

**Tech Forum Chicago**  
**“Laptop Learning, 24/7”**  
**One-to-One Teaching and Learning Initiatives - Goals and Results**  
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This panel presentation will provide more in-depth information about one-to-one teaching and learning initiatives, the impact and importance of effective program implementation and current research results relative to one-to-one program goals.

The following are the foundation objectives for Michigan’s Freedom to Learn (FTL), one-to-one teaching and learning program.

**GOAL 1:** Enhance student learning and achievement in core academic subjects with an emphasis on developing the knowledge and skills requisite to the establishment of a 21st century workforce.

*Impact:* In a number of our schools, students’ MEAP increased achievement has been attributed to implementation of the one-to-one model.

**GOAL 2:** Provide greater access to equal educational opportunities through ubiquitous access to technology.

*Impact:* FTL is primarily serving urban and rural high need (academically and socio-economically) schools. Ordinarily, those are the schools most likely to NOT have access to cutting edge technology let alone Internet availability – at home or at school. Many classrooms in urban Detroit, Pontiac, Saginaw, Flint and rural classrooms in Baldwin, Bear Lake, Caseville, Pine River have embraced the one-to-one program – giving each student his/her own laptop in a totally integrated (technology/instructional) environment.

**GOAL 3:** Foster effective use of the wireless technology through systematic professional development for teachers, administrators and staff.

*Impact:* The preponderance of FTL funds, after dollars for devices, is devoted to a comprehensive professional learning, four phase program, for all teachers, administrators, and technology staff. The four-year program includes Phase I – Emerging Skills; Phase II – Implementing Skills; Phase III – Advancing Skills; and Phase IV – Ubiquitous Integration and Beyond.

**GOAL 4:** Empower parents and caregivers with the tools to become more involved in their child’s education.

*Impact:* Inherent to the FTL solution are applications and tools that allow for consistent communications among parents/caregivers, students and teachers. Microsoft ClassServer and Connected Tech allow for parents/caregivers to go into the web sites to follow and monitor students’ progress, homework and assignments. Parents/caregivers are intimately involved in the launch orientation where each school

provides guidance, expectations and a belief system for the FTL program. Parents/caregivers are required to sign an acceptable use agreement with their children which further ensures parent recognition of the program goals and requirements.

**GOAL 5:** Support innovative structural changes in schools and sharing of best practices through the creation of human networks among Program participants.

**Impact:** The professional learning roundtables for teachers, administrators and technology personnel foster connections and sharing of best practices and troubleshooting. The one-to-one model is, in and of itself, a constructivist, student-centered and problem solving approach to teaching and learning. Teachers become facilitators of self-driven learners – providing avenues for students to grow at their own pace and individualize their daily instructional program. One-to-one teaching and learning can be viewed as a comprehensive school reform model as it embraces current research on effective teaching and learning. Students take responsibility for their own creation of learning goals. There is more time on instructional task in the experiential classroom that one-to-one learning promotes. Less administrative is needed as students enter the classroom able to pick up where they left off yesterday.

Within one-to-one teaching and learning environments, students engage their natural, technology-rich, habitat to meet educational and personal achievement goals. Learning and pedagogy become meaningful and self-directed. In Michigan, Maine, Henrico County, Texas, Florida and California research has emerged showing success around each of their one-to-one program goals. From these initiatives, it has been demonstrated clearly that student engagement, motivation, time on task, and self-directed learning improve when a prescribed curriculum is taught in an environment in which personal, portable technology has been effectively integrated on a one-to-one basis. Within the next several months, Michigan's matched-control research will more closely examine the impact of the one-to-one enhanced educational environment on student achievement as measured by Michigan's standardized tests through the Michigan Education Assessment Program (MEAP).

In Michigan's statewide 1:1 program, we have learned student attendance increased and student test scores improved as part of AYP goals in some schools. In January and February 2005, schools took the standardized MEAP test, following the implementation of the 1:1 program in the fall of 2004 (although some schools had been part of the demonstration phase of FTL and had implemented one-to-one in 2002 or 2003), providing initial data on the effects of the program. Results from the tests show:

- In Bendle Middle School, proficiency on reading MEAP scores increased from 29 percent to 41 percent for 7th graders and from 31 percent to 63 percent on 8th grade math scores.
- In 2004, Leland Middle School students were 53 percent proficient in MEAP writing, six percentage points above the state average of 47 percent. This year they moved to 87 percent proficient – a jump of 34 percentage points – and well above the state average of 53 percent.
- Across the Eastern Upper Peninsula ISD, student proficiency on standardized tests has increased in both science and math in just one year: science from 68 percent to 80 percent and math from 57 percent to 67 percent.
- Nearly all middle schools in the Flint school district are participating in the 1:1 program. Some of the most powerful and positive results have been found in reading and math scores. This year, 7th grade reading scores jumped from 29

percent to 41 percent and 8th grade math scores increased from 31 percent to 63 percent.

Implementation of one-to-one programs creates such great change that it can serve as the foundation for a school or district's comprehensive school reform initiative. The essence of the one-to-one environment causes teachers to change their pedagogy to create student-centered, constructivist environments where technology allows students to be self-directed learning leaders, often teaching their teachers how to use and troubleshoot the technology. School governance must embrace all that this "morphed" learning environment commands. A team approach is necessary to ensure that the home's and school's goals for learning are aligned. Parents/caregivers are closely connected to the school through virtual and personal connections.

To be effective, one-to-one teaching and learning must attend to a structured, systematic process of change that will transform learning from teacher-centered to student-centered. Advanced planning, teacher and staff preparation, professional learning, technology infrastructure, and assessment and evaluation are strategic elements of a one-to-one program. In addition to providing each student with direct, consistent access to a laptop, successful one-to-one programs allow for:

- Each student to access homework assignments and school information online, anywhere he or she can connect to the Internet
- Each student to research topics online, download coursework, check e-mail, work in teams with other students, submit assignments online and apply critical thinking skills
- Students to take charge of his/her own learning through experiential and virtual project and problem-based, multi-disciplinary activities in 'just in time' formats
- Parents/caregivers to communicate with their children's teachers and view daily classroom work, homework and student achievement to help ensure progress and academic growth
- Each teacher to interact one-on-one with students and parents/caregivers, to keep apprised of each student's progress through online assessment tools, to integrate online content and learning resources with curriculum and instruction, and to expand learning beyond the walls of the classroom
- Each teacher to determine the best classroom management and configuration for optimal teaching and learning for all students. Chairs in fixed rows and columns do not often promote student-centered learning nor do they accommodate students working in small groups or other individualized or differentiated learning approaches

Changing a school environment from teacher-centered to student-centered takes time, patience and attention to detail. Schools that have been most successful to date have been especially attentive to upfront planning, inclusion of all stakeholders in decision making, and powerful communications to all stakeholders before and during this long-term process of change. No one is an expert at this yet. We are all learning from each other as we move toward the day when the integration of ubiquitous personal, portable technology is no longer viewed as an isolated, episodic event in teaching and learning environments.