. MDE and the Coalition will identify funding for the continued development of existing professional learning opportunities that use technology.
3. The Coalition will identify training and leadership to assist local schools seeking funding for large-scale transitions of educational technology by: identifying possible funding sources, determining implementation costs, and developing a plan for the long term support of their educational technology program.

Strategy 3

Provide funding to sustain innovation, maintain State and local technology infrastructure, and support effective leadership for proven educational technology programs.

Performance Indicator

Funding is identified to enhance the infrastructure at the State, ISDs/RESA/REMCs and local school district level.

Action Steps

1. MDE will identify State and federal appropriations for statewide projects that have proven to be successful but require ongoing fiscal support.
2. The Coalition will assist in the identification and formation of partnerships with business and industry that can help fund educational technology programs in the State.
3. The Coalition will work with the legislature to develop a revenue producing vehicle that incorporates the State funding of bonds and other revenue producing means.
4. The MDE will work with stakeholders to develop and implement a statewide Educational Technology Foundation to fund technology programs.

5. MDE will encourage, assist, and train all ISDs/RESAs and local school districts to file appropriate eRate forms to receive reimbursements available through this national program.
6. MDE will encourage local school districts and ISDs to continue to utilize cooperative purchasing programs for equipment, supplies, and services.
7. **MDE will work with the Governor and the State Legislature to establish state-level funding for leadership in educational technology at MDE, including both staff support and funds for grants to ISDs, RESAs, and LEAs and other investments as described in this Plan, including the above three funding strategies and associated action steps, to be at least double the current state-level funding from all sources. MDE will seek the input of the Coalition for Educational Technology in identifying priorities for this funding.**