

GRANT SUMMARY

**District Name: Clintondale
Community Schools Misd MISD/RESA
: Macomb**

**District Code: 50070
ISD Code:**

**FY 2010
School Improvement Grant – Section 1003(g)
District Proposal Abstract**

For each of the models listed below, indicate the number of Schools within the District/LEA intends to implement one of the four models: attach the full listing using form below in Section A , Schools to be Served, and the criteria for selection as attachments to this grant.

- Close/Consolidate Model:** Closing the school and enrolling the students who attended the school in other, higher-performing schools in the district.
- Transformation Model:** Develops teacher and leader effectiveness, implements comprehensive instructional programs using student achievement data, provides extended learning time and creates community-oriented schools.
- Turnaround Model:** Replace principal and at least 50% of the staff, adopt new governance, and implement a new or revised instructional model. This model should incorporate interventions that take into account the recruitment, placement and development of staff to ensure they meet student needs; schedules that increase time for both students and staff; and appropriate social-emotional and community-oriented services/supports.
- Restart Model:** Close the school and restart it under the management of a charter school operator, a charter management organization (CMO) or an educational management organization (EMO). A restart school must admit, within the grades it serves, any former student who wishes to attend.

LEA APPLICATION REQUIREMENTS

A. SCHOOLS TO BE SERVED: An LEA must include the following information with respect to the schools it will serve with a School Improvement Grant.

From the list of eligible schools, an LEA must identify each Tier I, Tier II, and Tier III school the LEA commits to serve and identify the model that the LEA will use in each Tier I and Tier II school. Detailed descriptions of the requirements for each intervention are in Attachment II.

Note: Do not complete information about Tier III at this time.

<u>SCHOOL NAME</u>	<u>NCES ID #</u>	<u>TIER I</u>	<u>TIER II</u>	<u>TIER III</u>	<u>INTERVENTION (TIER I AND II ONLY)</u>			
					<u>turnaround</u>	<u>restart</u>	<u>closure</u>	<u>transformation</u>
<u>Clintondale High School</u>			<u>X</u>					<u>X</u>

Note: An LEA that has nine or more Tier I and Tier II schools may not implement the transformation model in more than 50 percent of those schools.

B. DESCRIPTIVE INFORMATION: An LEA must include the following information in its application for a School Improvement Grant. LEA's are encouraged to refer to their Comprehensive Needs Assessment (CNA) and District Improvement Plan (DIP) to complete the following:

Provide a narrative description following each of the numbered items below for each school the LEA plans to serve with School Improvement Grant funds.

1. For each Tier I and Tier II school that the LEA commits to serve, the LEA must:

Describe the process the LEA has used to analyze the needs of each school and how the intervention was selected for each school.

The mission of Clintondale High School, in cooperation with the community, is

Preparing today's learners to be tomorrow's leaders.

Clintondale High School reviewed multiple data sources to determine the needs of CHS in order to select the most appropriate intervention model. Subsequently, we, as a collaborative group, reviewed our passing/failing rates, attendance, discipline, enrollment and achievement on state and local assessments, which allowed us to come to the conclusion that Clintondale High School students were being under served, and that a transformational change was necessary in order to provide quality educational services to our students, parents, and community.

Under consideration were the four models that were provided by the MDE. We had selected the transformational model after considering the following:

4th Option Closure: Not an option since it is the only high school within the Clintondale school district.

3rd Option Restart: Restart was not selected because not all students are experiencing low graduation rates as the high school has historically graduated over 80% of its students. The high school had improved by 9% in reading from 2009 to 2010 and 10% in science during that period. In addition, a 3% improvement had also been made in social studies during that time period. This is reflective of our staff's competencies and also our students' efforts. Our students and our community voted for our school for three straight years "Macomb Daily's Favorite High School".

2nd Option: Turnaround: Based on the historic high graduation rates and the improvement of our students' MME scores from 2009 to 2010 and our upward trend in four of our five state assessment areas during the past four years we felt that our staff is capable of serving our students very well and that major adjustments to our staff were not necessary.

1st Selected Option: *Transformation*

Transformation was our choice for reform at Clintondale High School. A transformation model was selected for the following characteristics:

Evidence of pockets of strong instructional staff capacity

Evidence of response of prior reform efforts

The following data supports the characteristics:

Significant improvement in reading (9%) and science (10%) over the past year

Social studies scores have remained constant despite fluctuations in other core scores

Numerous reform efforts have been implemented prior to the school being placed on the 5% chronically lowest performing schools list. The following are examples of the most recent reform efforts that have been embedded into the daily high school practices:

The development and implementation of a new 9th grade Center

Instituted a web based and before and after school tutoring programs

Formed teacher led learning groups through the integration of student friendly technologies and the digitations of curriculum in order to reduce the failure rate of poor students

Development and implementation of instructional videos and screen captures in order to expand our students' learning day, without additional costs

Implemented high quality professional development training for school staff through the Macomb ISD

Changed high school policies in order to meet the current students' needs

Installed a comprehensive student data analysis tracking system with common assessments in order to make data driven instructional decisions via Data Director.

Partnered with St. John Health Systems in order to provide a School Based Health Clinic within CHS

Additionally, Clintondale High School has completed a comprehensive needs assessment (CNA) as mandated by the Michigan Department of Education. The CNA provides longitudinal analysis of multiple data over a three-year period. It should be noted that improvement in reading, science and social studies were seen this past year, which is a credit to our teaching staff, and it is in alignment with the transformation model while demonstrating that school stakeholders are working toward positive change.

On August 16th, 2010, the superintendent, Mr. George Sassin received notification from the Michigan Department of Education. Administrators, along with the NCA chair, attended a meeting sponsored by the Michigan Department of Education. Clintondale High School staff members were notified that the school was identified for improvement and were informed on this matter at the first staff meeting on Tuesday, September 7th, 2010. The School Improvement team immediately convened to evaluate this information and generate input for the future of Clintondale High School.

All stakeholders were then informed about the Michigan Department of Education's Identification of Clintondale High School as a lower achieving school. All stakeholders were given the opportunity to provide input to the School Improvement Grant. Further student input will be obtained through student participation of the Grant Application process.

Design and implement interventions consistent with the final requirements

Required Activities

Note: *A more descriptive and detailed plan of action/analysis of the following activities is included in parts II and III.*

Requirement 1

Develop and increase school leader and teacher effectiveness.

Current principal will be replaced July 1, 2011. A school committee will look to hire a principal that has a focused management style that creates a culture for the high school to achieve results. In addition, the selection committee will hire someone who has some of the following characteristics:

- Task oriented
- Data driven
- Motivated and can motivated others
- Strong problem solver
- Good listener and can process information
- Good organizational skills
- Good relationship builder
- Can develop timelines, progress monitor and follow up
- Strong personality who can withstand criticism

The Adaptive Schools

The Adaptive Schools Model is about developing strong schools in which collaborative faculties are capable of meeting the challenges of today and the uncertain challenges of tomorrow. Schools are making remarkable gains in improving student achievement, increasing attendance, attaining higher post-school accomplishments, and developing satisfying relationships with communities. Clintondale High School, in conjunction with the Macomb Intermediate School District, is including the work of Bob Garmston and Bruce Wellman from **The Adaptive Schools**. Training and implementation has already begun. On October 26-27, 2010, two teachers and two administrators attended the first sessions. The second sessions will be attended on January 19-20, 2011. Adaptive Schools is just one initiative to continue to develop teacher and leader effectiveness. Clintondale High School strives to improve leadership skills of teachers as well as administration.

Requirement 2

Use of evaluation systems that take into significant account data on student growth.

Evaluations Systems incorporating student growth through teacher and principal evaluations.

The School Improvement Team, along with the support of the union is proposing a new agreement on teacher and principal evaluation system. The goal is to reach an agreement on a system that connects teacher performance with student achievement. The Clintondale High School's School Improvement Team and school board have already begun to plan a transformational instructional reform including providing expanded learning time for all students in all subject areas.

Charlotte Danielson Teacher Evaluation Model

An effective system of teacher evaluation accomplishes two things: it ensures quality teaching and it promotes professional learning. The quality of teaching is the single most important determinant of student learning; a school district's system of teacher evaluation is the method by which it ensures that teaching is of high quality. Therefore, the system developed for teacher evaluation must have certain characteristics: it must be rigorous, valid, reliable, and defensible, and must be grounded in a research-based and accepted definition of good teaching. The *Framework for Teaching* provides such a foundation. In addition, however, the procedures used in teacher evaluation can be used to promote professional learning. When teachers engage in self-assessment, reflection on practice, and professional conversation, they become more thoughtful and analytic about their work, and are in a position to improve their teaching. Evaluators can contribute to teachers' professional learning through the use of in-depth reflective questions. By shifting the focus of evaluation from "inspection" to "collaborative reflection" educators can ensure the maximum benefit from the evaluation activities.

The Framework for CCS Effective Teaching

The following is a framework of expectations that we have of our leadership and instructional staff efforts when working towards the development of Clintondale Community School District's student learning. The Teaching Framework defines a distinct aspect of a domain; two elements describe a specific feature of a component. Levels of teaching performance (rubrics) describe each component and provide a roadmap for improvement of teaching. The *Framework* may be used for many purposes, but its full value is realized as the foundation for professional conversations among practitioners as they seek to enhance their skill in the complex task of teaching. The *Framework* may be used as the foundation of a school or district's mentoring, coaching, professional development, and teacher evaluation processes, thus linking all those activities together and helping teachers become

more thoughtful practitioners.

Domain 1: Planning and Preparation

- Demonstrating Knowledge of Content and Pedagogy Demonstrating
- Knowledge of Students
- Setting Instructional Outcomes
- Demonstrating Knowledge of Resources
- Designing Coherent Instruction
- Designing Student Assessments

Domain 2: The Classroom Environment

- Creating an Environment of Respect and Rapport
- Establishing a Culture for Learning
- Managing Classroom Procedures
- Managing Student Behavior
- Organizing Physical Space

Domain 3: Professional Responsibilities

- Reflecting on Teaching
- Maintaining Accurate Records
- Communicating with Families
- Participating in a Professional Community
- Growing and Developing Professionally
- Showing Professionalism

Domain 4: Instruction

- Communicating with Students
- Using Questioning and Discussion
- Using Research Based Techniques/Strategies
- Engaging Students in Learning
- Using Assessment in Instruction
- Demonstrating Flexibility and Responsiveness

Three Plans for Evaluation using the Charlotte Danielson Model

Plan I Individual Development

The complexity of teaching can be daunting for those new to the profession. Teaching is one of the few professions with no built-in apprenticeship period, in which novices must assume the same responsibilities as veterans in the field. These conditions create stress for a beginning teacher; it is interest of both beginning teachers and the students they teach that this period be as brief as possible. Mentoring of new teachers is accepted as the optimal method to provide the necessary support. A program of new teacher mentoring consists of training, support and follow-up for mentors and novice teachers to increase teacher retention, establish norms of professionalism, and increase effective teacher performance, which in turn leads to improved student achievement. In this endeavor it is essential to work from a coherent definition of good teaching.

The use of formative assessment based on *The Framework for Teaching* in the mentoring process helps beginning teachers focus on classroom performance and delineate how teaching improves from novice to expert practice.

Who

- Teachers with fewer than four years teaching experience
- Teachers who have not taught previously in Michigan
- Newly hired Michigan tenured teacher
- Annually authorized personnel

Purpose

- To ensure that CCS Standards for effective teaching are understood, accepted and demonstrated
- To provide support in implementing the standards
- To provide accountability for decisions to continue employment

What

- Formal observations and evaluation of performance
- Portfolio
- Post-observation reflections
- Mentor observations

Method

- Classroom observation with feedback
- Discussion of professional practices
- Mentor support
- Review of portfolio

Plan 2 Professional Growth

Professional Growth Planning is a process of self-directed inquiry focused on what teachers need to learn and do to improve their practice, resulting in improved student learning. In this process, teachers engage in self-assessment, analysis of both quantitative and qualitative data, and the priorities of both the school and district. A teacher's professional growth plan may be focused on a specific component of *The Framework for Teaching* (such as improved questioning and discussion skills) or a general aspect of practice (such as learning to use grouping strategies in the classroom.) A valuable professional growth plan is one that engages teachers in significant new learning of a skill related to one's responsibilities. Preparing a meaningful professional growth plan requires skills of self-assessment and analysis of practice, knowledge of resources available to contribute to one's learning, and the discipline to engage in learning activities to improve practice. The

activities of the plan may be undertaken individually or collaboratively with others; in each case the result is the same: improved classroom practice and enhanced student learning.

Who:

- Tenured teachers who are demonstrating the CCS Standards for Effective Teaching

Purpose:

- To ensure that CCS Standards for Effective Teaching are understood, accepted and demonstrated
- To improve student achievement
- To enhance professional growth
- To provide feedback on professional goals

What:

- Joint meeting with administration to develop Professional Growth Plan
- Formal Observations
- Informal Observations
- Formal evaluation of performance
- Documentation
- Goal review meeting with administration

Method:

- On-going formal discussion of teacher performance
- Development of Professional Growth Plan by teacher teams
- Collaboration between teacher teams and administration
- Establishment of progress indicators aligned with student achievement growth
- Administrative support of teacher teams
- Feedback to teacher teams

Plan 3: Specific Individual Professional Development

Specific Individual Professional Development Plan is designed for those teachers who have been identified as being ineffective in moving student achievement forward. Teacher and a professional growth plan will be significantly based on a teacher learning instructional skills related to one's responsibilities. A professional growth plan will be required along with a self-assessment and analysis of practice. Professional conferences and collaboration sessions will be made available to contribute to one's learning and due process disciplinary steps for removal will be in place.

Who:

- Teachers in need of specific professional guidance in identified area(s) of the CCS Standards of Effective Teaching

Purpose:

- To enable a tenured teacher the opportunity to seek assistance in any standard
- To provide more structured process for tenure teacher who may benefit from more support
- To provide due process for disciplinary action

What: Three Phases

1. Awareness Phase
2. Assistance Phase
3. Disciplinary Phase

Method:

- Observation and feedback focused specifically on identified area(s) of needed improvement

The Clintondale High School staff and leaders have been discussing with the union and the curriculum council a new model of intervention to promote student achievement. A student mentor and teacher/mentor partnership system is already in place and was enacted in September 2010.

Student Mentors

Returning students, based on overall grade point average, attendance rates, leadership skills and discipline records were targeted by staff to become student mentors. 53 students were asked and all willingly volunteered to be mentors for all new students. Students were trained in the fall of 2010 and have scheduled random academic and social check-ins and activities with new students throughout the school year.

Teacher / Mentor Partnership Observation

In order to improve instructional quality, staff will volunteer to create a teacher/mentor observation partnership and schedule. Teaching staff members will conduct classroom observations of one another. A rubric of post observation questions will be used to help guide the observation process. Staff will then collaborate with one other regarding the overall effectiveness and review any suggestions a teaching staff member may have. One follow up observation/meeting shall occur after the initial observation/meeting.

Based on these two successful implementations enacted this 2010-11 school year, with support of the union, a new Teacher/Student Mentor Partnership initiative is

presently being implemented.

Teacher/Student Mentor Partnership

Each student will be assigned to a teacher/mentor (20-25 students to 1 teacher) who will mentor and monitor student progress and achievement in small learning communities. The students will stay with their mentees until graduation. At the time of graduation, the teacher will be assigned to a new group of incoming freshmen. Each student will be creating an ongoing portfolio of evidence of the student's achievement. This will be in electronic format to be shared and evaluated by student, mentor and parent. The goal of this program is to support students at a personal level and build ongoing relationships within the group, school and community. Student will build responsibility and ownership, thus creating a positive learning environment. The electronic portfolios will be aligned with Clintondale High School's curriculum standards and state benchmarks.

Requirement 3

Evaluation Systems are designed with teacher and principal involvement

- Teacher involvement will be through the union bargaining unit.
- Local one / district agreement letter (see appendix A).

Requirement 4

Identify and reward school leaders, teachers and other staff who have increased student achievement and remove leaders and staff who have been given multiple opportunities to improve professional practice and have not increased student achievement outcomes.

The current contract (see appendix A) between the teacher's union and the Clintondale Board of Education is under negotiations. The teacher's union has indicated their desire to work cooperatively with the district in order to meet the qualifications of this grant. A letter is signed by the union and included in this application.

Effective teachers have high expectations for all students and help students learn as measured by value added or other alternative measures. They contribute to the positive attitudes and social outcomes, for students such as attendance, on time graduation, self-efficacy and cooperative behavior. Effective teachers use diverse resources to plan and structure engaging learning opportunities; monitor student progress; adapt instruction as needed; evaluate learning using multiple sources of evidence. They collaborate with peers, administrators, parents and educational professionals to ensure student success, particularly with students who have special needs and those who are high risk for failure (Goe, Bell and Little, 2008).

Clintondale High School teachers are committed to excellence in education and make every effort to positively impact student achievement.

As of January 1, 2011, Clintondale High School's School Improvement team, along with the administration and school board will be actively searching for a new

principal. Teachers and leaders who cannot demonstrate progress will be removed. The goal will be to focus on classroom visits, daily walk-throughs, weekly lesson plans, and professional development for continuous improvement to promote student achievement. Teachers and leaders must adhere strictly to the State and National benchmarks. Should concerns exist about leaders and staff who are not able to correlate their teaching to increase student achievement standards, opportunities for improvement through the creation of formal evaluation and possible specific Individual Development Plans (IDP) would take place. Teachers or leaders will be graded quarterly based on student achievement. The results must demonstrate that students are learning and improving. Yearly, a formal evaluation will support the documentation. Teachers or leaders will be rewarded and recognized as well as removed if not showing continuous improvement. There will be follow-up communications with staff members and professional conversations regarding need for improvement. This feedback will provide opportunities to increase classroom effectiveness.

Teachers having on-going problems after IDP's are implemented would be dealt with in accordance to the employee contract and Michigan legislation leading up to possible removal.

Teachers demonstrating increased student achievement will be rewarded based upon the bargaining agreement between the teacher's union and the Clintondale School Board of Education.

Requirement 5

Provide staff with ongoing, high quality job embedded professional development (subject specific pedagogy, differentiated instruction or a deeper understanding of the community served) Professional development is aligned and designed to insure that staff can facilitate effective teaching and learning and have the capacity of successfully implementing school reform strategies.

Similar to students, learners, teachers benefit from having more opportunities to learn. These opportunities are only successful when school districts make time, space and structures available to support professional development. Job embedded professional development also demonstrates a commitment to teacher learning. Job embedded professional development is most successful when it is aligned with the school curriculum, state standards, and assessment of learning, when it is structured in a manner that addresses the needs of the school.

- Professional Development*
- North West Evaluation Association universal screening tool for new students
- Star Reading and Math*
- Scholastic Reading Inventory to assess reading level and place students in correct English Language Arts program-Read 180
- Lenses on Learning*
- Corrective Reading, tier III reading Intervention
- Guided academics course: Mathematics support lab
- Accelerated Math for Intervention, tier III math intervention
- The combination of Carnegie Learning Curricula and Cognitive Tutor

- Family Resource Center (Mental Health Counselor)*
- Data and Intervention Specialist
- Data Director*
- Instructional literacy and math coaches
- Extended school day for zero hour and seventh hour
- Summer literacy and math program/summer school practices*
- Principal/leadership coach
- Mental health model to support academic learning*
- Positive Behavior Support* I Can LEAD
- Explorer and Plan Test*
- Before and after school tutoring*
- On-line Credit Recovery*
- Summer school practices*
- Reader's Apprenticeship (RA) training*
- Strategic Writing Instruction for Teachers (SWIFT)*
- Strategic Literacy Instruction (SLI)*
- e2020 training for credit recovery*
- Teacher/Student Mentoring Program
- Close and Critical Reading*
- Adaptive Schools*
- Student Achievement Network Series*
- Tool Talk

*Denotes intervention already in practice

Program Timelines with Embedded Professional Development

Job-embedded and sustainable professional development for teaching and administrative staff have been embedded into the culture of Clintondale High School through the Macomb Intermediate School District for some time. In total, our school and staff have attended 119 days of professional development in 2009/2010 and will continue to do so. In addition, administration and teaching staff have and will continue to take part in the Teacher Leader Initiative. The School Improvement Team has a highly functioning job within Clintondale High School. Many hours of professional development are dedicated to training the members. The members in turn disseminate the information gathered and train the members. Any member of Clintondale staff is able to join the School Improvement Team or attend meetings or professional development seminars. Parents, para-professionals, and secretaries all take an active part in assisting the needs of the members for the betterment of the school. New staff members are assigned a mentor who develops an individual professional development plan that is evaluated by the School Improvement Team.

NWEA universal screening tool

Student-centric education starts with detailed, accurate information about where each child is on his or her learning journey. NWEA offers a robust set of services that deliver this insight to the teacher, as often as four times a year.

Implementation: Will begin immediately in September 2011 based on any new student entering Clintondale High School.

Professional Development: On-site and online courses are available for staff.

Training will begin in July 2011.

Star Reading and Math

Star Reading and Math has helped determine the reading level of each student, measured individual and class growth, and forecasted results on standardized tests.

Implementation: September 2010

Professional Development: Teachers were trained in a two-day seminar with implementation of software in August 2010. Results were analyzed and students were placed in appropriate competency levels.

Reading Interventions

READ 180 for all students. Because of the transition rate of our student body we feel that it is imperative to have a prescriptive reading program for all students. Tier I Intervention- Literacy Coach, paraprofessionals, close and Critical Reading Tier II Intervention – WestED Reading Apprenticeship, Read 180, Guided Academic Teacher

Tier III Intervention- Corrective Reading, F.A.S.T. Reading- Guided Academic Teacher, Paraprofessionals

Implementation: September 2010.

Professional Development: Took place in August 2010. October 2010, in-service. November 2010, Teacher walk-through.

Lenses on Learning

Research proves that American students perform better on tasks that measure knowing math facts and procedures than on tasks measuring application, conceptual understanding, or reasoning to solve unfamiliar problems (NCEC, 2008) American teachers tend to teach procedural, rather than conceptual, knowledge of mathematics (Stigler & Hiebert, 2009; Stigler et al, 2005)

Implementation: September 2010.

Professional Development: Presently, a team of five teachers and administrators has begun monthly sessions. This professional development will enhance classroom learning while building a foundation for Clintondale High School's School Improvement Plan.

Corrective Reading, Tier III reading intervention

Corrective Reading is designed to promote reading accuracy (decoding), fluency, and comprehension skills of students in third grade or higher who are reading below their grade level. The program has four levels that address students' decoding skills and six levels that address students' comprehension skills. All lessons in the program are sequenced and scripted. *Corrective Reading* can be implemented in small groups of four to five students or in a whole-class format

Implementation: September 2011. *Corrective Reading* is intended to be taught in 45-minute lessons four to five times a week. For the study reviewed in this report, only the word-level skills components of the *Corrective Reading* program were implemented. This program will be implemented for students in Tier III.

Professional Development: July 2011

Accelerating Instruction and Tutoring in Mathematics: Grades 9-12

-CHS Mathematics Department has implemented a before and after school tutoring program that is conducted by certified and highly qualified mathematics teachers.

Implementation: This program was implemented in September 2010.

Professional Development: Teachers already trained will implement training for all new staff teaching mathematics.

The combination of Carnegie Learning Curricula and Cognitive Tutor

This tutorial merges algebra textbooks with interactive software developed around an artificial intelligence model that identifies strengths and weaknesses in an individual student's mastery of mathematical concepts. The software customizes prompts to focus on areas in which the student is struggling and routes the student to problems that address those specific concepts.

Implementation: September 2011.

Professional Development: Professional Development includes initial training, coaching, in-classroom support, and customized professional development beginning July 1, 2011.

Literacy and Math Coaching

These practices close student achievement gaps.

Coaching is school-based professional development that assigns educators with specific knowledge and skills to work with teacher colleagues to improve classroom practice.

Implementation: September 2011

Professional Development: Coaches will meet bi-weekly with math and English Department to discuss results and implement constructive teaching strategies.

Data Director

Implementation of Data Director and staff training was given to all teaching staff members in the fall/winter of 2010. Instructional staff used Data Director to host common assessments, analyze data and have school improvement data led discussions. These discussions were and are being held during school staff meetings, in-services and school improvement meetings and department chair staff meetings in order to vary and improve instructional techniques.

Implementation: October 2009

Professional Development: Staff has been trained in a five-series training by the MISD. New staff will be trained by MISD.

Math Labs

Math Lab is designed to be an extension of the Algebra I math course. Students taking the course are identified through a placement test that shows that they are three grades or more behind current grade level (9).

Implementation: September 2010.

Professional Development: Algebra I teachers were trained by the MISD and are presently implementing Math Labs as part of the new Block schedule in the 9th grade center.

Data Intervention Specialist

The role of the Data Intervention Specialist is to provide support to the transformation model requirements as established by the Michigan Department of Education for Clintondale High School. An essential function of the position is to provide information and guidance to the teaching staff, administration, and parental groups regarding the use of data to increase student achievement as outlined in the School Improvement Grant (SIG). This position will perform a variety of duties associated with the acquisition, management, and analysis of achievement, attendance, behavior and test scores to develop a comprehensive Response To Intervention (RTI) program.

Implementation: September 2011.

Professional Development: Data Intervention Specialist will implement bi-weekly trainings based on new technologies for staff as needed.

Several technology-based interventions will be implemented based on School Improvement Grant application. These include:

- 800 Apple iPads with Intervention Software
- 50 Classroom LCD projectors
- 40 TI 83 Set of Calculators for students to check out and for tutoring programs
- 2 TI Navigator 3
- CBR for 35 (calculator based ranger)
- Classroom sets of TI- Nspires – 7 sets
- Professional Development for TI-Nspire
- 50 Mimeos Smart White Board
- 50 Elmo Document Cameras
- 25 remote answer Clicker sets
- Flip cam and hand held video cameras in order to record lessons for self-evaluation and web based communication

Implementation: July 1, 2011.

Professional Development: Training for technology-based interventions will be provided and decided upon based on product recommendations and scheduled trainings provided with the technology.

Requirement 6

Implement strategies such as financial incentives, increased opportunities for promotion and career growth, and/or flexible working conditions designed to recruit and retain staff to meet the needs of students in transformational school. (see appendix A)

The upcoming 2011-12 school year will provide Clintondale High School teachers with the opportunity to receive financial incentive for participating in the school

improvement process.

Staff will receive .16 FTE for taking on School Improvement Chair Position or

Staff will receive an hour off for the School Improvement Chair Position

Curriculum team leaders will receive a \$1500.00 stipend for leading curriculum departments.

Curriculum team leaders and staff will present professional development topics to the staff during bi-weekly staff meeting and use technologies such as Camtasia to present it on the web.

Administrative staff will be rewarded for increased test scores well above state average.

Next year, our schedule will change from hours one thru six to an extended learning day of zero thru seven hours. Teachers will have the opportunity to allow for flexibility in student instructional hours. In addition, teacher participation in the Adaptive Schools training and the Teacher Leader programs will provide opportunities for career growth. Teachers can also participate in professional development opportunities through our Macomb Intermediate School District throughout the year and summer months. Stipends will be paid to participating teachers for many of these learning experiences.

Teachers also have the opportunity to observe other staff members during their preparatory periods and receive reimbursement based upon the agreed hourly compensation.

Comprehensive Instructional Reform Strategies

Requirement 1

Use data to identify and implement instructional researched based program that is vertically aligned from one grade to the next, as well as aligned to state standards.

Requirement 2

Promote continuous use of individual student data (formative, use of data, summative) to inform and differentiate instruction to meet individual student needs.

Those involved with the teacher leadership initiative will work with the Macomb Intermediate School District to provide immediate assistance to jump-start the process in September 2011. "The real methodology for system change begins and ends with ongoing authentic dialogues about important questions", states Tom Wagner. Training through the MISD will be provided for staff. Department heads will be reinstated in the high school. Staff has and will continue to develop and administrate bi-weekly ACT like assessments in order to measure instructional effectiveness, student processing and skill level. Data results are reported using Data Director and electronic Scan-Tron. A required reporting rubric will be filled out by each teaching staff member and given to the department heads and to the building principal. Department head meetings are held with the school administration in order to review the assessment results. Content-area meetings during staff meeting time will be held the following week in order to make any recommendations to administration or change instructional techniques and direction.

The ACT/ MME, MEAP, ELPA, PLAN, EXPLORER, Scholastic Reading/Math Inventory, basic training in analysis, are used to review student performance and the effectiveness of the school. These summative assessments will serve to let the CHS team establish a baseline as well as make real time program and instructional decisions. It is imperative that the training is focused on data inquiry, the development of common assessments and the use of progress monitoring tools. In addition to the training being offered by the MISD, our staff continues training within their individual content areas to ensure a quality educational experience for all of our students.

Starting in the fall of 2010, teaching staff has developed and has administered bi-weekly ACT like assessments in order to measure instructional effectiveness, student progress and skill level. Data results are reported using Data Director and electronic Scan-tron. A reporting rubric will be filled out by each teaching staff member and given to the department heads and to the building principal. Department head meetings are held with the school administration in order to review the assessment results. Content area meetings will be held the following week in order to make any recommendations to administration or change instructional techniques and direction. Scholastic Reading and Math STAR Assessments were given to all incoming 9th graders (136) in the fall of 2010. These assessments were given in order to test basic skill level and to properly place students in the correct reading and math class. Adjustments were then made to a student's schedule. A student was placed in a 9th Grade / READ 180 class if they read below grade level and a 9th grade Algebra class, with a math support lab, if they were a grade level behind.

In addition, to focus on academic interventions and data analysis, Clintondale High School will begin to implement a positive behavior support program. Students' attendance and behavior will be monitored quarterly as it relates to improved academic achievement.

Implementation of Data Director and staff training was given to all teaching staff members in the fall/winter of 2010. Instructional staff used Data Director to host common assessments, analyze data and have school improvement data led discussions. These discussions were and are being held during school staff meetings, in-services and school improvement, department chair staff meetings in order to vary and improve instructional techniques.

According to Robert Marzano in his book *Classroom Instruction that Works* students being able to identify similarities and differences, summarize, test hypotheses and staff reinforcing effort and providing recognition and feedback can significantly increase student achievement. Therefore, our Social Studies teaching staff developed a "Google Group" which allowed our staff to create a web based learning group in order to create a more flexible and collaborative learning situation. This approach also enabled a teacher to individually better monitor their student's learning. The instructional staff developed questions within the Google Group that allowed students to identify similarities and differences within a topic, and summarize and test hypothesis in order to create learning groups as a way to better monitor student learning. Thus, in an at-risk civics class the control group of 23

students reduced their failure rate by 17%. In addition, this group moderately outperformed a similar civics class that was categorized not at-risk. The Social Studies Department is currently developing a school wide Google Groups initiative to meet the needs of their students. When polled students and teachers revealed that this free web based tool allows for staff to track and comment on their students work from their cell phone and/or computer while away from school. In addition, students are able to access their academic library of work twenty-four hours a day and seven days a week. Furthermore, it enabled students to work current technologies, as well as form a learning group that enables students to learn with their peers.

PowerSchool has been implemented in August, 2010. PowerSchool allows for our certified teachers to track student work and for parents to receive daily updates of their student's attendance, grades and missing assignments. All staff has been trained in PowerSchool in August of 2010 and student information will be available for parents on-line starting in January of 2011. In December of 2010, parents will be mailed PowerSchool log on directions. The school district will create and provide video screen captures using the software Camtasia and hosting the videos on the district website as a reference.

Increasing Learning Time and Mechanisms for Community-Oriented Schools

Requirement 1

Establish schedules and strategies that provide increased time for all students to learn core academic content by expanding the school day, week or year. Provide increased instructional time for core subjects during the school day. (see appendix A)

Increase and personalize learning opportunities through the use of web-based tutorials such as videos and web-based services such as Google Groups.

Furthermore, tutoring and an expanding day that has enabled our high school to expand the day in and out of school without considerable cost.

- Video creation, expanding the opportunity
- Personalize learning experience and increase exposure through the use of technology
- Expand day using zero hour and seventh hour
- Create Apple Applications providing additional learning support
- Certified teacher and peer tutoring available during lunch periods
- Automate the delivery of instructional videos to a student email account

Requirement 2

Provide ongoing mechanisms for family and community engagement

Family Interventions

Supporting Research / Study

According to Seaman, Popp & Darling, 1991; National Center for Family Literacy, 1993 after participating in a family literacy program:

41 percent either were in some form of higher or continuing education program or had definite plans for enrolling;
35 percent were employed;
41 percent were not receiving any form of public assistance; and
Well over half of the parents were still serving as volunteers in their children's elementary schools 1 to 3 years after leaving the program.
Please note: Over 80 percent of the parents who enrolled in the program were unemployed, had not completed high school, and had an income of less than \$7,000 per year, primarily from public assistance.

Other Interventions

School Based Health Clinic

Due to the increased number of students who were economically disadvantaged within our high school, the district has instituted a *School Based Health Clinic* staffed with a school nurse practitioner, and a licensed and registered psychologist that is located directly within our high school. This enables our students to receive sufficient physical and mental health care in order to achieve academic success. The clinic is open 8:00 a.m. to 4:00 p.m. all year round.

WIA School Aid Program

The *Macomb ISD sponsors the WIA program*. Two WIA workers are located within our high school. These workers attend the needs of our 40 most poor students Monday thru Friday 7:00 to 3:00 p.m. during the school year. Students are assisted with such things as finding employment, college application processes and with state and federal assistance. Students are selected based on a family's total yearly income.

Baker College Guaranteed Scholarship Program

A Baker College 100% guaranteed scholarship program for all CHS graduates was established in 2007 between Clintondale Community Schools and Baker College in Clinton Township, Michigan. Through Baker College's generosity, each CHS graduate receives a \$6000 scholarship (\$1500/ annually) towards one of their advance degree programs. This unique opportunity enables students to attend college despite the lack of financial means. Furthermore, through Baker's unique "open" enrollment for all students, each graduate is automatically enrolled and has equal opportunity to attend a post-secondary school. In addition, Baker College graduates have a 95% job placement rate.

CANDO Program

The high school and school district provides food and clothing to those in the community who need it most. A large storage place has been set aside for clothing and a food pantry. Students receive community service hours for helping collect food and clothing as well as organizing and distributing items.

Provide Operational Flexibility and Sustained Support

Requirement 1

Provide school operational flexibility (staffing, calendars, time, budgeting)

to implement a comprehensive approach to substantially increase student achievement and increase graduation requirements. (see appendix A)

Clintondale High School staff and administration intends to extend the learning day. Extended learning time to support student achievement in the core content areas will give all Clintondale High School students the opportunity to learn at an increased cognitive level. Clintondale High School students will have the opportunity to enroll in zero hour and seventh hour classes in order to earn additional credits, complete courses, or recover classes that they may have failed. Zero hour and seventh hour will be offered up to 50 minutes per day / totaling 100 minutes per day. Certified teachers will facilitate learning opportunities for the students.

- All of the various components of this item are being negotiated per the letter of agreement from Clintondale High School's union and School Board. Letter is attached detailing this proposed agreement.

Requirement 2

Ensure that the school receives ongoing intensive Technical Assistance and related support from LEA, SEA or other designated external partner or organization.

To ensure the success of Clintondale High School transformation, the building principal and staff will have every opportunity for involvement in staffing, calendar, professional development, scheduling, and intervention programs in an effort to significantly improve student achievement. An example will be the assignment of paraprofessionals who will support struggling learners in math and English classes.

In order to complete this school improvement process, technical assistance will be provided through the Macomb Intermediate School District. School improvement leaders will meet regularly with School Improvement consultant, Lisa Asaro while participating in the Facilitators of School Improvement program designed to provide teacher leaders with the skills necessary for meaningful and purposeful school improvement work.

Data Dialogues will assist Clintondale High School in "collaborative inquiry". The real methodology for system change begins and ends with ongoing authentic dialogues about important questions, states Tony Wagner. This training will provide schools with data inquiry, mining and analysis steps that shift schools toward a data-centered focus. Using the MME, ACT, PLAN, and EXPLORE to conduct item analysis will serve to ground Clintondale High School in baseline and summative data. Clintondale High School will be able to make real time program and instructional decisions. This training will engage our staff in systemic, continuous improvement in the quality of the educational experience of students and to subject themselves to the discipline of measuring their success by the metric of student's academic performance. This is emphasized in the research practices of Richard F. Elmore.

Section IV: Fiscal Information

Individual grant awards will range from not less than \$50,000 to not more than \$2,000,000 per school, with grants averaging around \$500,000.

The MDE has asked for a waiver of section 421(b) of GEPA to extend the period of availability of the SIG funds, that waiver automatically applies to every LEA in the State seeking SIG funds. Accordingly, if an SEA is granted this waiver, an LEA must create a budget for the full period of availability of the funds, including the period granted by the waiver.

An SEA that requests a waiver of section 421(b) of GEPA to extend the period of availability of SIG funds may seek to make the funds available for up to two years beyond the regular period of availability. For example, without a waiver, FY 2009 SIG funds will be available until September 30, 2011. Through a waiver, those funds could be made available for up to two additional years – until September 30, 13.

USES OF FUNDS

School Improvement Grant – Section 1003(g) funds must be used to supplement the level of funds that, in the absence of the Title I monies, would be made available from non-federal sources for the education of children participating in Title I programs. Therefore, funds cannot supplant non-federal funds or be used to replace existing services.

Improvement funds must be tracked separately from the Title I Basic Grant and the Section 1003(a) School Improvement Grant. Local fiscal agents are to place improvement funds in a Title I account assigned for school improvement. (This funding number must not be the same number as is used for the Title I Basic Grant award or Section 1003(a) School Improvement Grant.)

Describe how the LEA has the capacity to use schools improvement funds to provide adequate resources and related support to each Tier I and Tier II school identified in the LEA’s application in order to implement, fully and effectively the required activities of the school intervention model it has selected.

Clintondale Community Schools strives to provide an excellent education. Each student, regardless of demographics will receive the same education. In 2009, our QAR took place and we received full NCA accreditation. Based on the recommendations from the state, we have improved in all areas. Our staff is dedicated to continual school improvement. We have a team dedicated to maintaining the learning environment that best fits each student’s needs. Clintondale High School is aligned to the state’s benchmarks and content expectations, which are used to support school-wide decision-making. Our data is pulled from multiple sources to monitor student achievement. We are constantly updating and reviewing our data based on core assessments and state tests. Our entire staff is trained to analyze, assess and review the data relating to student achievement. Clintondale High School performs internal reviews of the data to identify trends within our population and determine changes to improve learning.

Since 2009, Clintondale High School has been using Data Director to access student

achievement and demographic data. Our school improvement team also uses Data4SS and Advanc-ed to monitor student achievement. The MISD has provided innumerable Professional Development days for training. We are able to identify those students with individual needs. Our School Improvement team is committed to utilizing data and evaluating our growth.

The District's curriculum is aligned with the Michigan Grade Level and High School Content Expectations. Multiple measures are used to support school-wide decision-making. Clintondale uses multiple sources as evidence to monitor student achievement. Each year the district provides the following to measure student achievement:

Local District Level

School analysis of MME and MEAP during annual Board of Education workshops and district/community wide monthly curriculum meetings to examine student achievement trends, purchases and curriculum alignment.

Bi-weekly district level principal meetings are held to review district policies, student learning concerns, current learning trends, curriculum related purchases, student behaviors and district initiatives.

Building Level

Individual school analysis of MME/MEAP is done through bi-weekly Department Chair meetings, bi-weekly staff meetings, school improvement days, teacher pullout collaboration days

MME student results are mailed home to parents and placed into their educational history report

Teacher assessment of MME/MEAP progress is done through the use of bi-weekly core assessments and bi-weekly department meetings, and through teacher instructional techniques used in class

Assessment of new students through Star Math and Reading in order to provide grade level information and proper educational setting or placement

Assessment of all 9th graders using the Explorer Test

Assessment of all 10th graders using the Plan Test

Data Director was introduced and all of the high school staff was trained to use the data mining program. Additional training will be available through the MISD through the Regional Data Initiative

2.If the LEA is not applying to serve each Tier I school, explain why it lacks capacity to serve each Tier I school.

N/A

3.For each Tier I and II school in this application, the LEA must describe actions taken, or those that will be taken, to—

- Professional Development*
- North West Evaluation Association universal screening tool for new students

- Star Reading and Math*
 - Scholastic Reading Inventory to assess reading level and place students in correct English Language Arts program-Read 180
 - Lenses on Learning*
 - Corrective Reading, tier III reading Intervention
 - Guided academics course: Mathematics support lab
 - Accelerated Math for Intervention, tier III math intervention
 - The combination of Carnegie Learning Curricula and Cognitive Tutor
 - Family Resource Center (Mental Health Counselor)*
 - Data and Intervention Specialist
 - Data Director*
 - Instructional literacy and math coaches
 - Extended school day for zero hour and seventh hour
 - Summer literacy and math program/summer school practices*
 - Principal/leadership coach
 - Mental health model to support academic learning*
 - Positive Behavior Support* I Can LEAD
 - Explorer and Plan Test*
 - Before and after school tutoring*
 - On-line Credit Recovery*
 - Summer school practices*
 - Reader's Apprenticeship (RA) training*
 - Strategic Writing Instruction for Teachers (SWIFT)*
 - Strategic Literacy Instruction (SLI)*
 - e2020 training for credit recovery*
 - Teacher/Student Mentoring Program
 - Close and Critical Reading*
 - Adaptive Schools*
 - Student Achievement Network Series*
- *Denotes intervention already in practice

Using data obtained from the NWEA screening and Scholastic Reading Inventory testing, the Data and Intervention Specialist will work with the Student data to ensure that proper placement and support programs are in place for each student.

To achieve the goal of increased achievement in reading, tiered interventions will be implemented which will include:

List of Recommended Interventions

NWEA universal screening tool

Reading Interventions

Read 180 (Implemented Fall, 2010 for 9th graders) tier II

Corrective Reading, tier III reading intervention

WestED Reading Apprenticeship Curriculum

Paraprofessionals to help support ELA achievement

Reading coach

In the fall of 2010, the high school implemented a READ 180 program for 100 students who were assessed by Star Reading and Math.

Rationale and Research for the Implementation of READ 180 within the 9th grade Center

According to Minda Aguhob, Ed.M. Scholastic Research & Validation October 18, 2006 and 2007:

The Miami-Dade middle school READ 180 students revealed significant reading achievement level gains on the FCAT.

A total of 68% of READ 180 middle school students exceeded the expected FCAT developmental scale score gain of 110 points, or one year's worth of reading growth. A total of 27% of FCAT Levels 1 and 2 READ 180 middle school students advanced one or more reading levels.

Students performing at FCAT Level 1 averaged annual reading gains of two years or more.

READ 180 students' mean FCAT gains surpassed district-wide mean FCAT

Second Study

Seminole County Public Schools collaborated with researchers at Florida Center for Reading Research and Florida State University during the school year 2005-2006 to compare the effects of reading interventions in high school, including READ 180. A total of 286 9th and 10th grade students in seven high schools were randomly assigned to twelve READ 180 classrooms. The FCAT Reading assessment was used to measure the effectiveness of READ 180 at six months of intervention (August 2005 to March 2006) while the SRI measured effectiveness of READ 180 during the whole intervention (August 2005 to May 2006).

FCAT Reading results showed an increase of at least one reading level for 25% of the READ 180 students. For Level 1 students, 29% gained one Reading level or more, and 13% of all students (both Levels 1 and 2) reached Level 3 or above. Further, READ 180 research study students averaged at least one year of reading growth on FCAT Reading, and tenth grade READ 180 research study students averaged almost two years of reading growth — and three times the reading growth of all tenth graders in Seminole County. These improvements in tenth grade for READ 180 students were particularly noteworthy given that overall district performance in tenth grade was not as good as district performance in ninth grade. These two separate research studies are an example of why we chose to purchase READ 180 software for our new 9th Grade Center.

According to a study by Christine A. Espin and Stanley L. Deno Remedial and Special Education, November/December 1993; vol. 14, 6: pp. 47-59: of 121 10 grade students and their reading levels. Results of correlation analyses revealed low-moderate to moderately high correlations between reading measures and scores on a classroom study task, grade point average, and achievement test performance

Tier I Intervention- Literacy Coach, paraprofessionals, Close and Critical Reading
Tier II Intervention – WestED Reading Apprenticeship, Read 180, Guided Academic Teacher
Tier III Intervention- Corrective Reading, Paraprofessionals

Math Interventions

Before and After School tutoring by certified math staff (Implemented fall, 2010)
Carnegie Mathematics Curriculum, tier II
Guided Academics course, tier II mathematics intervention
Accelerated Math for Intervention, tier III
Paraprofessionals to help support Math achievement
Math coach
Tier I – Math Coach, Math Support paraprofessionals
Tier II – Math Support Lab
Tier III – Accelerated Math, Guided Academics teacher, paraprofessionals

Other Interventions

E20/20 Free Credit and Summer School Credit Recovery
Summer literacy and math programs
Data Intervention Specialist
Extended school day for zero and seventh hours; based on a six (6) period day
Opportunity Center Academy / for at-risk freshman and sophomores
Automated Learning Center (ALC) for continuity of instruction and student and teacher absenteeism
Literacy coaches

Technology Interventions

The purchase of technology will be used to update classroom instructional resources. This technology allows us to keep pace with the 21st century learner. Technology in-services will be given to staff, so that they become comfortable with using technology. The following list will be described in greater detail in Part II.

- 800 Apple iPads with Intervention Software
- 50 Classroom LCD projectors
- 40 TI 83 Set of Calculators for students to check out and for tutoring programs
- 2 TI Navigator 3
- CBR for 35 (calculator based ranger)
- Classroom sets of TI- Nspires – 7 sets
- Professional Development for TI-Nspire
- 50 Mimeos Smart White Board
- 50 Elmo Document Cameras
- 25 remote answer Clicker sets
- Flip cam and hand held video cameras in order to record lessons for self-evaluation and web based communication

Family Interventions

Supporting Research / Study
According to Seaman, Popp & Darling, 1991; National Center for Family Literacy,

1993 after participating in a family literacy program:
41 percent either were in some form of higher or continuing education program or had definite plans for enrolling;
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CANDO Program

The high school and school district provides food and clothing to those in the community who need it most. A large storage place has been set aside for clothing and a food pantry. Students receive community service hours for helping collect food and clothing as well as organizing and distributing items.

Select external providers from the state's list of preferred providers;

Macomb Intermediate School District

All professional development providers and companies providing materials, supplies and equipment will need to become approved providers prior to receiving funding for programs and services utilized to support the SIG.

Align other resources with the interventions

All staff will receive in-service training and professional development on the strategies implemented. The School Improvement Team will work closely with staff and personnel to maintain full implementation of the strategies.

Modify its practices or policies, if necessary, to enable its schools to implement the interventions fully and effectively (Attachment VI is a rubric for possible policy and practice changes);

Clintondale High School has a positive working relationship with all personnel and administration and can all stakeholders collaborate to ensure implementation. Clintondale High School will continue to receive technical assistance from the Macomb Intermediate School District. Clintondale High School staffs developed a positive relationship with MISD consultants and rely on their expertise. LEA will also continue their support by providing administrative guidance and the pledge to utilize general fund dollars along with other grants to support transformation strategies and interventions.

Alignment of other resources

Clintondale Community Schools is committed to utilizing other resources such as Title IIA, Title III, and designated funds from Section 31A, IDEA and general fund dollars to support the transformation efforts. The Superintendent will work with the Clintondale High School administrative team to coordinate all interventions to ensure improved achievement.

Modification of Practices and Policies

Clintondale Community Schools Board of Education, administrators, and teachers will continue to work collaboratively as we move forward with the interventions as outlined in the SIG application. Representatives from each of these groups will meet weekly at the beginning of implementation of the grant to ensure that the transformation strategies and interventions are being implemented with fidelity and according to the established timeline.

Sustain the Reforms After the Funding Period Ends

The district will continue to work with all administrators and departments to ensure that reforms will continue following the grant-funding period. Reforms will be adjusted, according to the needs of the students identified by screenings, testing and common assessment results, and attendance and discipline rates. The school district will also explore the use of technology to reduce the cost and increase its overall effectiveness. The district will attempt to align other resources with interventions, grant dollars, and general fund dollars will be reallocated to sustain appropriate transformation interventions.

Clintondale Community schools will continue and maintain all implementation strategies associated with the transformation model after funding concludes. Clintondale High School, through the Transformation implementation, will continue

to raise student achievement and success. This will be accomplished through Title II and Section 31A of the school's district fund. Through the Transformational Model's implemented success, Clintondale Community School's enrollment will increase, thus providing a positive effect on the district's general fund. This will allow Clintondale to continue the interventions already in place.

The teachers, parents, staff, and community members will be surveyed in order to solicit feedback relating to the high school's needs. The community will be directly involved in this positive change process; therefore, enabling the school to be more prepared for sustainable change. We believe that the Data Intervention Specialist will play an integral role in providing information and guidance to the teaching staff, administration, and parental groups regarding the use of data to increase student achievement as outlined in the school improvement grant. It is our belief that with the help of the Data Intervention Specialist, along with the Macomb Intermediate School District, the three-year transformational period will build sustainable leadership in staff.

With the implementation of the School Improvement Grant, the enrollment of Clintondale High School will increase, positively affecting the district's general fund. We believe the interventions will continue. Clintondale High School is presently in a difficult financial situation and looks forward to rebuilding the culture and climate of our school with the School Improvement Grant funds. Our staff feels fortunate to have this opportunity to provide a more advanced and comprehensive educational experience.

4. Include a timeline delineating the steps to be taken to implement the selected intervention in each Tier I and Tier II school identified in the LEA's application. (Attachment VII provides a sample rubric for principal selection if the LEA chooses an intervention that requires replacement of the principal.)

Timeline of Delineated Steps to Taken to Implemented Selected Interventions

September / October 2010

Meeting with all stakeholders to determine model
Create collaboration time and set up meetings for formulating improvement plan and SIG Application
Reform meetings held and the formation of the SIG plan
Submission to the MISD and Michigan Department of Education (MDE) for review by October 18, 2010
High School Open House
Accelerated Instruction and Tutoring in Mathematics
Math and English Tutors
Lenses on Learning
Reading 180
Positive Support System I Can Lead
Math Labs
Data Director

Create job descriptions for additional 2011-12 staff
Agreements made with all stakeholders regarding new program design, extended learning times and implementation timelines
Staff and administration analyze student demographic learning meetings
Conduct student/mentor activity
Star Reading and Math
Positive Behavior Support Plan reviewed with all school staff
Explorer and Plan Test given to 9th and 10 grade students
Creation of ACT common core assessments
Creation of reporting rubrics of core assessment information
Meeting and bi-weekly assessment schedule established with administration, department heads and teaching staff
Develop and Implement a walk through and teacher evaluation schedule
Data Director and PowerSchool Training for new staff
Lesson plan creation and assessment staff in-service
Interview vendors for SIG and make recommendations for interventions to collaboration stakeholder team
9th Grade MEAP

November 2010

Submission of SIG Application to the MDE by November 16, 2010
Parent Teacher conferences
Implement Teacher Mentor Observations
Conduct department, staff and administration data analysis meetings
Conduct student/mentor activities
Math and English Tutors
Lenses on Learning
Reading 180
Positive Support System I Can Lead
Conduct staff instructional effectiveness and collaboration meetings
Positive Behavior Support and recognition awards given out
Conduct teacher walk-through and observations by administration
Teacher in-services conducted by the district and MISD
Data Director and PowerSchool Training, if necessary
Evaluation of the 9 - 12th grade 1st Quarter GPA, attendance and discipline rates compared to 2009-10 9th - 12th graders
Math Labs
Data Director

December 2010

MDE response to the plan
Conduct department, staff and administration data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Conduct student/mentor activity
Math and English Tutors
Lenses on Learning
Reading 180
Positive Support System I Can Lead
Teacher/mentor observations and meetings

Conduct teacher walk-through and observations by administration
New class offering discussions and analysis by building administration, staff and community
Teacher in-services conducted by the district and MISD
PowerSchool and Data Director training for staff, if necessary
Math Labs
Data Director

January 2011

Develop and create summer literacy opportunities
Implement video creation schedule with certified staff
Conduct department, staff and administration data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Conduct student/mentor activities
Identify 9th grade students who are highest at-risk of failing for Opportunity Center Academy
Positive Behavior Support and recognition awards given out
Positive Support System I Can Lead
Conduct teacher walk-through and observations by administration
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Reading 180
New class creation and approval from Clintondale Board of Education
Teacher in-services conducted by the district and MISD
PowerSchool information released to parents
Evaluation of the 9 - 12th grade Semester GPA, attendance and discipline rate compared to 2009-10 9th - 12th graders
Math Labs
Data Director

February 2011

Implement video creation schedule with certified staff
Conduct department, staff and administration data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Conduct student/mentor activities
Identify 9th grade students who are highest at-risk of failing for Opportunity Center Academy (OCA)
Math and English Tutors
Positive Support System I Can Lead
Lenses on Learning
Reading 180
Identify any 8th graders who are highest at-risk for the OCA
Positive Behavior Support and recognition awards given out
Conduct teacher walk-through and observations by administration
Teacher/mentor observations and meetings
Review the ACT/MME schedule with parents, students and staff
Teacher in-services conducted by the district and MISD
8th grade to 9th grade orientation and tour

Math Labs
Data Director

March 2011

Administer the MME / ACT test
Positive Behavior Support and recognition awards handed out
Conduct teacher walk-through and observations by administration
Teacher/mentor observations and meetings
Conduct department, staff and administration data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
Parent Teacher conferences
Math and English Tutors
Lenses on Learning
Reading 180
Positive Support System I Can Lead
Surveys given out to students and parents and results reported
Conduct student/mentor activities
Examine technology needs re: SIG
Math Labs
Data Director

April 2011

Surveys given out to students and parents
Evaluation of the 9 - 12th grade 3rd Quarter GPA, attendance and discipline rates compared to 2009-10 9th - 12th graders
Order SIG technology needs and curriculum
Create Extended Learning Opportunities schedule
Positive Behavior Support and recognition awards handed out
Conduct teacher walk-through and observations by administration finished and recommendations given to Central Administration for review
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Reading 180
Conduct department, staff and administration data analyzing meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
Parent Teacher Conferences
Math Labs
Data Director

May 2011

Positive Behavior Support and recognition awards handed out
Conduct teacher walk through and observations by administration
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Reading 180

Conduct department, staff and administration data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
Creation of a Master Teaching Schedule for 2011-12 school year
Recommendations for supplies and needs sent to the Superintendent for review
Outline and distribution of parent and summer programming for the summer/ fall of 2011
Math Labs
Data Director

June 2011

Complete teacher walk-through and observations by administration finished and recommendations given to Central Administration for review
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Reading 180
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead*
Carnegie Learning Curricula and Cognitive Tutor
Math Labs
Literacy and Math Coaching
Data Intervention Specialist
Corrective Reading Tier III Reading Intervention
Data Director
Conduct department, staff and administration data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
High School Graduation

July 2011

Interview and hire a Turnaround Principal by Clintondale Board of Education
Interview and hire Data Intervention Specialist
Interview and hire Parent and Family Coordinator
Interview and hire Reading and Math Coaches
Interview and hire Literacy Coaches
Interview and hire Guided Learning Teachers for Math and ELA
Summer Literacy Camp and Summer School Opens
Implementation of NWEA Universal Screening Tool

August 2011

Orientation for new positions including data intervention specialist,
School Improvement, Department chair and PLC meetings held to determine
baseline information related to MME/ACT and the implementation of Transformation
Model
Professional development at MISD for RTI and Data Director
Presentation to the Board of Education about SIG
North West Education Association screening for all new students to ensure proper
screening

September 2011

Professional development including differentiated instruction, READ 180, Accelerated Math, North West Education Association
Bi-weekly professional learning community meetings norms established
Parent and Family Resource Center Open
Open House Math and English Tutors
Teacher/Student Mentoring program
Lenses on Learning
Reading 180
Positive Support System I Can Lead
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead
Carnegie Learning Curricula and Cognitive Tutor
Literacy and Math Coaching
Data Intervention Specialist
Corrective Reading Tier III Reading Intervention
Tier I, II, III interventions for reading and math introduced
Teacher and administrator evaluation introduced
Data Director training for new staff

October 2011

Conduct teacher walk-through and observations by administration
Teacher/mentor observations and meeting
Math and English Tutors
Lenses on Learning
Reading 180
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead
Carnegie Learning Curricula and Cognitive Tutor
Teacher/Student Mentoring program
Conduct department, staff and administration data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
Explorer and Plan Test given to 9th and 10 grade students
9th Grade Social Studies MEAP
Math Labs
Data Director

November 2011

Conduct teacher walk-through and observations
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Reading 180
Positive Support System I Can Lead
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead
Carnegie Learning Curricula and Cognitive Tutor

Literacy and Math Coaching
Data Intervention Specialist
Corrective Reading Tier III Reading Intervention
Conduct department, staff and administration data analyzing meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
Evaluation of the 9 - 12th grade 1st Quarter GPA, attendance and discipline rates compared to 2009-10 9th - 12th graders
Math Labs
Data Director

December 2011

Conduct teacher walk-through and observations by administration
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Reading 180
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead*
Carnegie Learning Curricula and Cognitive Tutor
Literacy and Math Coaching
Data Intervention Specialist
Corrective Reading Tier III Reading Intervention
Conduct department, staff and administration data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
Math Labs
Data Director

January 2012

Conduct teacher walk-through and observations by administration
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Reading 180
Carnegie Learning Curricula and Cognitive Tutor
Literacy and Math Coaching
Data Intervention Specialist
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead*
Carnegie Learning Curricula and Cognitive Tutor
Corrective Reading Tier III Reading Intervention
Conduct department, staff and administration data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
Evaluation of the 9 - 12th grade 2nd Quarter GPA, attendance and discipline rates compared to 2009-10 9th - 12th graders
Math Labs
Data Director

February 2012

Complete teacher walk-through and observations by administration
recommendations given to Central Administration for review
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Reading 180
Positive Support System I Can Lead*
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead*
Carnegie Learning Curricula and Cognitive Tutor
Literacy and Math Coaching
Data Intervention Specialist
Corrective Reading Tier III Reading Intervention
Conduct department, staff and administration data analyzsis meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
Math Labs
Data Director

March 2012

Complete teacher walk-through and observations by administration and
recommendations given to Central Administration for review
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Reading 180
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead*
Carnegie Learning Curricula and Cognitive Tutor
Literacy and Math Coaching
Data Intervention Specialist
Corrective Reading Tier III Reading Intervention epartment, staff and administration
data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
MME/ACT Testing
Math Labs
Data Director
Challenge Day

April 2012

Evaluation of the 9 - 12th grade 3rd Quarter GPA, attendance and discipline rates
compared to 2009-10 9th - 12th graders
Conduct teacher walk-through and observations by administration finished and
recommendations given to Central Administration for review
Teacher/mentor observations and meetings
Math and English Tutors

Literacy and Math Coaching
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead*
Carnegie Learning Curricula and Cognitive Tutor
Data Intervention Specialist
Corrective Reading Tier III Reading Intervention
Lenses on Learning
Reading 180
Conduct department, staff and administration data analyzing meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD
Creation of a Master Teaching Schedule for 2012-13 school year
Recommendations for supplies and needs sent to the Superintendent for review
Outline and distribution of parent and summer programming for the summer/ fall of 2011
Math Labs
Data Director

May 2012

Complete teacher walk-through and observations by administration finished and recommendations given to Central Administration for review
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Literacy and Math Coaching
Data Intervention Specialist
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead*
Carnegie Learning Curricula and Cognitive Tutor
Corrective Reading Tier III Reading Intervention
Reading 180
Positive Support System I Can Lead
Conduct department, staff and administration data analysis meetings
Conduct staff instructional effectiveness and collaboration meetings
Teacher in-services conducted by the district and MISD

June 2012

Complete teacher walk-through and observations by administration finished and recommendations given to Central Administration for review
Teacher/mentor observations and meetings
Math and English Tutors
Lenses on Learning
Reading 180
Instruction Literacy and Math Coaches
Positive Behavior Support I Can Lead*
Carnegie Learning Curricula and Cognitive Tutor
Math Labs
Literacy and Math Coaching
Data Intervention Specialist

Corrective Reading Tier III Reading Intervention

Data Director

Conduct department, staff and administration data analysis meetings

Conduct staff instructional effectiveness and collaboration meetings

Teacher in-services conducted by the district and MISD

High School Graduation

5. Describe annual goals for student achievement on the State's Assessments in both reading and mathematics that is established in order to monitor Tier I and Tier II schools that receive school improvement funds.

Goal 1: Reading

Content Area: English Language Arts

Student Goal Statement: Students will increase reading proficiency by 10%.

Gap Statement: Based on the 2009/2010 School Data Profile, there is an achievement gap of:

35% on ACT/MME between African American (AA) students and other ethnicities

26% on ACT/MME between Students with Disabilities SWD's and non SWD's

28% on grade level end of unit test between AA and other ethnicities

32% on grade level end of unit tests between SWD's and non-SWD's

Reading Goal: CHS goal is to raise MME/ACT Reading scores by 10%

Goal 2: Math

Content Area: Math

Student Goal Statement: Students will increase math proficiency by 10%.

Gap Statement: Based on the 2009/2010 School Data Profile, there is an achievement gap of:

39.6% on ACT/MME between African American (AA) students and other ethnicities

24.5% on ACT/MME between SWD's and non SWD's

20% on grade level end of unit test between AA and other ethnicities

42% on grade level end of unit tests between SWD's and non-SWD's

Math Goal: CHS goal is to raise MME/ACT Math scores by 10%

Section Two

Need of SIG due to math and reading scores, poverty level, and the schools ability to leverage resources.

Before and during the first school year of the Transformational Plan we commit to:

- Committee Selection and Utilization
- Replace principal
- Student academic interventions
- School racial climate interventions
- General school climate interventions with an emphasis on identified at-risk students
- Alignment of curriculum and common assessments
- Research based professional development to support and improve instruction
- Develop and adopt research based teacher and administrator evaluation tools
- Planned, effective communication with all stakeholders
- Employ math and ELA coaches

- Hire school reform officer
- Regularly utilize student data to plan, change and analyze progress
- Establish early warning system to ensure student success
- Regularly evaluate school's plan progress to ensure capacity and its replication

During the second and third years of the Transformational Plan, and depending upon the progress and evaluation of the first year, we commit to:

- Continue committee utilization
- Evaluate progress of principal
- Continue academic and climatic interventions
- Continue and add to aforementioned professional development
- Review curriculum alignment and common assessments
- Continue research based teacher and administrator evaluation tools
- Continue to commit effective communication with all stakeholders
- Continue to employ math and ELA coaches, consider science and social studies coaches
- Continue professional relationship with reform officer
- Adhere and react to early warning system for student success. Use results to support future planning.
- Continue to plan regular evaluation of school's plan progress to ensure capacity and replication

6. For each Tier III school the LEA commits to serve, identify the services the school will receive or the activities the school will implement. **(No response needed at this time.)**

7. Describe the goals established (subject to approval by the SEA) in order to hold accountable its Tier III schools that receive school improvement funds. **(No response needed at this time.)**

8. As appropriate, the LEA must consult with relevant stakeholders (students, teachers, parents, community leaders, business leaders, etc.) regarding the LEA's application and implementation of school improvement models in its Tier I and Tier II schools.

Describe how this process was conducted within the LEA.

On August 16th, 2010, the superintendent, Mr. George Sassin received notification from the Michigan Department of Education. Administrators, along with the NCA chair, attended a meeting sponsored by the Michigan Department of Education. Clintondale High School staff members were notified that the school was identified for improvement and were informed on this matter at the first staff meeting on Tuesday, September 7th, 2010. The School Improvement team immediately convened to evaluate this information and generate input for the future of Clintondale High School.

All stakeholders were then informed about the Michigan Department of Education's identification of Clintondale High School as a lower achieving school. All stakeholders

were given the opportunity to provide input to the School Improvement Grant. Further student input will be obtained through student participation of the Grant Application process.

Permissible Activities

Note: *A more descriptive and detailed plan of action/analysis of the following activities is included in parts II and III.*

Development & Increase School Leader Effectiveness

Activity 1

Provide additional money to attract and retain staff with the skills necessary to meet the needs of the students in a transformation school:

See attached letter of agreement with the Clintondale Community School's Administration, Union and Board of Education.

Activity 2

Institute a system for measuring changes in instructional practices that result from professional development.

Tool and Talk

Tools and Talk are data, reflective dialogue, and action for classrooms and school improvement. This training will help schools use protocols that ignite conversations among colleagues about classroom practices that lead to school improvement and greater student achievement. These conversations will center on change. The tools generate data that may serve as valuable benchmarks for school leadership teams' consideration and action.

Tools and Talk PD

Strategy Statement

Staff leaders will implement tools and strategies from ***Tools and Talk*** to support reflective conversations by teachers (educators) about their instructional practice.

Staff leaders will support reflection by teachers (educators) about their instructional practice through (the implementation of) ***Tool and Talk*** protocols and strategies.

Activity Name

Tools and Talk Professional Development

Activity Statement

Administrators and teachers will participate in a 2-day ***Tools and Talk*** professional development to provide administrators and teachers with a set of protocols and common language to support self-reflection by teachers regarding their classroom practices.

Activity Statement

Teachers/Administrators will examine protocols to gain and understanding of the quality instructional benchmarks listed.

Activity Statement

Teachers will meet with administrator/coach sharing content gleaned from a classroom observation. Observer will use the classroom protocol data to conduct a dialogue exchange.

Other Required (research cite)

Murphy, M. (2009). *Tools and Tal: Data, Conversation, and Action for Classroom and School Improvement*. United States of America: National Staff Development Council

Activity 3

Ensure the school is not required to accept a teacher without consent of the teacher and principal, regardless of seniority.

The Michigan Department of Education mandates districts that accept School Improvement Grant (SIG) funding must ensure the school is not required to accept a teacher without consent of the teacher and the principal, regardless of seniority. Clintondale Community School's Administration, Union and Board of Education are ready to meet that mandate. This is currently being negotiated.

Comprehensive Instructional Reform Strategies

Activity 1

Conduct reviews to ensure that curriculum is implemented with fidelity and impacting student achievement.

For the year 2009-2010, Clintondale High School engaged teachers in many professional development activities; however, the most significant has been the training that we received in Data Director and Data Dialogues. Our staff is committed to ensuring that each student's needs are met on an individual basis and Student Achievement is our goal.

Our entire staff is able to track every student's progress in reading, math, writing, science and social studies. As of September 2010, Clintondale High School implemented and formulated a Data Team. This team consists of members of each department and content areas, as well as members from the School Improvement Team. Monthly meetings are held to analyze data from our MME reports over four years, ACT Profile, Demographics, and teacher assessments to identify areas of strengths and weaknesses. Our staff has also been trained by the MISD in Close and Critical reading. We were able to work closely last year, monitoring the students reading progress and our Reading Scores improved in both the MME and ACT. Also as of September 2010, school-wide assessments were implemented across the curriculum. Each assessment tests has an embedded ACT skill and learning strategy.

The department heads are able to analyze the assessment results bi-weekly with the staff. Last year, our staff was also trained by the MISD in the implementation of ACT pre and post-testing. We were able to enter the scores into Data Director and analyze the results.

Activity 2

Implement a school wide Response to Intervention Model

School Improvement Goals

GOAL: Reading

- Professional development focused on Reading
- Data-based decision making process
- Close and Critical Reading (CCR)- Tier I
- Reading Apprenticeship Academic Literacy Course and Curriculum (WEST ED) – Tier II
- WEST ED Academic Literacy Course – Reading Apprenticeship-Tier II
- Corrective Reading & F.A.S.T - Tier III
- Progress Monitoring
- Technology

Curriculum Alignment

- Curriculum Alignment Work Sessions

Implement Research Based Instructional Program

- Transformational Coach (Advanced ED)
- Teacher Coach (as per AdvancED)
- Differentiated Instruction
- Silent Sustained Reading (SSR)

GOAL: WRITING

Professional Development focusing specifically on writing

- SWIFT: Strategic Writing Instruction for Teachers
- Analysis of Data (PLCs)
- Data Director Training
- Writing Scoring Clinics
- Common Writing Rubrics
- Grammar connections to current misuse of language

Writing in Response to Reading

- Written responses to the four Questions of Close and Critical Reading (Writing in response to reading)
- Summary Writing (embedded in CCRs)

Stakeholder Involvement

- Student ePortfolios/"CCR Reading Folders"

GOAL: MATHEMATICS

Data-based decision making process

TIER I

- Professional Learning Communities
- Job embedded Professional Development
- Carnegie Learning (Cognitive Tutor – Geometry)
- Math Labs
- TI Navigator
- NWEA
- Before and after school tutoring

TIER II

- Carnegie Learning-Bridges to Algebra (Readiness course)
- Math Labs
- Professional Learning communities
- Math Coach
- Job embedded Professional Development
- NWEA
- Before and after school tutoring
- Math Labs
- TI Navigator

TIER III

Carnegie Learning-Bridges to Algebra (Readiness course)

- Professional Learning communities
- Math Coach
- Job embedded Professional Development
- Math Labs
- TI Navigator
- NWEA
- Before and after school tutoring
- Accelerated Instruction

Activity 3

Providing additional supports and professional development to teachers and principals on strategies to support students in least restrictive environments and English Learning learners.

Clintondale High School provides support for each of its student's needs. Presently, six students fall under the guidelines of English Language learners. The Macomb Intermediate School District provides weekly tutoring of these students. This ESL tutor meets the state regulations and provides lesson plans with comprehensive guidelines to increase student achievement. As of September, 2010, Corrective

Reading is also in place as an assessment tool and a comprehensive evaluation of each student.

Activity 4

Use and integrate technology-based supports and interventions.

(see page 104-106 for complete technology based support and intervention)

Transforming from a Traditional to a Digital School Environment

In order to use the Internet effectively and maximize technological resources, digitizing our information from a traditional information source is the first step. By using such things as Google Wave, Google Groups, Google Docs, emails, links, Apple I-touch, cell phones, Windows Media Player versus books, overheads and movies allows us expand our learning opportunities and communications outside the regular school day. In addition, thousands of hours can be added to our regular school day. This practice enables our students to access their work despite being tardy, absent or having lost and missing assignments, and long-term suspension or disability. By having our content on the Internet enables us to be able to establish clear and consistent services. Instead of having seven variations of cell division given by seven different science teachers, a school would have just one. This multi-media presentation could be shown in multiple classrooms and available outside of school for staff and students. Students would also benefit when moving from class to class when their schedule changes and they could review for later reference. Not only do students benefit, but schools would greatly benefit as well. School administrators and school improvement teams would be evaluating a constant variable rather than one that changes due to human strengths and choice. It would allow them to strategically add and/or take away components to their instructional information and services rather than having to help each staff deliver it consistently

Comprehensive Instructional Reform Strategies in Secondary Schools

Activity 1

Increase rigor (AP, IB, STEM and others).

Mobile Health Education Program

Clintondale High School

Goal: The mobile health program focuses on exposing high school students and hospital employees to health care/medical education and training using a mobile device. This unique program would focus on the development of academic and professional skills necessary for the health care industry.

Objective: Increase the number of students pursuing a health care career and to develop mobile educational and health care professional training programs that are exceptional and cost effective.

Phase One: Orientation

9th Graders and any new students would be exposed to a variety of health care careers through our counseling staff and a career cruising program. Students would receive information regarding two year and four-year degree requirements, hospital

tour, and survey information. Students would then apply through the Counseling office and must meet the minimum requirements. Students must have the following to participate in the mobile learning program:

- Grade point average of over 2.0 or better
- Good discipline and attendance records
- Students also must be familiar, comfortable and have access to a SMART phone mobile device and/or touch book or computer (high school can provide station computers during off hours)

Once admitted, students would be responsible for satisfactorily completing the following mobile mini courses within our introductory program:

- Interview and resume building
- Writing Reports
- Study Skills
- Personal Management Skills
- Speaking and Listening Skills
- College Planning
- Stress Management
- Medical Terminology

Phase Two: Students who are enrolled in the second phase of the program will be expected to be in good standing. Students will be expected to be enrolled and satisfactorily complete the following courses:

- Biology
- Anatomy
- Students will be expected to complete the following mini-courses:
- Budgeting
- Men's Health
- Women's Health
- Wellness and Healthy Lifestyles
- Social and Family Issues
- Food Nutrition and Metabolism

Phase Three: Students who are enrolled in the third phase of the program will be expected to be in good standing. Students will be expected to be enrolled and satisfactorily complete the following courses:

- Bioethics
- Blood and Joint Systems
- Bones, Joints and Muscles
- Brain and Nervous System
- Cell Biology and Cancer
- Digestive System
- Immune System
- Child and Teen Health

Summer Volunteer Opportunity

Students would volunteer at local St. John Health System facility.

Phase Four: Students who are enrolled in the fourth phase of the program will be expected to be in good standing. Students will be expected to be enrolled and

satisfactorily complete the following mini-courses:

- Injuries and Wounds
- Mental Health and Behavior
- Respiratory System
- Senior Health
- Heart and Circulation
- Kidney and Unirary Disease
- Infectious Disease
- Populations Groups

Post High School: Once graduate from high school, participants in the program would be eligible to work in the summer in a chosen career. Various sites at St. John's will be available for internships and volunteer work. Enrollment in a health / medically related field of study at Baker College, Macomb, Wayne State University or Oakland University.

International Bacculaureate

Through rigorous and authentic educational experiences, **the International Academy of Macomb** will cultivate a community of reflective, balanced, and principled thinkers prepared to make a positive impact on our global society. The International Academy of Macomb (IAM) is a high school designed for highly motivated students who want to earn an International Bacculaureate diploma. Beginning with the 9th grade, the program provides a blend of rigorous academic standards and practical, career-related learning experiences. The International Bacculaureate Program curriculum is the centerpiece for the 11th and 12th grade curriculum. The program concentrates on preparing students for success at selective universities and in the global marketplace.

IA Macomb is located on the campus of Chippewa Valley High School in Clinton Township. The IAM will annually accept 125 9th grade students. A 9th grade class will be added each year to reach a capacity of 500 students by 2011 with the first graduating class in 2012.

As of International Bacculaureate's third year of operation, Clintondale High School presently has five freshmen, three sophomores, and four juniors in attendance.

AP program participants

Dual Enrollment. Clintondale High School had 14 students enrolled in dual enrollment classes during the 2009-2010 school year. There were six female students and eight male students. Seven students were juniors, and seven students were seniors. Two of the students were dual enrolled at Baker College and twelve were at Macomb Community College. Some of the classes that were taken include: Chinese, Philosophy, Oral Communications, and Statistics. To qualify for dual enrollment, students must be a junior or a senior and enrolled in both Clintondale High and the postsecondary institution during the regular school year. Students can qualify to take dual enrollment courses by taking one of these assessments: PSAT, ACT/PLAN, ACT, or MME, and obtaining the necessary score, as determined by the state of Michigan. Clintondale High School cannot offer the college course, and it

cannot be a hobby, craft, or recreation course.

Accelerated Instruction. Our high achieving students have the opportunity to take Advanced Placement (AP) classes online. Last year we had 4 students, 3 male juniors and 1 female senior, take an AP class. Students are monitored and mentored by our librarian as they complete their classes with an online teacher. Students have the opportunity to choose from all of the AP classes offered and can take the AP test at the end of the school year to earn college credit. High-achieving students at CHS also can be tested and attend half days at the Macomb Mathematics Science Technology Center (MMSTC) for their math, science, and technology class. This program is a specialized secondary education center with a four-year advanced, research based, science and math curriculum.

Activity 2

Summer transition programs or freshmen academies

Transitions Class

The high school would like to create a class called Transitions. Our Transitions course will be covering such skills as test taking, listening, organizing, mind mapping, researching skills and much more....

The following attachment outlines what each day will cover. The course will take place for six (6) weeks for five days a week. Each day, students will take active part in working with staff to develop skills that are necessary for high school success. These skill sets will enable a student to have a plan of attack when working with their academic subjects and are transferable to their daily routines.

Posting

Transitions Course

Seeking two highly qualified teachers certified in Math (1) and English (1). Candidates must have excellent organizational skills and be well verse in educational learning strategies.

Our six-week (6) course would be taught as part of our Summer School program from mid-July to the end of August and mid-September to the end of October directly after school.

Graduation Requirements

- Students will voluntarily take the Transitions course and they will be given a 1/4 credit of an elective towards graduation.
- Students will also be given a 1/4 credit for passing the MME/ACT ELA and Math portions.
- Students must show an 80% mastery in the course and they will receive credit / no credit.

- On-line students will be given credit for fulfilling part of their on-line course requirement

Attendance Requirements

Students are allowed to have up to three (3) absences

Criteria for Selecting Students for the Program

- Failing a Math and/or ELA class
- Parent Request
- Counselor, teacher recommendation

Course Offering Book

Transitions - 6 weeks

Our Transitions class is a unique course that teaches students the secrets of how to be successful in high school. A student will cover such topics as study techniques, organizational skills, test taking, reading and writing strategies. Each student shall receive a 1/4 credit for taking the six-week (6) course.

Literacy Boot Camp

Reading

Read a high school level novel learning comprehensive strategies and skills through discussions, reader's theater, and reflections with podcasts and video. Learn to analyze texts for structure and genre.

Writing

Learn constructed responses, personal writing, blogging, and revision strategies to create a personal narrative essay.

Technology

Learn to create digital stories, web pages, and a web presence. Develop the skills of blogging, podcasting, video filming, and other appropriate Web 2.0 sites.

Activity 3

Increase graduation rates through credit recovery, smaller learning communities and other strategies.

Credit-Recovery Programs

Research has shown that students who miss or fail academic courses are at greater risk of dropping out of school than their peers. To re-engage these students researchers recommend that schools provide extra academic support (Dynarski et al., 2008). Student data reported by schools suggests that credit-recovery programs may have positive effects on earning credits toward graduation, attendance rates, and passing rates on state standardized tests (e.g., Trautman & Lawrence, 2004). The Credit Recovery system is run through the Clintondale Continuing Education

Department. Students who have previously failed or received a no credit grade can enroll in the credit recovery program with a recommendation through their counselor. Core classes (Math, Science, English, and Social Studies) are run through the Compass on-line system and the electives are run through Apex System. Students complete all the work via computer with the exception of the final, which is taken on site.

Other Interventions

e2020 Free Credit and Summer School Credit Recovery

Education2020 helps school districts provide core and elective instruction in a virtual school setting for students in grades 6-12. The courseware is aligned to state and national standards and has helped students recover and accrue credits for graduation and prepare for state, end-of-course, and key standardized tests since 1998.

e2020 is a web-based model, teacher-led video delivery, and proven instructional approach, e2020 offers some of the most engaging and individualized instruction of any virtual school solution available today. It combines best-practice pedagogy with next-generation technology that enables our school to customize content and settings while providing an opportunity for students to learn at their own pace and make meaningful academic gains.

Through the use of this collaborative process of professional learning communities, this high school developed a series of intervention strategies for at-risk students using the e2020 program. This study suggests the difference between classes taken and passed varies by only one or two students, but a Chi-Square analysis demonstrates that the proportion between classes taken and classes completed do not differ significantly across all five school years. Further, the percent of students completing and recovering course credits is increasing over time, meaning as the school district enrolls more students into the e2020 Virtual Classroom, these same students seem to be completing the class. This Michigan school achieved a success rate with over 93% of its students recovering one or more failed core class during all observed summer school sessions using the e2020 Virtual Classroom while still holding students accountable to the state's high level of academic rigor.

From 2002 to 2007, e2020 serviced 1114 students in 1435 courses in this district. A Chi-Square analysis was conducted between each proportion across all five school years. The results of this analysis indicate no significant differences between classes taken and classes completed for the 2002-2003, 2003-2004, and 2005-2006 school years; but the results indicate a significant difference between the proportions for the 2004-2005 [$\chi^2(1, N = 624) = 9.97, p < .05$] and 2006-2007 [$\chi^2(1, N = 624) = 4.49, p < .05$] school years. Despite these slight differences, the overall data demonstrates that 1229 courses were completed resulting in an 86% completion rate during the entire 2002 - 2007 time period. These results align with other e2020 implementations throughout the country: students who attempt to take a course using the e2020 Virtual Classroom have an extremely high chance at successful completion.

Activity 4

Establish early warning systems to identify students who may be at risk of failure.

As of September 2010, Clintondale High School adopted Reading 180, Star Math and Reading and Math Labs. These implementations are aiding in the intervention of at-risk 9th graders. As of September 2011, Clintondale High School will be implementing the NWEA universal screening tool. This will allow for students 9-12 to be tracked in Math and Science, twice a year. Core assessments are also given to students quarterly, and inputted into Data Director. The department heads, staff and School Improvement Team are able to disaggregate the data and meet student needs. All core areas are working with the MISD and presently implementing Pre-ACT skill-based testing opportunities. These are also inputted into Data Director.

Increase Learning Time and Creating Community-Oriented Schools

Activity 1

Partnering with parents and other organizations to create safe school environments that meet students' social, emotional, and health needs.

Clintondale High School is aware that parental involvement is essential to the success of our students. Our School Improvement Team, along with our principal, developed many teacher-parent relationship implementations: teacher generated Blog-sites, Student-Parent Help Center on the Clintondale High School website, providing e-mail addresses of parents and staff, a phone directory and semester conference dates and times. These implementations greatly facilitated communication. Our staff openly participates in sporting events and student after-school activities. These implementations positively impacted the parent-teacher relationships.

This year, Clintondale High School adopted PowerSchool. Staff was trained in September and has full access to the systematic usage. As of January 2011, parents will be trained and able to keep current on their child's academic and attendance status. Multiple surveys were also completed to facilitate communications.

In addition to academics, Clintondale High School has enacted 'Mosaic Day' from the 2008 school year to present. Mosaic is an acronym for: Making our School an Inspirational Community. Four times a year, during 5th and 6th hours, students and staff are able to participate in hands on activities generated by staff. For example, a student may wish to learn to play lacrosse, participate in culinary arts, or give back to their community by making blankets, or delivering Christmas presents to those families in need.

Parents and community members are also welcome and have participated in several Mosaic Days.

'I Can Lead' is another teacher-generated activity to promote student leadership.

I Can LEAD Program

Leadership - Education - Achievement - Desire

In order to promote positive school behavior and achievement within the high school, as well as provide a consistent message that aligns with our vision and mission statement, our teaching staff will introduce an **I Can LEAD Program**. **I Can LEAD** symbolizes what we value in our students at the high school. Students will be recognized for their accomplishments and contributions at the high school that encompass academic achievement, participation and improvement.

Students will be honored throughout the year for the following:

- Student of the month recognition
- Teacher awards
- Principal awards
- Annual spring banquet
- Dragon Cafe lunches
- Discounts on homecoming and prom tickets
- Movie days
- T-shirts will be given to award winners throughout the year in order to promote school buy-in and spirit

I Can LEAD will have the following criteria for student awards:

- **Leadership** - Students have demonstrated a leadership role in a club, event, or within our school
- **Education** - Students have earned at least a 2.75 overall grade point average for a semester
- **Achievement** - Students have earned an award in an extra-curricular activity, perfect attendance, or a special academic award at CPC, Butcher, or IB program
- **Desire** - Improvements in academic performance such as, increased performance of two grade levels or more.

Teachers can also freely award students if they feel that the student has gone beyond normal student expectations.

Challenge Day

Challenge Day successfully addresses some common issues seen at most schools during our school programs including cliques, gossip, rumors, negative judgments, teasing, harassment, isolation, stereotypes, intolerance, racism, sexism, bullying, violence, homophobia, hopelessness, apathy, and hidden pressures to create an image, achieve or live up to the expectations of others.

Challenge Day programs are the catalyst for creating positive change in schools and communities. We believe each school can be an expert in knowing and understanding the needs of their students and for this reason, we ask schools and their communities to help sustain the changes made during the Challenge Day programs.

We require each school we work with to have a Be the Change Team and we provide tools and curricula for schools to sustain the momentum created by our programs. We believe every school can be a place where students and faculty feel safe, loved, and celebrated.

Evidence Based Research

Evidence based research has shown that Challenge Day helps develop leadership in high school students through its day-long Challenge Day programs. It also increases particular skills and life effectiveness listed in the categories below:

Intellectual Flexibility

Youth that demonstrate this attribute are open to new ideas, are adaptable and flexible in their thinking, and can change opinions easily if there is a better idea or way of doing activities and projects. They can also see and understand perspectives different than their own.

Task Leadership

Youth that demonstrate this attribute can successfully enroll people to participate in tasks, activities, and projects. Youth with this attribute believe that they can productively lead others in a positive and effective manner. Youth show an increase in leadership and action towards positive change.

Emotional Control

Youth that demonstrate this attribute believe that they can stay calm in stressful situations and overcome anxiety quickly when things do go wrong and recover and resolve the problem efficiently.

Self Confidence

Youth that demonstrate this attribute believe that they have the ability to do anything they put their mind to and they are confident they will succeed.

Social Competence

Youth that demonstrate this attribute have a high degree of self-perceived

Proposed Parent / Family Interventions

Parent and family coordinator- the following study provides rationale for providing a better foundation for a healthy family environment for school involvement, role modeling and goal setting. It is vital that the school district not only educate their students and teachers but also their parents and community.

Timeline-September 12, 2010

Activity 2

Extending or restructuring the school day to add time for strategies that build relationships between students, faculty, and other school staff.

Activity 3

Implementing approaches to improve school climate and discipline

Restructuring School Day and Year

The transformation activity focuses on increasing the time students spend in school,

increasing structured academic support, and reorganizing school schedules. CHS's 180-day academic year is currently structured on a six-hour-day schedule, which focuses more on a traditional structure rather than adapting to meet the changing needs and learning styles of our students. The CHS School Improvement Grant proposes to implement change to the outdated interventions of the past by (1) transforming the school instructional schedule to effectively utilize a 7-hour schedule, (2) extending the school day, and (3) offering extended learning opportunities. These reforms will address not only on extending the time students are in school, but also on increasing students' engagement in productive, academic learning. (Silva, 2005)

Student Mentors for New Students

Student mentors act like a big brother/sister to new 9th grade students and to our new school of choice students, which will provide needed peer support, both emotionally and academically, to students who are new to our school.

Student mentors would be selected through an application and staff nominations. When evaluating a mentor, the following criteria will be used:

- Grades
- Attendance
- Discipline
- Involvement in school
- Teacher/administrative recommendation
- Overall commitment

Mentors participate in a training workshop hosted by Student Congress, staff, and administration before the end of the 09-10 school year. Upon the completion of the program, a student and his/her parent will sign an agreement that outlines the expectations of the mentoring program, team building exercises and community service hour opportunities.

The mentor program will meet at least once a month during the first year in order to provide substantial support needed for a new program.

Teacher/Student Mentor Partnership

Each student will be assigned to a teacher/mentor (20 students to 1 teacher) who will mentor these students in small learning communities of four groups with five students in each group. The students will stay with their mentees until graduation. At the time of graduation, the teacher will be assigned to a new group of incoming freshmen. Each student will be creating an ongoing portfolio of evidence of the student's achievement. This will be in electronic format to be shared and evaluated by student, mentor and parent. The goal of this program is to support students at a personal level and build ongoing relationships within the group, school and community. Student will build responsibility and ownership, thus creating a positive

learning environment. The electronic portfolios will be aligned with Clintondale High School's curriculum standards and state benchmarks.

Activity 4

Expanding the school program to offer full-day kindergarten or pre-kindergarten.

N/A

Provide Operational Flexibility and Sustained Support

Activity 1

Allow the school to be run under a new governance agreement

Clintondale High School will be actively seeking a new principal in February 2011.

A job posting will be developed using the competencies as listed in the SIG materials and then advertised from the beginning of June 1, 2011 to June 30, 2011.

Interviews will be scheduled to take place after June 30th and a new principal will be in place by July 15th, 2011. The document "Principal Interview Protocol" from the District Leadership Challenge: Empowering Principals to Improve Teaching and Learning" (Southern Regional Education Board, 2009) will be used as guide in developing interview questions.

Activity 2

Implement a per pupil school based budget formula weighted based on student needs.

Budget reflects need for school improvement funds based on specific student need.

C. BUDGET: An LEA must include a budget that indicates the amount of school improvement funds the LEA will use each year in each Tier I, Tier II, and Tier III school it commits to serve.

- The LEA must provide a budget in MEGS at the building level that indicates the amount of school improvement funds the LEA will use each year to—
 - Implement the selected model in each Tier I and Tier II school it commits to serve;
 - Conduct LEA-level activities designed to support implementation of the selected school intervention models in the LEA’s Tier I and Tier II schools; and
 - Support school improvement activities, at the school or LEA level, for each Tier III school identified in the LEA’s application. (No response needed at this time.)

Note: An LEA’s budget must cover the period of availability, including any extension granted through a waiver, and be of sufficient size and scope to implement the selected school intervention model in each Tier I and Tier II school the LEA commits to serve.

An LEA’s budget for each year may not exceed the number of Tier I, Tier II, and Tier III schools it commits to serve multiplied by \$2,000,000.

Program	Support	Need	Cost	Yr. 2	Yr. 3	Inservice / Service Provider			Funding Source

Professional Development								
WEST ED Reading Apprentice	All Teachers	Curriculum	28320				WEST ED	Title 2A
Tool and Talk	All Teachers	PD	890	890			MISD	SIG
Northwest Evaluation software	All Teachers	Curriculum	11,900	11,900	11,900		Northwest	SIG
Professional Development for TI Inspires	Math Teachers	PD	3,000				Texas Inst.	Title 2A
Adaptive Schools Training	All staff	PD					Bruce Wellman and Robert Garmston/MISD	
Lenses on Learning		PD	1500	1500	1500		MISD	Title 2A
Principal Leadership Coach		PD	8500					Title 2A
Reading Interventions								
Read 180	Curriculum/Supplies/ Software	Curriculum/Supplies/ Software	38,320				Scholastic	SIG
Computers for Read 180	Tier II	Hardware	5,000				Apple	SIG
Corrective Reading	Tier III	Curriculum/Supplies/ Software	35,863	13,333	10,093		SRA/McGraw Hill	SIG
Math Interventions								
Carnegie Cognitive Tutor	Multi- Tiered	Software	15,000				Carnegie	SIG
Accelerated Math	Tier III	Curriculum / Software	9,000				Renaissance Learning	SIG
Program	Support	Need	Cost	Yr. 2	Yr. 3		Inservice / Service Provider	
Behavior Support								
Challenge Day		Intervention	8,000	8,000	8,000		Challenge Day.org	SIG
Positive Behavior Support System		Intervention	4500	4500	4500		CCS	SIG
9th Grade Transition Activities		Intervention	3000	3000	3000		CCS	SIG
Parent Support Programs		Intervention	500	500	500		CCS	SIG
Technology								
50 LCD Projectors	Instructional Delivery Expand School Day	Hardware	25,000				Dell	SIG
50 Mimios Interactive Whiteboard	Instructional Delivery	Hardware	44,950				DYMO Office Solutions	SIG
50 Elmo Document Cameras	Instructional Delivery	Hardware	31,250				ELMO LTD	SIG
10 Classroom Assessment clicker sets	Continuous Assesemnt	Hardware	35,000				Turning Technologies	SIG
2 TI Navigator	Continuous Assesemnt	Hardware	25,600				Texas Instruments	SIG
TI Nspires - 7 sets	Continuous Assesemnt	Hardware	28966				Texas Instruments	SIG
50 LCD/TV 42 Inch for classrooms	Instructional Delivery	Hardware	30,000					SIG
7 Flip cameras for teacher filming/review/ 2 hand held cameras with tripods	PD/ Expand School Day and Opportunities	Hardware	2,500				ABC Warehouse	SIG
Computers for Literacy Lab	Lab for Tiered Programs	Hardware	25,000				Apple	SIG

Apple Wi-Fi Ipad (80-10 packs)(all students)	Expand Opportunities Personalize Learning	Hardware	446,400				Apple	SIG
Ipad Case-qty 800		Hardware	29,328				Apple	SIG
Bretford Ipad Mobility Cart-qty-35		Hardware	59,185				Apple	SIG
Teacher MacBook Pro-qty-60 (all teachers)	Expand Learning Lessons and Student Opportunities		65,818				Apple	SIG
MacBook Maintenance			10,321				Apple	SIG
MacBook Screen Upgrade			2,817				Apple	SIG
Apple Server (inc maint and install)		Hardware	17,888				Apple	SIG
Apple Server (inc maint and install)		Hardware	36,190				Apple	SIG
HS/Library Wireless Campus	Expand Learning Opportunities	Hardware	55,000				Apple	SIG
Intervention software for Ipad (TBD)	Software/Applications		250,000				Apple	SIG
Personnel / Staffing								
Literacy Coach	Personnel	1.0 FTE	100,000	100,000	100,000		CCS	31A
Literacy Support Coaches	Personnel	1.0 FTE	50,000	50,000	50,000		CCS	SIG
Math Coach	Personnel	1.0 FTE	100,000	100,000	100,000		CCS	31A
Math Support Coaches	Personnel	1.0 FTE	50,000	50,000	50,000		CCS	SIG
Data Analyst/Instruction Technology Spec.	Personnel	1.0 FTE	150,000	150,000	150,000		CCS	SIG
Parent Support /.5 Social Worker	Personnel	0.5	50,000	50,000	50,000		CCS	SIG
Program director	Oversee program	0.33	45,000	45,000	45,000		CCS	SIG
Grant finance director	Oversee finance	0.1	15,000	15,000	15,000		CCS	SIG
Miscellaneous								
Free Credit Recovery	Expand Learning Opp.	Core Academic	11,000	8,000	6,000		E20/20	31A
Peer Tutoring		Incentives	2500	2500	2500		CCS	SIG
Summer Literacy / Academic Bootcamp	Expand Learning Opp.	9-12 grade	10,000	10,000	10,000		CCS	31A
Mobile Phone Credit Recovery	Expand School Day		15,000				LearnCast.com	SIG
Financial Totals			1,993,006	624,123	617,993			
SIG			1,730,686	344,333	339,093			
General Fund								
Title IIA			41,320	1,500	1,500			
Title 1								
31A At - Risk			221,000	218,000	216,000			
			Year 1	Year 2	Year 3			
*Currently using: At-Risk Monies	2010/11	\$616,467						Will continue thru 2011/12

ASSURANCES AND CERTIFICATIONS

STATE PROGRAMS

- **INSTRUCTIONS: Please review the assurances and certification statements that are listed below. Sign and return this page with the completed application.**

CERTIFICATION REGARDING LOBBYING FOR GRANTS AND COOPERATIVE AGREEMENTS

No federal, appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of a federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the making of any federal grant, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal grant or cooperative agreement. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member Of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal grant or cooperative agreement, the undersigned shall complete and submit Standard Form – LL*Disclosure Form to Report Lobbying*, in accordance with its instructions. The undersigned shall require that the language of this certification be included in the awards documents for all subawards at all tiers (including subgrants, contracts under grants and cooperative agreements, and subcontracts) and that all subrecipients shall certify and disclose accordingly.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSION – LOWER TIER COVERED TRANSACTIONS

The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in this transaction by any Federal department or agency. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

ASSURANCE WITH SECTION 511 OF THE U.S. DEPARTMENT OF EDUCATION APROPRIATION ACT OF 1990

When issuing statements, press releases, requests for proposals, solicitations, and other documents describing this project, the recipient shall state clearly: 1) the dollar amount of federal funds for the project, 2) the percentage of the total cost of the project that will be financed with federal funds, and 3) the percentage and dollar amount of the total cost of the project that will be financed by nongovernmental sources.

ASSURANCE CONCERNING MATERIALS DEVELOPED WITH FUNDS AWARDED UNDER THIS GRANT

The grantee assures that the following statement will be included on any publication or project materials developed with funds awarded under this program, including reports, films, brochures, and flyers: "These materials were developed under a grant awarded by the Michigan Department of Education."

CERTIFICATION REGARDING NONDISCRIMINATION UNDER FEDERALLY AND STATE ASSISTED PROGRAMS

The applicant hereby agrees that it will comply with all federal and Michigan laws and regulations prohibiting discrimination and, in accordance therewith, no person, on the basis of race, color, religion, national origin or ancestry, age, sex, marital status or handicap, shall be discriminated against, excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination in any program or activity for which it is responsible or for which it receives financial assistance from the U.S. Department of Education or the Michigan Department of Education.

CERTIFICATION REGARDING BOY SCOUTS OF AMERICA EQUAL ACCESS ACT, 20 U.S.C.

7905, 34 CFR PART 108.

A State or subgrantee that is a covered entity as defined in Sec. 108.3 of this title shall comply with the nondiscrimination requirements of the Boy Scouts of America Equal Access Act, 20 U.S.C. 7905, 34 CFR part 108.

PARTICIPATION OF NONPUBLIC SCHOOLS

The applicant assures that private nonprofit schools have been invited to participate in planning and implementing the activities of this application.

ASSURANCE REGARDING ACCESS TO RECORDS AND FINANCIAL STATEMENTS

The applicant hereby assures that it will provide the pass-through entity, i.e., the Michigan Department of Education, and auditors with access to the records and financial statements as necessary for the pass-through entity to comply with Section 400 (d) (4) of the U.S. Department of Education Compliance Supplement for A-133.

ASSURANCE REGARDING COMPLIANCE WITH GRANT PROGRAM REQUIREMENTS

The grantee agrees to comply with all applicable requirements of all State statutes, Federal laws, executive orders, regulations, policies and award conditions governing this program. The grantee understands and agrees that if it materially fails to comply with the terms and conditions of the grant award, the Michigan Department of Education may withhold funds otherwise due to the grantee from this grant program, any other federal grant programs or the State School Aid Act of 1979 as amended, until the grantee comes into compliance or the matter has been adjudicated and the amount disallowed has been recaptured (forfeited). The Department may withhold up to 100% of any payment based on a monitoring finding, audit finding or pending final report.

CERTIFICATION REGARDING TITLE II OF THE AMERICANS WITH DISABILITIES ACT (A.D.A.), P.L. 101-336, STATE AND LOCAL GOVERNMENT SERVICES

The Americans with Disabilities Act (ADA) provides comprehensive civil rights protections for individuals with disabilities. Title II of the ADA covers programs, activities, and services of public entities. Title II requires that, "No qualified individual with a disability shall, by reason of such disability be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity,

The Americans with Disabilities Act (ADA) provides comprehensive civil rights protections for individuals with disabilities. Title II of the ADA covers programs, activities, and services of public entities. Title II requires that, "No qualified individual with a disability shall, by reason of such disability be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by such entity." In accordance with Title II ADA provisions, the applicant has conducted a review of its employment and program/service delivery processes and has developed solutions to correcting barriers identified in the review.

CERTIFICATION REGARDING TITLE III OF THE AMERICANS WITH DISABILITIES ACT (A.D.A.), P.L. 101-336, PUBLIC ACCOMMODATIONS AND COMMERCIAL FACILITIES

The Americans with Disabilities Act (ADA) provides comprehensive civil rights protections for individuals with disabilities. Title III of the ADA covers public accommodations (private entities that affect commerce, such as museums, libraries, private schools and day care centers) and only addresses existing facilities and readily achievable barrier removal. In accordance with Title III provisions, the applicant has taken the necessary action to ensure that individuals with a disability are provided full and equal access to the goods, services, facilities, privileges, advantages, or accommodations offered by the applicant. In addition, a Title III entity, upon receiving a grant from the Michigan Department of Education, is required to meet the higher standards (i.e., program accessibility standards) as set forth in Title III of the ADA for the program or service for which they receive a grant.

CERTIFICATION REGARDING GUN-FREE SCHOOLS - Federal Programs (Section 4141, Part A, Title IV, NCLB)

The applicant assures that it has in effect a policy requiring the expulsion from school for a period of not less than one year of any student who is determined to have brought a weapon to school under the jurisdiction of the agency except such policy may allow the chief administering officer of the agency to modify such expulsion requirements for student on a case-by-case basis. (The term "weapon" means a firearm as such term is defined in Section 92' of Title 18, United States Code.)

The district has adopted, or is in the process of adopting, a policy requiring referral to the criminal or juvenile justice system of any student who brings a firearm or weapon to a school served by the agency.

AUDIT REQUIREMENTS

All grant recipients who spend \$500,000 or more in federal funds from one or more sources are required to have an audit performed in compliance with the Single Audit Act (effective July 1, 2003).

Further, the applicant hereby assures that it will direct its auditors to provide the Michigan Department of Education access to their audit work papers to upon the request of the Michigan Department of Education.

IN ADDITION:

This project/program will not supplant nor duplicate an existing School Improvement Plan.

SPECIFIC PROGRAM ASSURANCES

The following provisions are understood by the recipients of the grants should it be awarded:

1. Grant award is approved and is not assignable to a third party without specific approval.
2. Funds shall be expended in conformity with the budget. Line item changes and other deviations from the budget as attached to this grant agreement must have prior approval from the Office of Education Innovation and Improvement unit of the Michigan Department of Education.
3. The Michigan Department of Education is not liable for any costs incurred by the grantee prior to the issuance of the grant award.
4. Payments made under the provision of this grant are subject to audit by the grantor.
5. This grant is to be used to implement fully and effectively an intervention in each Tier I and Tier II school that the LEA commits to serve consistent with the final requirements.
6. The recipient must establish annual goals for student achievement on the State's assessments in both reading/language arts and mathematics and measure progress on the leading indicators in section III of the final requirements in order to monitor each Tier I and Tier II school that it serves with school improvement funds.
7. If the recipient implements a restart model in a Tier I or Tier II school, it must include in its contract or agreement terms and provisions to hold the charter operator, charter management organization, or education management organization accountable for complying with the final requirements.
8. The recipient must report to the SEA the school-level data required under section III of the final requirements.

SIGNATURE OF SUPERINTENDENT OR AUTHORIZED OFFICIAL

Date



10/18/10

SIGNATURE OF LEA BOARD PRESIDENT

Date



10/18/2010

1. ASSURANCES: An LEA must include the following assurances in its application for a School Improvement Grant.

See the Assurances and Certifications section of the LEA Application for a complete list of assurances. LEA leadership signatures, including superintendent or director and board president, assure that the LEA will comply with all School Improvement Grant final requirements.

2. WAIVERS: The MDE has requested all of the following waivers of requirements applicable to the LEA's School Improvement Grant. Please indicate which of the waivers the LEA intends to implement.

The LEA must check each waiver that the LEA will implement. If the LEA does not intend to implement the waiver with respect to each applicable school, the LEA must indicate for which schools it will implement the waiver.

- Extending the period of availability of school improvement funds.

Note: If an SEA has requested and received a waiver of the period of availability of school improvement funds, that waiver automatically applies to all LEAs in the State.

- "Starting over" in the school improvement timeline for Tier I and Tier II Title I participating schools implementing a turnaround or restart model.

- Implementing a school wide program in a Tier I or Tier II Title I participating school that does not meet the 40 percent poverty eligibility threshold.

Baseline Data Requirements

Provide the most current data (below) for each school to be served with the School Improvement Grant. These data elements will be collected annually for School Improvement Grant recipients.

Metric	
School Data	
Which intervention was selected (turnaround, restart, closure or transformation)?	Transformation
Number of minutes in the school year?	67,220
Student Data	
Dropout rate	10%
Student attendance rate	95%
For high schools: Number and percentage of students completing advanced coursework for each category below	4 students 2.6%
Advanced Placement	4 students 2.6%
International Baccalaureate	13 students 5.7%
Early college/college credit	0
Dual enrollment	14 students 9.1%
Number and percentage enrolled in college from most recent graduating class	57%
Student Connection/School Climate	
Number of disciplinary incidents	2501
Number of students involved in disciplinary incidents	446
Number of truant students	4
Teacher Data	
Distribution of teachers by performance level on LEA's teacher evaluation system	100%
Teacher Attendance Rate	PD 119 days Illness/Personal Days 157 0-3 2 8-10 11 4-7 6 <10 28

LEA Application Part II

SIG GRANT--LEA Application

APPLICATION COVER SHEET

SCHOOL IMPROVEMENT GRANTS (SIG)

Legal Name of Applicant: Clintondale Community Schools	Applicant's Mailing Address: 35100 Little Mack Clinton Township, Michigan 48035
LEA Contact for the School Improvement Grant Name: Greg Green Position and Office: High School Principal Contact's Mailing Address: 35100 Little Mack, Clinton Twp., MI 48035 Telephone: 586-791-6301 Fax: 586-790-7645 Email address: greeng@clintondaleschools.net	
LEA School Superintendent/Director (Printed Name): George J. Sassin	Telephone: 586-791-6300 ext. 3011
Signature of the LEA School Superintendent/Director: X 	Date: 9/13/10
LEA School LEA Board President (Printed Name): Jason M. Davidson	Telephone: 586-791-6300
Signature of the LEA Board President: X 	Date: 9/13/10
The LEA, through its authorized representative, agrees to comply with all requirements applicable to the School Improvement Grants program, including the assurances contained herein and the conditions that apply to any waivers that the State receives through this application.	

To be completed once we have the data

SECTION I: NEED

The school must provide evidence of need by focusing on improvement status; reading and math achievement results, as measured by the MEAP, Mi-Access or the MME; poverty level; and the school's ability to leverage the resources currently available to the district. Refer to the school's Comprehensive Needs Assessment (CNA) School Data and Process Profile Summary report.

1. Explain how subgroups within the school are performing and possible areas to target for improvement. (The following charts contain information available in the school Data Profile and Analysis). **See attached CNA**



District Name: CLINTONDALE COMMUNITY SCHOOLS
District Code: 50070

SCHOOL SUMMARY REPORT

All Students

Grade 11
Spring 2010



School Name: CLINTONDALE HIGH SCHOOL
School Code: 00731

MME READING

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1077)	(1078-1099)	(1100-1157)	(1158-1250)	(1100-1250)
2010	179	1052	1050-1054	27%	28%	45%	0%	45%
2009	209	1087	1082-1092	31%	33%	36%	0%	36%
2008	183	1087	1082-1092	31%	34%	34%	1%	35%
2007	181	1090	1086-1094	30%	32%	42%	1%	43%

MME SCIENCE

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1086)	(1087-1099)	(1100-1142)	(1143-1250)	(1100-1250)
2010	180	1086	1083-1089	43%	13%	41%	3%	43%
2009	208	1079	1073-1085	52%	14%	32%	1%	33%
2008	181	1081	1075-1087	48%	22%	29%	2%	31%
2007	180	1085	1079-1091	45%	18%	36%	1%	37%

MME WRITING

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1050)	(1051-1099)	(1100-1145)	(1146-1250)	(1100-1250)
2010	180	1076	1073-1078	13%	67%	18%	1%	19%
2009	206	1073	1068-1078	15%	64%	21%	0%	22%
2008	181	1073	1068-1078	19%	61%	20%	0%	20%
2007	175	1073	1068-1078	18%	62%	19%	0%	19%

MME SOCIAL STUDIES

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1086)	(1086-1099)	(1100-1128)	(1129-1250)	(1100-1250)
2010	181	1110	1108-1112	13%	22%	46%	18%	65%
2009	208	1108	1105-1111	19%	19%	45%	17%	62%
2008	184	1109	1105-1112	13%	26%	46%	16%	61%
2007	177	1109	1106-1112	10%	26%	47%	16%	64%

MME MATHEMATICS

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1088)	(1089-1099)	(1100-1127)	(1128-1250)	(1100-1250)
2010	180	1071	1068-1074	62%	17%	19%	2%	21%
2009	208	1072	1066-1078	61%	15%	22%	3%	25%
2008	180	1075	1070-1080	62%	15%	18%	1%	19%
2007	181	1076	1072-1080	66%	14%	18%	2%	20%

* Includes students who received valid scores.
** This is the likely range within which the true mean scale score would fall for the students listed on this report.

Due to rounding, percentages might not total 100%.

49% of our students scored proficiently (levels 1 and 2) on the reading portions compared to the MISD average of 62%. This has shown a gain of 25.6% over two years, higher than the AYP goal of approximately 7% each year. 22% of our students scored proficiently (levels 1 and 2) on the writing portion compared to the MISD average of 40%. This has shown a gain of 0% over two years, significantly lower than the AYP goal of approximately 15% each year. 24% of our students scored proficiently levels (1 and 2) on the mathematics portion compared to the MISD average of 47%. This has shown a gain of 14.3% over two years, higher than the AYP goal of approximately 10% each year.

Based on a review of 2010 ACT data for Clintondale High School:

The mean reading score for our students was 16.1 compared to the state mean of 19.6.

The mean writing score for our students was 6.2 compared to the state mean of 6.6.

The mean mathematics score for our students was 16.5 compared to the state mean of 19.5.

Causes for the gap:

In the area of reading:

For the Reading portion of the 2010 MME, ethnicity (*Black, Not of Hispanic Origin*) played a major role in the percentage of level 1&2 decrease. White students scored 63% (level 1&2) whereas *Black, not of Hispanic Origin* scored 31% (levels 1&2). However, little gap currently exists between males and females scoring levels 1&2: Males (46%), Females (43%) respectively. In addition, economically disadvantaged students scored 43% (levels 1&2) compared to non-disadvantaged at 47%. Of noted impact on our scores is the Total student with Disabilities scoring levels 1&2 at only 17%. Surprisingly, the *Total All Except Students with Disabilities* section revealed a significant difference between *Black, Not of Hispanic Origin* (32%) and White (73%) scoring levels 1&2.

In the area of Writing:

For the Writing portion of the 2010 MME, ethnicity (*Black, Not of Hispanic Origin*) played a major role in the percentage of level 1&2 decrease. White students scored 37% (level 1&2) whereas *Black, not of Hispanic Origin* scored 8% (levels 1&2). In addition, economically disadvantaged students scored 16% (levels 1&2) compared to non-disadvantaged at 25%. Of noted impact on our scores is the Total Student with Disabilities scoring levels 1&2 at only 4%. Surprisingly, the *Total All Except Students with Disabilities* section revealed a significant difference between *Black, Not of Hispanic Origin* (9%) and White (43%) scoring levels 1&2.

In the area of Mathematics:

For the Mathematics portion of the 2010 MME, ethnicity (*Black, Not of Hispanic Origin*) played a major role in the percentage of level 1&2 decrease. White students scored 39% (level 1&2) whereas *Black, not of Hispanic Origin* scored 10% (levels 1&2). The data showed little difference for economically disadvantaged students, score 21% (levels 1&2) compared to non-disadvantaged at 22%. Of noted impact on our scores is the Total student with Disabilities scoring levels 1&2 at only 4%. Surprisingly, the *Total All Except Students with Disabilities* section revealed a significant difference between *Black, Not of Hispanic Origin* (11%) and White (45%) scoring levels 1&2.

2. Identify the resources provided to the school (in particular, other state and federal funds) to support the implementation of the selected model.

School Resource Profile

The following table lists the major grant related resources the State of Michigan manages and that schools may have as a resource to support their school improvement goals. As you develop your School Improvement Grant, consider how these resources (if available to your school) can be used to support allowable strategies/actions within the School Improvement Grant.

A full listing of all grants contained in No Child Left Behind (NCLB) is available at: www.mi.gov/schoolimprovement.

<input type="checkbox"/> General Funds <input checked="" type="checkbox"/> Title I Part A <input type="checkbox"/> Title I Schoolwide <input checked="" type="checkbox"/> Title I Part C <input type="checkbox"/> Title I Part D	<input type="checkbox"/> Title I School Improvement (ISI)	<input checked="" type="checkbox"/> Title II Part A <input type="checkbox"/> Title II Part D <input type="checkbox"/> USAC - Technology	<input checked="" type="checkbox"/> Title III
<input type="checkbox"/> Title IV Part A <input type="checkbox"/> Title V Parts A-C	<input checked="" type="checkbox"/> Section 31 a <input type="checkbox"/> Section 32 e <input checked="" type="checkbox"/> Section 41	<input type="checkbox"/> Head Start <input type="checkbox"/> Even Start <input type="checkbox"/> Early Reading First	<input checked="" type="checkbox"/> Special Education
Other: (Examples include: Smaller Learning Communities, Magnet Schools. A complete listing of all grants that are a part of NCLB is available at www.michigan.gov/schoolimprovement .			

SECTION II: COMMITMENT

Evidence of a strong commitment should be demonstrated through the district's ability and willingness to implement the selected turnaround model for rapid improvement in student achievement and proposed use of scientific and evidence based research, collaboration, and parental involvement.

Using information gathered using the MDE Comprehensive Needs Assessment (CNA), provide the following information:

1. Describe the school staff's support of the school improvement application and their support of the proposed efforts to effect change in the school.

On Aug 24, 2010, a team consisting of administrators, teachers and NCA chair attended a meeting in Lansing to discuss Clintondale High School being appointed to the "Persistently lowest achieving schools". When staff reported back to school, the School Improvement team along with the principal and department heads informed the staff of the development. Our entire staff attended the first group meeting and efforts immediately progressed. The staff made a commitment to improve the ineffective educational practices in place at Clintondale High School. They then began the implementation of Clintondale High Schools improvement plan.

SIG Notification, Collaboration Efforts and Meetings

- August 16, 2010 – Michigan Department of Education notified Clintondale Community Schools about Clintondale High School at 11:00 a.m. being added to the chronically lowest 5% poor performing school's list.
- August 17, 2010 Superintendent met with Board of Education re: 5% list and SIG 7:00 a.m.
- August 18, 2010 – High School Building Principal and Superintendent met with Macomb Intermediate School District and other local districts regarding the ramifications of being placed on the lowest 5% list at 8:00 a.m.

- August 19, 2010 - Sent informational letter home to all parents and local residents regarding Clintondale High School and SIG and state reform measures
- August 24, 2010 – CCS Superintendent, MISD representative, High School Principal, High School Assistant Principal, 9th Grade Director, NCA chair teacher met in Lansing, Michigan with MDE officials and 92 other school districts at 9:00 a.m. to 2:00 p.m. discussing being placed on the lowest 5% performing list and the required reform efforts.
- August 30, 2010 High School Principal met with entire (49) high school staff at 8:00 a.m. to discuss high school being placed on the lowest 5% performing list and its required reform efforts.
- Superintendent met with local board and union representatives to discuss the four model options.
- September 10, 2010 at 8:00 a.m. to 3:30 p.m. the High School team consisting of the five (5) department chairs, NCA chair, High School Principal, met with MEA representatives (2) at Macomb ISD to discuss each reform model and review written plan submission strategy for the SIG.
- September 15, 2010 Clintondale Community Schools notified MDE of its transformation model selection.
- On September 17, 2010 a preliminary leadership team was formulated to write the school district's plan for the SIG. The leadership team consists of three high school administrators, 10 teaching staff members, five department heads, one NCA chair, one central office representative, two MEA representatives, and two parents.
- On September 22, 2010 12:45 to 1:45 p.m. High School Principal met with local union representative and MEA attorney to check on the status of the written plan and offered additional resources in helping to write and develop the plan.
- September 19, 2010 2:40 p.m. to 3:40 p.m. - High School Administration met with Department Chairs to discuss first round

of lesson plans, walk through trends, construction of common assessments, and handed out ACT competency and testing strategies information.

- September 26, 2010 2:40 to 3:40 - High School Staff Meeting conducted. Content area team members met with Department Chairs to discuss lesson plan development and core assessments to be administered Thursday, September 30, 2010.
- September 26, 2010 3:40 to 4:15 - School leadership team met to discuss collaboration agenda for October 1, 2010.
- On September 23, 2010 8:00 a.m. to 2:30 p.m. Collaboration meeting with NCA chair and teaching staff member and MISD consultants to begin the writing process.
- Oct 1, 2010 8:00 a.m. to 2:30 p.m. – Leadership team met to discuss and construct written plan.
- October 4, 2010 to present-Leadership team works diligently to complete task.

2.Explain the school’s ability to support systemic change required by the model selected.

In 2009-2010 Clintondale High School saw the need for change. Our NCA team, with direction from our Principal, consulted our students, staff and community and began the process. We dedicated each staff meeting to build tutorials regarding Data-Driven Dialogues and School Wide Assessment Instruction. This increased communication and dialogue for Student Achievement. With this line of discourse, the following programs were formulated:

9th Grade Center

After examining our high school’s performance and attendance rate for our 2009-10 9th grade students, a separate 9th grade center within the high school was created in order to aptly serve our 9th grade students. The 2009 high school’s School Improvement team of ten individuals researched the student movement trends of our student body, policies, teaching practices and routines, as well as, student learning. The research revealed the following:

- The ninth grade class of 177 students contains the largest amount of all grade levels of new students to the district (40%).
- The ninth grade class as of 2/17/10 had earned 2.5 times the amount of suspension days than that of our senior class (417 days compared to 160)
- The daily average attendance rate for our ninth grade class is almost 4% lower than our senior class (90.4% to 94.3%)
- 57.6% of our 9th grade class has failed one or more classes

Math Labs

- Math Lab is designed to be an extension of the Algebra I math course. Students taking the course are identified through a placement test that shows that they are three grades or more behind current grade level (9). The idea of the Math Lab is to supplement the material that has been taught, review prior concepts that are necessary for future success, and to preview material that will be introduced in the future. Students may also have opportunities to practice homework that has already been assigned and complete tasks in an environment with teacher support.

STAR Math

- Assess students' math levels in less than 15 minutes.
- Receive accurate, reliable, norm-referenced math scores including grade equivalents, percentile ranks, and normal curve equivalents.
- Determine the appropriate level of challenge for each student to personalize practice and individualize instruction.
- Predict results on state and national standardized tests including ITBS, CAT, and TerraNova.
- Save money by administering assessments throughout the school year at no extra cost.
- Track growth in student math achievement longitudinally, facilitating the kind of growth analysis recommended by state and federal organizations.

STAR Reading

- Assess students' reading levels in less than 10 minutes.
- Receive accurate, reliable, norm-referenced reading scores including grade equivalents, percentile ranks, and normal curve equivalents.
- Determine the appropriate level of challenge for each student to personalize practice and individualize instruction.
- Predict results on high-stakes, standardized tests, including ITBS, CAT, SAT, and TerraNova.
- Save money by administering assessments throughout the school year at no extra cost.
- Track growth in student reading achievement longitudinally, facilitating the kind of growth analysis recommended by state and federal organizations.

Literacy and Math Coaching

Practices to Close Student Achievement Gaps.

Coaching is school-based professional development that assigns educators with specific knowledge and skills to work with teacher colleagues to improve classroom practice. An effective coach makes teachers' jobs easier by demonstrating how and why certain strategies will make a difference in student learning, and then working alongside teachers to develop the knowledge and skills they need to put those strategies into practice. In some cases coaches work full-time at an individual school or district; in others they work with a variety of schools throughout the year. Most coaches are former classroom teachers; some continue to have some teaching duties while they coach. Most commonly, coaching positions are designed to support classroom teachers in developing effective strategies to teach mathematics and literacy. Often they work with teachers in other content areas to help them infuse math and literacy into their content-area curriculum.

Student Mentors

- Returning students, based on overall grade point average, attendance rates, leadership skills and discipline records were targeted by staff to become student mentors. 53 students were asked and all willingly volunteered to be mentors for all new students. Students were trained in the fall of 2010 and have

scheduled random academic and social check-ins and activities with new students throughout the school year.

Positive Behavior Support System

- Students' grades, attendance and behavior will be monitored quarterly and awards and recognition will be given for those students who maintain and/or improve their performance.

Data Director

- Implementation of Data Director and staff training was given to all teaching staff members in the fall/winter of 2010. Instructional staff used Data Director to host common assessments, analyze data and have school improvement data led discussions. These discussions were and are being held during school staff meetings, in-services and school improvement meetings and department chair staff meetings in order to vary and improve instructional techniques.

Bi-Weekly Common ACT Assessments, Department Chair and Collaboration Meetings

- Starting in the fall of 2010, teaching staff developed and administered bi-weekly ACT based assessments in order to measure instructional effectiveness, student progress and skill level. Data results are reported using data director and electronic Scan-tron. A reporting rubric will be filled out by each teaching staff member and given to the department heads and to the building principal. Department head meetings are held with the school administration in order to review the assessment results. Content area meetings are held the following week in order to make any recommendations to administration or change instructional techniques and direction.

Academic Initial Screening

- Scholastic Reading and Math STAR Assessments were given to all incoming 9th graders (136) in the fall of 2010. These assessments were given in order to test basic skill level and to properly place students in the correct reading and math class. Adjustments were then made to the students' schedules. Student were placed in a 9th Grade / READ 180 class if they read

below grade level and a 9th grade Algebra class, with a math support lab, if they were a grade level behind.

Administrative Classroom Walk-Through

- The administration knows the importance of bell-to-bell; minute to minute-focused instruction in a classroom. Walk-throughs are scheduled between the building principal and assistant principal to ensure research-based practices are going on daily within a classroom setting.

Learning Group Formations

- According to Robery Marzano, in his book "Classroom Instruction that Works," students must be able to identify similarities and differences, summarize, test hypotheses while staff reinforces effort and provides recognition and feedback; which can significantly increase student achievement. Therefore, our Social Studies teaching staff developed a Google Group, a web based learning group, in order to create a more flexible and collaborative learning situation. This approach also enabled a teacher to individually better monitor their students' learning. The instructional staff developed questions within the Google Group that allowed students to identify similarities and differences within a topic, and to summarize and test hypothesis. This helps to create a learning group that better monitors student learning. Thus, in an at-risk civics class the control group of 23 students reduced their failure rate by 17%. In addition, this group moderately out performed a similar civics class that was categorized as not at-risk. The Social Studies Department is currently developing a school wide Google Groups initiative to meet the needs of their students. When polled students and teachers revealed that this free web based tool allows for staff to track and comment on their students' work from their cell phone and/or computer while away from school. In addition, students are able to access their academic library of work twenty-four hours a day and seven days a week. Furthermore, it enabled students to use current technologies, as well as form a learning group that enables students to learn with their peers.

Power School

- Power School was implemented in August 2010. Power School allows for our certified teachers to track student work and for parents to receive daily updates of their student's attendance, grades and missing assignments. All staff were trained in PowerSchool in August, 2010, and student information will be available for parents on-line starting in January 2011. In December 2010, parents will be mailed PowerSchool log-on directions. The school district will create and provide video screen captures using the software, Camtasia, and hosting the videos on the district website as a reference.

Teacher / Mentor Partnership Observation

- In order to improve instructional quality, staff will volunteer to create a teacher/mentor observation partnership and schedule. Teaching staff members will conduct classroom observations of one another. A rubric of post observation questions will be used to help guide the observation process. Staff will then collaborate with one other regarding the overall effectiveness and review any suggestions a teaching staff member may have. One follow up observation/meeting shall occur after the initial observation/meeting. Videotaping would be permissible as long as all interested parties have received prior written consent.
- Creation of instructional videos @ www.youtube.com/dragoninstruction enables students to have classroom content available 24 hours a day, 7 days a week. In addition, this allows for proper alignment of curriculum and better continuity among instructional staff.

3. Describe the school's academic progress in reading and mathematics for the past three years as determined by the state's assessments (MEAP/ MME/Mi-Access).

A review of MME Data played an essential role in mobilizing Clintondale High School stakeholders to commit to fundamental changes in practice and structure to increase our students' success. The 2008, 2009 and 2010 summary reports demonstrate a need in all areas of learning. Since 2008, mathematics has seen an increase of 14.3% in the number of students reaching proficiency; however, only 24% of the students tested achieved proficiency in 2010. See chart referenced on page 30.

4. Describe the commitment of the school to using data and scientifically based research to guide tiered instruction for all students to learn.

Clintondale High School has adopted a Data Management System called Data Director in cooperation with the Macomb Intermediate School District. A building data team was formulated and several trainings were scheduled and completed during the 2009/2010 school year. In September, a Data team attended Data Driven Dialogue at the MISD. This training enabled us to analyze the Explore, Plan, MME and ACT data. We are able to compare data and analyze results. The MISD assisted us in our endeavors to use data by uploading standardized tests into the database. Teachers have begun developing common assessments that can be uploaded into data director, which provides a greater insight into our students' abilities to meet the High School Expectations as they align with the Common Core Standards.

5. Discuss how the school will provide time for collaboration and develop a schedule that promotes collaboration.

This year, with the implementation of Department heads, our staff collaboration time has increased dramatically. Every second and fourth Monday of each month, departments meet during staff meetings to discuss assessments and lesson plans. On the first and third Monday of every month, department heads meet to analyze data. This professional development time allows cooperative collaboration. The School Improvement team is also provided release time to analyze benchmarks, standards and best practice for each content area.

6. Describe the school's collaborative efforts, including the involvement of parents, the community, and outside experts.

Clintondale High School is aware that parental involvement is essential to the success of our students. Our School Improvement Team, along with our principal, developed many teacher-parent relationship implementations: teacher generated

blog sites, Student-Parent Help Center on the Clintondale High School website, providing e-mail addresses of parents and staff, a phone directory and semester conference dates and times. These implementations greatly facilitated communication. Our staff openly participates in sporting events and student after-school activities. These implementations positively impacted the parent-teacher relationships.

This year, Clintondale High School adopted PowerSchool. Staff was trained in September and has full access to the systematic usage. As of January 2011, parents will be trained and able to keep current on their child's academic and attendance status. Multiple surveys were also completed to facilitate communications.

In addition to academics, Clintondale High School has enacted 'Mosaic Day' from the 2008 school year to present. Mosaic is an acronym for: Making our School an Inspirational Community. Four times a year, during 5th and 6th hours, students and staff are able to participate in hands on activities generated by staff. For example, a student may wish to learn to play lacrosse, participate in culinary arts, or give back to their community by making blankets, or delivering Christmas presents to those families in need. Parents and community members are also welcome and have participated in several Mosaic Days.

'I Can Lead' is another teacher-generated activity to promote student leadership.

I Can LEAD Program

Leadership - Education - Achievement - Desire

In order to promote positive school behavior and achievement within the high school, as well as provide a consistent message that aligns with our vision and mission statement, our teaching staff will introduce an **I Can LEAD Program**. **I Can LEAD** symbolizes what we value in our students at the high school. Students will be recognized for their accomplishments and contributions at the high school that encompass academic achievement, participation and improvement.

Students will be honored throughout the year for the following:

- Student of the month recognition
- Teacher awards
- Principal awards
- Annual spring banquet

- Dragon Cafe lunches
- Discounts on homecoming and prom tickets
- Movie days
- T-shirts will be given to award winners throughout the year in order to promote school buy-in and spirit

I Can LEAD will have the following criteria for student awards:

- **Leadership** - Students have demonstrated a leadership role in a club, event, or within our school
- **Education** - Students have earned at least a 2.75 overall grade point average for a semester
- **Achievement** - Students have earned an award in an extra-curricular activity, perfect attendance, or a special academic award at CPC, Butcher, or IB program
- **Desire** - Improvements in academic performance such as, increased performance of two grade levels or more.

Teachers can also freely award students if they feel that the student has gone beyond normal student expectations.

Student Mentors for New Students

Student mentors act like a big brother/sister to new 9th grade students and to our new school of choice students, which will provide needed peer support, both emotionally and academically, to students who are new to our school.

Student mentors would be selected through an application and staff nominations. When evaluating a mentor, the following criteria will be used:

- Grades
- Attendance
- Discipline
- Involvement in school
- Teacher/administrative recommendation
- Overall commitment

Mentors participate in a training workshop hosted by Student Congress, staff, and administration before the end of the 09-10 school year. Upon the completion of the program, a student and his/her parent will sign an agreement that outlines the expectations of the mentoring program, team building exercises and community service hour opportunities.

The mentor program will meet at least once a month during the first year in order to provide substantial support needed for a new program.

SECTION III: PROPOSED ACTIVITIES

1. Describe the proposed activities that address the required US Department of Education (USED) school intervention that the school will use as a focus for its School Improvement Grant.

The subsequent narrative describes the Transformational activities that Clintondale High School will implement for the School Improvement Grant.

Developing Teacher and Leader Effectiveness

Principal

Clintondale High School will be actively seeking a new principal in February 2011.

A job posting will be developed using the competencies as listed in the SIG materials and then advertised from the beginning of June 1, 2011 to June 30, 2011. Interviews will be scheduled to take place after June 30th and a new principal will be in place by July 15th, 2011. The document "Principal Interview Protocol" from the District Leadership Challenge: Empowering Principals to Improve Teaching and Learning" (Southern Regional Education Board, 2009) will be used as guide in developing interview questions.

Teacher and Leader

Teacher Leaders

Teacher Leaders improve learning for the school community, students and staff.

"The term teacher leadership refers to that set of skills demonstrated by teachers who continue to teach students but also have an influence that extends beyond their own classrooms to others within their own school and elsewhere. It entails mobilizing and energizing others with the goal of improving the school's performance of its critical responsibilities related to teaching and learning. Mobilizing and energizing does not occur because of the role of the leader as boss (as might be the case with a principal), but rather because the individual is informed and persuasive. Therefore, an important characteristic of a teacher leader is expertise and skill in engaging others in complex work. It also entails an unwavering passion for the core mission of the school and the courage to confront obstacles to achieving that mission" (p.12)

Danielson, C. (2006). Teacher leadership that strengthens professional practice. Alexandria, VA: Association for Supervision and Curriculum Development.

Over the past three years, Clintondale High School has embraced the Teacher Leadership program. Our NCA co-chair and principal have both been trained in session I and II. We presently have three staff members and principal participating in session I. The implementation of the program has made a tremendous impact at Clintondale High School. Teachers have mobilized and engaged staff and community in embracing our core mission and beliefs. We plan to maintain these practices as we implement and develop our new Foundation for reform.

Proposed Activities

- In order to support staff collaboration, team building and cultural shifting, we, in conjunction with the Macomb Intermediate School District, are including the work of Bob Garmston and Bruce Wellman from *The Adaptive Schools*. Training and implementation of this model will be critical for building the capacity of our school to focus and implement our School Improvement Plan.
- In addition, a Principal Leadership Coach through Michigan State University will be contracted out in order to help assist the new principal with any instructional or leadership issues that may arise. This person will be expected to support the new principal during with the analysis of school wide data and instructional and program effectiveness. Furthermore, administration and instructional staff will visit with MISD core area and data consultants during on-campus school visitations as well as take part in the MISD course offerings they may have relative to student achievement.
- In order to improve instructional effectiveness, staff will volunteer to create a teacher/mentor observation partnership and schedule. Teaching staff members will conduct classroom observations of one another. A rubric of post observation questions will be used to help guide the observation process. Staff will collaborate with one other regarding the overall effectiveness and review any suggestions a teaching staff member may have. One follow up observation/meeting shall occur after the initial observation/meeting. Videotaping would be permissible as long as all interested parties have received prior written consent.

- The administrative team of principals serving Clintondale High School know that to serve as effective instructional leaders, they must conduct regular classroom observations and walk-throughs. Observation and walk through tools have been developed and distributed to administration and teaching staff in order to help organize their approach. In addition, information has been distributed and reviewed with the staff in order to focus their attention in such areas as: effective instructional strategies, critical thinking, use of technology, evidence of learning, and other factors that have an impact on student learning.

Lenses on Learning

Research proves that American students perform better on tasks that measure knowing math facts and procedures than on tasks measuring application, conceptual understanding, or reasoning to solve unfamiliar problems (NCEC, 2008) American teachers tend to teach procedural, rather than conceptual, knowledge of mathematics (Stigler & Hiebert, 2009; Stigler et al, 2005) "Teachers' mathematical knowledge for teaching significantly impacts students gain scores on standardized tests even when controlling for SES, absence rate, teacher credentials, teacher expertise, and avg. minutes of instruction (Hill, Rowan, Ball, 2005; Ball, Hill, Bass, 2005)" Therefore teachers need to be engaged in ongoing sustained professional development to help them re-imagine and redefine their classroom practice.

Clintondale High School has embraced Lenses on Learning. Presently, a team of five teachers and administrators has begun monthly sessions. This professional development will enhance classroom learning while building a foundation for Clintondale High School's School Improvement Plan.

The Adaptive Schools Model

The Adaptive Schools Model is about developing strong schools in which collaborative faculties are capable of meeting the challenges of today and the uncertain challenges of tomorrow. Schools are making remarkable gains in improving student achievement, increasing attendance, attaining higher post-school accomplishments, and developing satisfying relationships with communities.

Activity Name

The Adaptive Schools Model

Activity Statement

Teachers will participate in a 4-day Adaptive Schools professional development to provide teachers with a set of tools to support collaborative team work related to curriculum, instruction, and assessment.

Other Required (research cite)

Garmston, R. J., & Wellman, B. M. (1992). *How to make presentations that teach and transform*. Alexandria, VA: Association for Supervision and Curriculum Development.

Garmston, R. J., & Wellman, B. M. (2009). *The adaptive school: A sourcebook for developing collaborative groups* (2nd ed.). Norwood, MA: Christopher-Gordon Publishers.

Using Data to Identify and Implement Instructional Programs

Those involved with the teacher leadership initiative will work with the Macomb Intermediate School District to provide immediate assistance to jump-start the process in September 2011. "The real methodology for system change begins and ends with ongoing authentic dialogues about important questions", states Tom Wagner. Training through the MISD will be provided for staff. Department heads will be reinstated in the high school. Staff has and will continue to develop and administrate bi-weekly ACT like assessments in order to measure instructional effectiveness, student processing and skill level. Data results are reported using Data Director and electronic Scan-Tron. A required reporting rubric will be filled out by each teaching staff member and given to the department heads and to the building principal. Department head meetings are held with the school administration in order to review the assessment results. Content-area meetings during staff meeting time will be held the following week in order to make any recommendations to administration or change instructional techniques and direction.

The ACT/ MME, MEAP, ELPA, PLAN, EXPLORER, Scholastic Reading/Math Inventory, basic training in analysis, are used to review student performance and the effectiveness of the school. These summative assessments will serve to let the CHS team establish a baseline as well as make real time program and instructional decisions.

It is imperative that the training is focused on data inquiry, the development of common assessments and the use of progress monitoring tools. In addition to the training being offered by the MISD, our staff continues training within their individual content areas to ensure a quality educational experience for all of our students. Starting in the fall of 2010, teaching staff has developed and has administered bi-weekly ACT like assessments in order to measure instructional effectiveness, student progress and skill level. Data results are reported using Data Director and electronic Scan-Tron. A reporting rubric will be filled out by each teaching staff member and given to the department heads and to the building principal. Department head meetings are held with the school administration in order to review the assessment results. Content area meetings will be held the following week in order to make any recommendations to administration or change instructional techniques and direction. Scholastic Reading and Math STAR Assessments were given to all incoming 9th graders (136) in the fall of 2010. These assessments were given in order to test basic skill level and to properly place students in the correct reading and math class. Adjustments were then made to a student's schedule. A student was placed in a 9th Grade / READ 180 class if they read below grade level and a 9th grade Algebra class, with a math support lab, if they were a grade level behind.

In addition, to focus on academic interventions and data analysis, Clintondale High School will begin to implement a positive behavior support program. Students' attendance and behavior will be monitored quarterly as it relates to improved academic achievement. Implementation of Data Director and staff training was given to all teaching staff members in the fall/winter of 2010. Instructional staff used Data Director to host common assessments, analyze data and have school improvement data led discussions. These discussions were and are being held during school staff meetings, in-services and school improvement, department chair staff meetings in order to vary and improve instructional techniques.

According to Robert Marzano in his book *Classroom Instruction that Works* students being able to identify similarities and differences, summarize, test hypotheses and staff reinforcing effort and providing recognition and feedback can significantly increase student achievement. Therefore, our Social Studies teaching staff developed a "Google Group" which allowed our staff to create a web based learning group in order to create a more flexible and collaborative learning situation. This approach also enabled a teacher to individually better

monitor their student's learning. The instructional staff developed questions within the Google Group that allowed students to identify similarities and differences within a topic, and summarize and test hypothesis in order to create learning groups as a way to better monitor student learning. Thus, in an at-risk civics class the control group of 23 students reduced their failure rate by 17%. In addition, this group moderately out performed a similar civics class that was categorized not at-risk. The Social Studies Department is currently developing a school wide Google Groups initiative to meet the needs of their students. When polled students and teachers revealed that this free web based tool allows for staff to track and comment on their students work from their cell phone and/or computer while away from school. In addition, students are able to access their academic library of work twenty-four hours a day and seven days a week. Furthermore, it enabled students to work current technologies, as well as form a learning group that enables students to learn with their peers.

PowerSchool has been implemented in August, 2010. PowerSchool allows for our certified teachers to track student work and for parents to receive daily updates of their student's attendance, grades and missing assignments. All staff has been trained in PowerSchool in August of 2010 and student information will be available for parents on-line starting in January of 2011. In December of 2010, parents will be mailed PowerSchool log on directions. The school district will create and provide video screen captures using the software Camtasia and hosting the videos on the district website as a reference.

Listing of Data Evaluation, Monitoring and Tracking Tools

North West Evaluation Association (NWEA) universal screening tool for new students

Scholastic Star Reading and Math Web based Assessments
(Implemented Fall, 2010)

Data Director (Implemented Fall / Winter of 2009/10)

Video cameras in order to video record lessons for self-evaluation and web based communication (Fall/ Winter of 2009/10)

www.youtube.com/dragoninstruction

Instituted Five Department Heads (August, 2010) for direction and communication model

Recreated Staff Meetings and Department Head Meetings for increased staff collaboration time (May, 2010)

Developed and administered bi-weekly skill and ACT based assessments (September, 2010)

Web Based Learning Groups (Implemented Spring, 2010)

PowerSchool (Fall, 2010)

Timeline: Fall of 2010

Extended learning time is an increasingly popular school reform strategy. It seems like common sense: longer school days plus a longer school year equal more time for learning and better student outcomes. However, simply locking students in mediocre schools for additional hours is only beneficial if schools know how to use the hours, where talented teachers have the ideas and energy, and where families think the student would benefit.

Dual Enrollment

Clintondale High School had 14 students enrolled in dual enrollment classes during the 2009-2010 school year. There were six female students and eight male students. Seven students were juniors, and seven students were seniors. Two of the students were dual enrolled at Baker College and twelve were at Macomb Community College. Some of the classes that were taken include: Chinese, Philosophy, Oral Communications, and Statistics. To qualify for dual enrollment, students must be a junior or a senior and enrolled in both Clintondale High and the postsecondary institution during the regular school year. Students can qualify to take dual enrollment courses by taking one of these assessments: PSAT, ACT/PLAN, ACT, or MME, and obtaining the necessary score, as determined by the state of Michigan. Clintondale High School cannot offer the college course, and it cannot be a hobby, craft, or recreation course.

Accelerated Instruction

Our high achieving students have the opportunity to take Advanced Placement (AP) classes online. Last year we had 4 students, 3 male juniors and 1 female senior, take an AP class. Students are monitored and mentored by our media specialist as they complete their classes with an online teacher. Students have the opportunity to choose from all of the AP classes offered and can take the AP test at the end of the school year to earn college credit. High-achieving students at CHS also can be tested and attend half days at the Macomb Mathematics Science Technology Center (MMSTC) for their math, science, and technology class. This program is a specialized secondary education center with a four-year advanced, research based, science and math curriculum.

Research has documented the effectiveness of dual enrollment efforts in aiding high school students not only in their transition to college,

but also in graduating from college (Bailey et al., 2002; Anderson, 2001; Wechsler, 2001; Crossland, 1999). Studies indicate that despite the relatively wide availability of college courses to high school students, the number of students taking advantage of the opportunity is fairly small (Kleiner & Lewis, 2005).

Credit-Recovery Programs

Research has shown that students who miss or fail academic courses are at greater risk of dropping out of school than their peers. To re-engage these students researchers recommend that schools provide extra academic support (Dynarski et al., 2008). Student data reported by schools suggests that credit-recovery programs may have positive effects on earning credits toward graduation, attendance rates, and passing rates on state standardized tests (e.g., Trautman & Lawrence, 2004). The Credit Recovery system is run through the Clintondale Continuing Education Department. Students who have previously failed or received a no credit grade can enroll in the credit recovery program with a recommendation through their counselor. Core classes (Math, Science, English, and Social Studies) are run through the Compass on-line system and the electives are run through Apex System. Students complete all the work via computer with the exception of the final, which is taken on site.

Other Interventions

e2020 Free Credit and Summer School Credit Recovery Education2020 helps school districts provide core and elective instruction in a virtual school setting for students in grades 6-12. The courseware is aligned to state and national standards and has helped students recover and accrue credits for graduation and prepare for state, end-of-course, and key standardized tests since 1998. e2020 is a web-based model, teacher-led video delivery, and proven instructional approach, e2020 offers some of the most engaging and individualized instruction of any virtual school solution available today. It combines best-practice pedagogy with next-generation technology that enables our school to customize content and settings while providing an opportunity for students to learn at their own pace and make meaningful academic gains.

Through the use of this collaborative process of professional learning communities, this high school developed a series of intervention strategies for at-risk students using the e2020 program. This study suggests the difference between classes taken and passed varies by only one or two students, but a Chi-Square analysis demonstrates that the proportion between classes taken and classes completed do not

differ significantly across all five school years. Further, the percent of students completing and recovering course credits is increasing over time, meaning as the school district enrolls more students into the e2020 Virtual Classroom, these same students seem to be completing the class. This Michigan school achieved a success rate with over 93% of its students recovering one or more failed core class during all observed summer school sessions using the e2020 Virtual Classroom while still holding students accountable to the state's high level of academic rigor.

From 2002 to 2007, e2020 serviced 1114 students in 1435 courses in this district. A Chi-Square analysis was conducted between each proportion across all five school years. The results of this analysis indicate no significant differences between classes taken and classes completed for the 2002-2003, 2003-2004, and 2005-2006 school years; but the results indicate a significant difference between the proportions for the 2004-2005 [$\chi^2 (1, N = 624) = 9.97, p < .05$] and 2006-2007 [$\chi^2 (1, N = 624) = 4.49, p < .05$] school years. Despite these slight differences, the overall data demonstrates that 1229 courses were completed resulting in an 86% completion rate during the entire 2002 - 2007 time period. These results align with other e2020 implementations throughout the country: students who attempt to take a course using the e2020 Virtual Classroom have an extremely high chance at successful completion.

Summer School

Educational Setting: A Hawaiian school district uses e2020 Virtual Classroom to provide additional credit recovery opportunities parallel to traditionally taught summer school programs despite large variances in demographic classifications across school populations. Through a unique and innovative project, "It's All About Kids" (IAAK) partnered with 8 high and intermediate schools in Hawaii to offer a virtual summer school program (some were strictly onsite and others were a combination of onsite and offsite). Seeking to provide opportunities to succeed, these schools and IAAK embarked on a venture to provide students an opportunity to acquire additional credits toward graduation or to recover credit for courses that were failed during the regular school year. The schools have a wide range of demographics made up primarily of Asian / Pacific Islanders. The 8 schools' free and reduced lunch populations ranged from 7-29%. The statewide average for students receiving free and reduced lunch is 22.5%. Through the use of the e2020 Virtual Classroom and personalized support from IAAK, 600 students took advantage of this opportunity.

The Virtual Summer School was a 5- to 6-week offering for students to complete their instruction online through the e2020 Virtual Classroom. Students were required to attend an onsite student orientation and training prior to the start of their course. They were also required to attend onsite labs and take their cumulative and final examinations on campus while proctored by school staff. The remainder of the students' work was completed online from any computer that could access the internet.

IAAK and e2020 customized 24 courses of the e2020's 34 course offerings. The customization collaboration created specialized course offerings correlated with the Hawaii Content and Performance Standards, which met specific school requirements for credit acquisition and credit recovery.

Results:

24 customized courses for credit acquisition and credit recovery

600 participating students

98.5% completion rate for student enrolling and completing the courses

74.4% of students took courses for new credit acquisition

25.6% of students took courses for credit recovery

Data Intervention Specialist

The role of the Data Intervention Specialist is to provide support to the transformation model requirements as established by the Michigan Department of Education for Clintondale High School. An essential function of the position is to provide information and guidance to the teaching staff, administration, and parental groups regarding the use of data to increase student achievement as outlined in the School Improvement Grant (SIG). This position will perform a variety of duties associated with the acquisition, management, and analysis of achievement, attendance, behavior and test scores to develop a comprehensive Response To Intervention (RTI) program.

References

Education2020. (n.d.). Case Study 2: Intensive Intervention/Credit Recovery in Michigan. In *Four Schools, Four Challenges, One Goal* [A case study approach to how Education2020 helped increase student achievement]. Retrieved from http://www.education2020.com/case_studies/

Accelerating Instruction and Tutoring in Mathematics: Grades 9-12

-CHS Mathematics Department has implemented a before and after school tutoring program that is conducted by certified and highly qualified mathematics teachers. This program was implemented in September 2010.

-Texas Instruments Navigator is a Mathematics Resource system that provides both teachers and students with the capacity to work through collaborative learning. Whether in the classroom or lab setting, teachers would be able to work with students, students would be able to work with other students and students would effectively be able to execute mathematics processes and concepts with greater proficiency. Upon purchase of the Navigator system, mathematics staff will need to be trained to use all devices and effectively use all TI Navigator Systems. This resource will be extended to Tier 1,2 and 3 students.

-The Mathematics Department will institute Mathematics Labs that are developed through the processes learned from the Lenses on Learning Seminars conducted at the MISD. These Labs will be taught and operated by certified and highly qualified mathematics staff. The classes will provide students with extended opportunities to develop essential skills as well as serving as a response to intervene with learning gaps and skill gaps for students. The lab will also serve as the Mathematics technology hub where ALL mathematics staff will conduct lessons and collaborate with ALL students Tiers 1,2 and 3.

-Guided Mathematics is a program that will be implemented as a response to intervene with students that have skills less than proficient in mathematics yet are within a grade level of skill standards. Guided Mathematics will be a collaborative learning environment that utilizes certified and highly qualified staff, paraprofessionals and technology as a way to enhance learning experiences and extend opportunities for learning maximization. Tier 2 students will be targeted as the focus group for this program with the goal/objective of elevating these students to Tier 1 status.

-Accelerated Mathematics is a program that has been used in a limited capacity at CHS since 2001. Special services purchased the program and has conducted research as well as acquired empirical evidence of growth. STAR Mathematics is to be used to assess ALL CHS students both traditional and Students w/ IEPs and Students w/ disabilities.

STAR will serve as both the pre-assessment and post-assessment to measure growth. All Tier 3 students will be working through Accelerated Mathematics as an intervention response to elevate skills and proficiency. In addition, Accelerated Math is now offered in a web-based format that could provide students with not only extended but also continuous learning opportunities. The program originally purchased in 2001 is now outdated and likely will need to be repurchased. The original cost of the program was \$12,000.

-Paraprofessionals will be hired to facilitate, support and provide instructional assistance to ALL Mathematics students. Paraprofessionals will work collaboratively with certified and highly qualified staff to prepare for classes, evaluate processes and assess student's learning and growth. Paraprofessionals will provide support for Tier 1 students, instructional assistance to (Tier 2) Guided Mathematics and (Tier 3) Accelerated Mathematics students.

TIER ONE-

Math Labs

TI Navigator

Paraprofessionals

North West Evaluation Assessment

Tutoring Program

TIER TWO

Math Labs

TI Navigator

Paraprofessionals

North West Evaluation Assessment

Tutoring Program

TIER THREE

Math Labs

TI Navigator

Paraprofessionals

Accelerated Mathematics

North West Evaluation Assessment

Tutoring Program

Taking advanced mathematics in high school has been found to be strongly associated with postsecondary success (Adelman, 1999).

Algebra I is viewed as the "gatekeeper course," and successful completion paves the way for students to advance to higher level mathematics coursework that will help to prepare them for post-

secondary career and college opportunities (Bangser, 2008). Unfortunately, a large number of students enter high school with poor math skills (Strickland & Walters, 2009) and are not prepared to successfully complete an algebra course.

The combination of Carnegie Learning Curricula and Cognitive Tutor Software

This tutorial merges algebra textbooks with interactive software developed around an artificial intelligence model that identifies strengths and weaknesses in an individual student's mastery of mathematical concepts. The software customizes prompts to focus on areas in which the student is struggling and routes the student to problems that address those specific concepts.

Research²

Two studies of the combination of *Carnegie Learning Curricula and Cognitive Tutor[®] Software* that fall within the scope of the High School Math review protocol meet What Works Clearinghouse (WWC) evidence standards, and two studies meet WWC evidence standards with reservations. The four studies included 1,723 high school students in 27 schools across 7 districts.³

Based on these four studies, the WWC considers the extent of evidence for the combination of *Carnegie Learning Curricula and Cognitive Tutor[®] Software* on high school students to be medium to large for mathematics achievement.

Effectiveness

Carnegie Learning Curricula and Cognitive Tutor[®] Software was found to have no discernible effects on mathematics achievement for high school students.

Mathematics achievement

Rating of effectiveness No discernible effects

Improvement index⁴ Average: -4 percentile points
Range: -7 to +2 percentile points

¹ The descriptive information for this program was obtained from a publicly available source: the program's website (<http://carnegielearning.com/secondary-curricula/>, downloaded April 2010). The WWC requests developers to review the program description sections for accuracy from their perspective. Further verification of the accuracy of the descriptive information for this program is beyond the scope of this review. The literature search

reflects documents publicly available by January 2010.

² The studies in this report were reviewed using WWC Evidence Standards, Version 2.0 (see the [WWC Procedures and Standards Handbook, Chapter III](#)), as described in protocol Version 2.0.

³ The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.

⁴ These numbers show the average and range of student-level improvement indices for all findings across the studies.

Accelerating Instruction and Tutoring in Reading: Grades 9-12 Reading Interventions

NWEA universal screening tool

Student-centric education starts with detailed, accurate information about where each child is on his or her learning journey. NWEA offers a robust set of services that deliver this insight to the teacher, as often as four times a year.

Assessments are state-aligned through a computer-based testing system, MAP, which is built on 30 years of research and refinement, and adapts to the child in real-time as the test progresses for a pinpoint picture of learning achievement and readiness. Professional development is offered through on-site and online courses to help the teacher make the most of the data and embrace best practices for student-centered learning. Classroom resources are provided with several tools to translate data into lessons targeted to the exact things a student is ready to learn. Data is reported, in timely, actionable reports to help guide decision-making at every level.

Stable and Consistent

When students take these adaptive tests, they are presented with test questions at different levels of difficulty, which adjust based on their responses. At the end of a testing sequence, the student receives an overall score, called RIT that indicates the instructional level appropriate for him or her.

The RIT scale offers proven benefits:

Stability: A RIT score of 148 ten years ago means the same thing now as it did then.

Grade-independent: Test items match student performance, not grade level. So two students with a score of 210 are at the same level, even if one is in third grade and the other is in fourth.

Equal Interval: On the RIT scale, the increments are the same whether it's the difference between 140 and 152 or 200 and 212. This gives educators a clear yardstick for measuring progress.

Research

Clemson University Researchers Evaluating Professional Development Program Using NWEA Data

Jeff Marshall and Bob Horton from Clemson University's Inquiry in Motion Institute are working with the Kingsbury Center on the evaluation component of a multi-year study examining the student learning impact of a Professional Development (PD) program for math and science teachers. Preliminary findings from the pilot indicate that students taught by teachers in the PD program are showing more growth in their NWEA MAP® scores than their peers.

Evaluation. NWEA MAP assessments – administered to students in the fall and spring each year - are used to track the rate of growth in math and science for the students taught by these teachers during the year before the intervention, the year of the program implementation, and the second year of the intervention. Each student's growth is compared to two different control groups – 1) a group of students taught by teachers in the same district who have not participated in the PD program and 2) a Virtual Comparison Group, or VCG, which is a control group pulled from the Growth Research Database (GRD) and matched to characteristics on the student and school. The use of the VCG helps control for effects that might be a product of variance within the student cohorts.

Results. The pilot work has shown that students of the PD participants outperform both the students of district teachers and those in the VCG. Although minimal differences were found in mathematics scores, science students who were taught by participants in the program showed increased average growth relative to the prior year in science content and science process. In addition, average science growth for students of participating teachers was greater than the growth of students taught by non-participating teachers.

Corrective Reading, Tier III reading intervention

Corrective Reading is designed to promote reading accuracy (decoding), fluency, and comprehension skills of students in third grade or higher who are reading below their grade level. The program has four levels that address students' decoding skills and six levels that address students' comprehension skills. All lessons in the program are sequenced and scripted. *Corrective Reading* can be implemented in small groups of four to five students or in a whole-class

format. *Corrective Reading* is intended to be taught in 45-minute lessons four to five times a week. For the study reviewed in this report, only the word-level skills components of the *Corrective Reading* program were implemented. This program will be implemented for students in Tier III

Research

One study was conducted in a K-6 elementary school (large urban school district in the Southwest of the United States) in 1993 with 26 students (Vitale, Medland, Romance, & Weaver, 1993). *SRA Corrective Reading* was implemented in two randomly assigned, Chapter 1 classrooms (grades 4-6). Students received instruction in the program for 1 hour per day, 5 days per week in a whole-group format. The treatment group (Chapter 1 students receiving the program) was compared against 1 randomized control group and 2 quasi-experimental control groups (Chapter 1 students not receiving the program). After an 85-day treatment period (January–May), in a pre and posttest design, students were administered the Iowa Test of Basic Skills (ITBS). When their performance was compared to the previous years performance on the same test, the treatment group (N=26) gained 1.6 months in Reading and 2.1 months in Vocabulary whereas the control group (N=unknown) gained .8 months in Reading and .6 in Vocabulary. Though these are substantial gains for the treatment group in comparison to the control groups, it is unknown whether these differences were statistically reliable, which limits the interpretation of these findings. Although the author reports favorable improvement relative to the quasi-experimental control groups, the lack of information (i.e., group size, pretest scores, classroom instruction, etc.) renders these comparisons uninterpretable.

Another study, that did not use random assignment, was implemented in two remedial reading classes in England in 1982 (Gregory, Hackney, & Gregory, 1982). Two teachers implemented the *SRA Corrective Reading* program for 4 hours a week (2 days per week, 1 class period; 1 day per week, 2 class periods), 3 days each week over 5 months. In a pre and posttest design, students were administered the Daniels and Diack Test of Reading Experience in January and June 1980. On average in 5 months, the treatment group (N=11) gained approximately 22 months whereas the control group (N=8) gained substantially less (approximately 2.5 months).

Effectiveness

Corrective Reading was found to have potentially positive effects on alphabetic and fluency and no discernible effects on comprehension.

	Alphabetic	Fluency	Comprehension	General reading achievement
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	Alphabetic	Fluency	Comprehension	General reading achievement
Rating of effectiveness	Potentially positive	Potentially positive	No discernible effects	na
Improvement index³	Average: +9 percentile points Range: +1 to +13 percentile points	Average: +11 percentile points	Average: +7 percentile points Range: +2 to +11 percentile points	na

na = not applicable

¹ The descriptive information for this program was obtained from publicly available sources: the program's website (www.sraonline.com, downloaded April, 2007) and the research literature (Torgesen et al., 2006). The WWC requests developers to review the program description sections for accuracy from their perspective. Further verification of the accuracy of the descriptive information for this program is beyond the scope of this review.

² The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.

³ These numbers show the average and range of student-level improvement indices for all findings in the study.

WestED Reading Apprenticeship Curriculum

Reading Apprenticeship Framework

Reading Apprenticeship involves four interacting dimensions of classroom life that support reading development:

- Social
- Personal
- Cognitive
- Knowledge-Building

These dimensions are woven into subject-area teaching through metacognitive conversations—conversations about the thinking processes students and teachers engage in as they read. Extensive reading—increased opportunities for students to practice reading in more skillful ways—is central to this framework.

Social: The social dimension draws on students' interests in peer interaction as well as larger social, political, economic, and cultural issues. Reading Apprenticeship creates a safe environment for students to share their confusion and difficulties with texts, and to recognize their diverse perspectives and knowledge.

Personal: This dimension draws on strategic skills used by students in out-of-school settings; their interest in exploring new aspects of their own identities and self-awareness as readers; and their purposes for reading and goals for reading improvement.

Cognitive: The cognitive dimension involves developing readers' mental processes, including their repertoire of specific comprehension and problem-solving strategies. The work of generating cognitive strategies that support reading comprehension is carried out through classroom inquiry.

Knowledge-Building: This dimension includes identifying and expanding the knowledge readers bring to a text and further develop through personal and social interaction with that text, including knowledge about word construction, vocabulary, text structure, genre, language, topics, and content embedded in the text.

Research

Teacher Learning and Student Outcomes in Reading Apprenticeship
In 1997, SLI began a three-year study of teacher learning and related changes in classroom practice and of the impact on student achievement. Teachers in this study – cross-disciplinary teams of middle school and high school teachers – were involved in a professional development network for approximately forty hours each year in the first two years of the study. SLI researchers studied changes in teachers' conceptions and classroom practice related to reading in their content areas and studied the impact on these teachers' students' reading achievement. Key findings of this study are summarized below.

Key Findings

Teacher Changes:

Through participating in case inquiry in professional development networks over two years, secondary subject-area teachers:
developed more complex understandings about reading, reading processes, and texts, developing a situated knowledge base to inform interactions around reading in the classroom;
expanded their thinking about student reading and the varied sources of reading strengths and difficulties students may have; and
gained knowledge about and experience with a repertoire of teaching strategies for making the invisible processes and practices of reading visible to student readers.

Classroom Changes:

These changes in teachers' knowledge, beliefs and skills generated changes in the classroom, where teachers:
shifted their pedagogical orientation from either a solely content-focused or motivation-focused pedagogy toward combining these elements into a pedagogy of empowerment in disciplinary reading;
transformed their roles in the classroom and their relationships to students, creating a student-centered learning environment and giving students more challenging work;

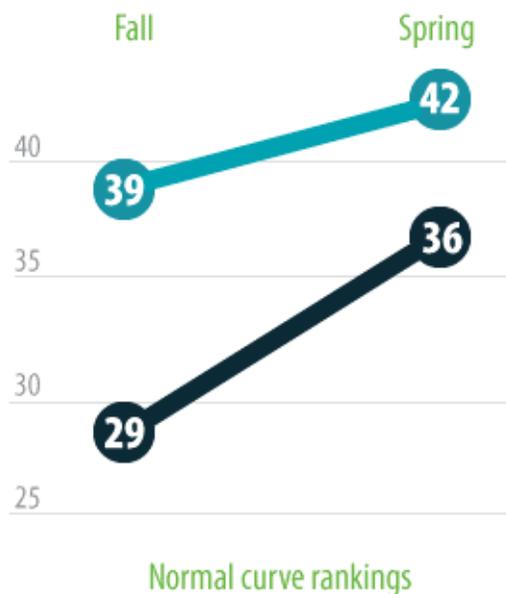
were able to continually generate a variety of ways of embedding comprehension-focused, reading process instruction into content teaching "on the fly"; and positively impacted student reading achievement and engagement. The Strategic Literacy Initiative has continued to develop inquiry-based professional development routines and practices based on this research into teacher learning. These routines and practices form the core of professional learning communities in ongoing Bay Area Networks as well as training for professional developers in National Institutes for Reading Apprenticeship. These professional development methods are described in "Building Capacity for the Responsive Teaching of Reading in the Academic Disciplines: Strategic Inquiry Designs for Middle and High School Teachers' Professional Development."¹

Student Learning in Classrooms of Strategic Literacy Network Teachers

Each year of the study, participating teachers tested one of their classes, using the Degrees of Reading Power standardized test of reading comprehension. Like the students in the Academic Literacy class study at Thurgood Marshall High School, the students of Strategic Literacy Network teachers gained normal curve scores from fall to spring, narrowing the achievement gap between their performance and that of their grade-level peers. **A year's normal progress in reading would be represented by zero gain in normal curve ranking. Any growth in normal curve score indicates an acceleration of student proficiency.**

Gains for 355 middle school students and a disaggregated subset of 47 English learners, 1998–1999

— All middle school students
— English learners



Middle school students whose English, history, or ESL teachers participated in Reading Apprenticeship professional development gained 3 points in normal curve rankings during the academic year, from 39 to 42. Within the group of 355, the 47 English learner students gained 7 points in normal curve rankings, indicating that English learners can benefit even more than English-proficient students from the Reading Apprenticeship approach.

1 "Building Capacity for the Responsive Teaching of Reading in the Academic Disciplines: Strategic Inquiry Designs for Middle and High School Teachers' Professional Development" is a chapter by Greenleaf and Schoenbach in the book *Improving Reading Achievement through Professional Development*, edited by Dorothy Strickland and Michael Kamil, Christopher-Gordon Publishers, Inc., 2004.

Early findings from the AIR/MDRC evaluation demonstrated that the 9th Grade Reading Apprenticeship 9th Grade Academic Literacy Course had a positive and statistically significant impact on student reading comprehension scores. The Reading Apprenticeship Academic Literacy program improved reading comprehension test scores by 1.4 standard score points and this impact was statistically significant ($p < .015$).

The impact of 1.4 points on reading comprehension test scores represents a 33 percent improvement over and above what the Reading Apprenticeship Academic Literacy students would have achieved if they had not had the opportunity to attend the intervention course.

The final report pooled data from two cohorts of students, across two

program years. The impact of Reading Apprenticeship Academic Literacy for both cohorts combined was 1.2 points (effect size = 0.12, $p = 0.002$). In the final report, impacts on student performance in core academic classes and, where available, state tests, were analyzed. Reading Apprenticeship Academic Literacy had a positive and statistically significant impact on students' grade point average in core subject areas; students in the course received better grades in history and science classes than their counterparts in the control condition. In addition, the Reading Apprenticeship Academic Literacy course had a positive and statistically significant impact on students' state test scores in both English language arts (effect size = 0.15, $p = 0.006$) and science (effect size = 0.14, $p = 0.033$). Although these academic impacts were not sustained in the follow up year, in Reading Apprenticeship Academic Literacy schools, fewer students who took the course were ever suspended in the follow-up year (effect size = 0.09, $p = 0.025$), an indicator used to gauge program effects on student behavior. Sustained acceleration of academic benefits for students entering high school reading four years behind grade level therefore may require sustained support. Additionally, WestEd collected standardized reading comprehension test data for 580 students who participated in the Reading Apprenticeship 9th Grade Academic Literacy Course. In six months, the students made statistically significant gains in reading scores (see Figure 1).

Figure 1: Significant Positive Impact for Students in Academic Literacy Course

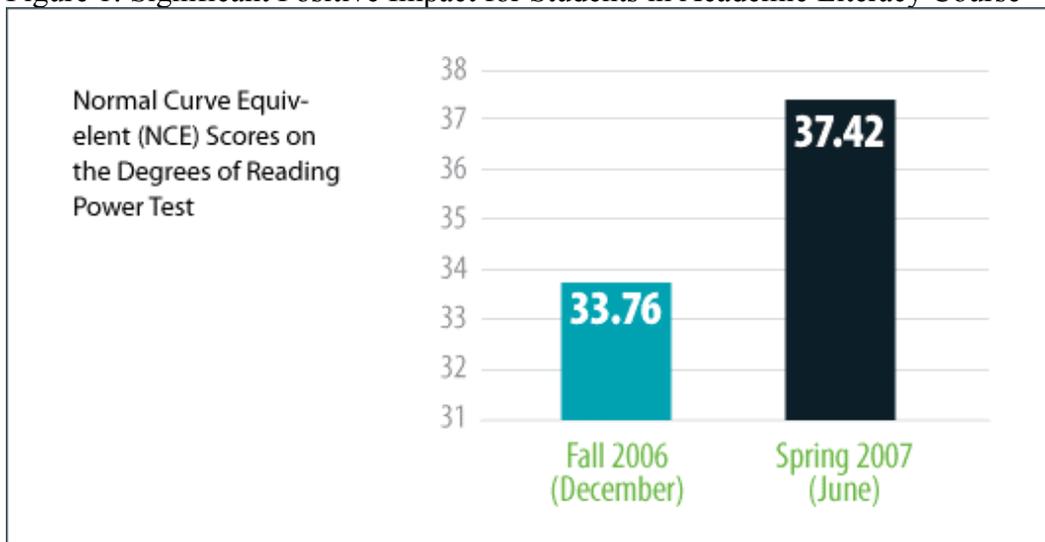
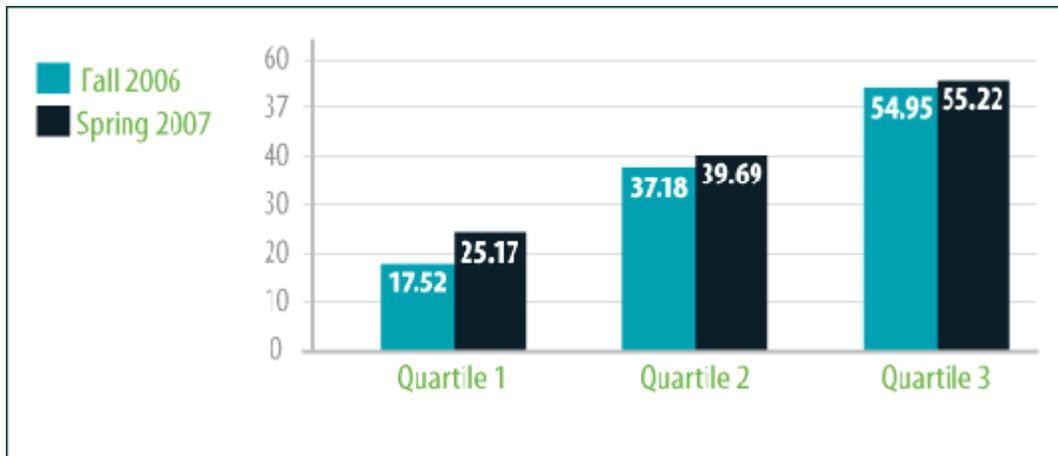


Figure 2: Largest Gains for Lowest Performing Students



Paraprofessionals in support of ELA achievement Tier I, II, and III

Paraprofessionals will be provided to help support ELA achievement and provide additional instructional assistance to all ELA students in the classroom. This will lower the staff to student ratio and provide for more one-on-one time with the students in the areas they struggle the most. Paraprofessionals will provide support for students in all three tiers.

Research

Several researchers -- including Mr. Konstantopoulos with co-authors Larry Hedges and Barbara Nye in a pair of published papers; Jeremy Finn and Charles Achilles; and Alan Krueger and Diane Whitmore Schanzenbach-- have found that class-size reduction narrows the black-white gap both while students are enrolled in small classes and in subsequent years. The research also shows that class-size reduction leads to a small reduction in the poor-nonpoor gap, though this reduction (unlike the black-white effect) is not statistically significant.

Reading Interventions continued

- Read 180 (Implemented Fall, 2010 for 9th graders) tier II
- Corrective Reading, tier III reading intervention
- WestED Reading Apprenticeship Curriculum
- Paraprofessionals to help support ELA achievement
- Literary coach

In the fall of 2010 the high school implemented a READ 180 program for 100 students who were assessed by Star Reading and Math.

-CHS English Department has implemented a before and after school tutoring program that is conducted by certified and highly qualified English teachers. This program was implemented in September 2010.

Reading Interventions

READ 180 for all students. Because of the transition rate of our student body we feel that it is imperative to have a prescriptive reading program for all students.

According to a study by Christine A. Espin and Stanley L. Deno Remedial and Special Education, November/December 1993; vol. 14, 6: pp. 47-59 of 121 10 grade students and their reading levels. Results of correlational analyses revealed low-moderate to moderately high correlations between reading measures and scores on a classroom study task, grade point average, and achievement test performance

Tier I Intervention- Literacy Coach, paraprofessionals, close and Critical Reading

Tier II Intervention – WestED Reading Apprenticeship, Read 180, Guided Academic Teacher

Tier III Intervention- Corrective Reading, F.A.S.T. Reading- Guided Academic Teacher, Paraprofessionals

Increasing Time-on-Task and Student Engagement to Reduce Failure Rates

Time-on-task refers to the amount of time students spend attending to school-related tasks (Prater, 1992), such as following directions and engaging in learning activities. Time-on-task is also sometimes referred to as “engaged time.” Studies indicate that up to 50% of the school day is spent on non-instructional activities in general and special education classrooms (Good, 1983; Thurlow et al., 1983), leaving ample room for improvement in the area of time management. While there is some relationship between time-on-task (or engaged time) and student achievement, simply increasing the amount of time available for instruction is not enough to achieve learning gains. Time allocated for instruction must be appropriate; that is, at the appropriate instructional level for students and delivered in a way that is effective, efficient, meaningful, and motivating to students. It is important to keep in mind that most studies have measured *allocated time* (time students are required to be in class), and only a small number of studies have attempted to measure *engaged time* (time students participate in learning activities) and *academic learning time*

(time when true learning occurs) (Aronson, Zimmerman, & Carlos, 1998). However, findings from those studies tend to support a moderate relationship between engaged time and achievement and an even larger relationship between academic learning time and achievement (Cotton & Wikelund, 1990).

The leadership team of Clintondale High School will enhance teacher understanding and use of strategies designed to increase students' time-on-task by providing high-quality professional development concentrated on features of effective instruction, instructional management, and classroom management. Most researchers agree that improving teachers' time management techniques is a good starting point (Hossler et al., 1988).

School Leadership Council

Collaboration is a key factor in determining the success of school reform. In order to maximize the effects of collaboration and manifest the efforts into improving student achievement, the School Leadership Council will meet weekly, during a common prep. The core of School Leadership Council membership will consist of department heads (department heads will have a common period to meet) and the principal. All members of the learning community will be encouraged to participate during this weekly meeting. The consistency of time and place will increase participation of all stakeholders. The School Leadership Council will elect one chairperson at the beginning of each year. The chairperson will set the agenda and the calendar for the School Leadership Council.

Research:

"Teacher collaboration has become an legitimate service delivery option for students with disabilities and students at risk for learning and/or behavior problems. Notwithstanding its growing popularity, there is little empirical research on the fidelity of implementation of intervention plans that stem from professional collaboration."

"Collaboration affords general educators, special educators, and support personnel opportunity to establish rewarding and long lasting social and professional relationships. Accordingly, more school personnel recognize that collaboration fosters a sense of shared responsibility for educating heterogeneous groups of students (Friend & Cook, 2000). Finally, the growing emphasis on collaboration stems from the very nature of schools themselves--settings in which a range

of responsibilities and demands can be addressed more appropriately by collaborative or team approaches than by individual, isolated efforts.”

“The increasing necessity of professional collaboration underscores the importance of accurately gauging its success, particularly in light of mounting pressure in schools for personnel to be more accountable for student outcomes.”

“For example, school personnel might assess the effectiveness of collaboration to address the varying needs of teachers and students, the efficiency with which educators engage in the collaboration process, the quality of problem solving among collaborative partners, or even the system-wide impact of collaboration (e.g., Friend & Cook, 2000; Henning-Stout, 1973; Walter-Thomas, Korinek, McLaughlin, & Williams, 2000).”

“Given the central question of our discussion, namely, whether or not collaboration “works,” we think it is essential that school personnel establish a systematic plan to assess various aspects of collaboration both in terms of process and outcomes. Such a plan is especially needed for a clear sense of fidelity of implementation so that school professionals are able to distinguish between an ineffective plan and a potentially useful one that is poorly implemented (Gresham, MacMillan, Beebe-Frankenberger, & Bocian, 2000). This distinction is related closely to acceptance of the plan by those responsible for its implementation.”

“Furthermore, it is essential to specify clearly who is responsible for implementing each part of the instructional plan, under what conditions, and with what outcome(s) in mind. It is these actions that must be carefully documented and evaluated over time.”

Citation:

Gable, R A, Mostert, M P, & Tonelson, S W (Spring 2004). Assessing professional

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Complete via Gale:

http://find.galegroup.com/gtx/start.do?prodId=PROF&userGroupName=lom_accessmich

Research:

"Where it is valued and when it happens, makes a demonstrable difference in the teaching of Information/Communication/Technology standards and state Reading and Language Arts scores. Alas, according to both classroom teachers and teacher-librarians, despite its known value, collaboration happens all too infrequently. Last year, the latest in a series of state studies was undertaken for the Idaho Commission for Libraries and endorsed by the Idaho State Department of Education. Survey responses were received from 176 principals and other administrators, 668 classroom teachers, and 146 library media specialists (aka teacher-librarians)."

"The overwhelming majority of administrators--almost nine out of ten--identified collaboration on instructional design and delivery as essential or desirable. More than a quarter (27.6%) deemed it essential, while more than three out of five (61.5%) deemed it desirable.

"The problem is that, despite a high level of support for collaboration as an essential practice among administrators, teacher-librarians and classroom teachers indicate that it does not happen regularly in many cases, and, in far too many cases, it happens rarely or never. A major recommendation of this study, therefore, is that administrators should take action to make collaboration a practical reality, and teacher-librarians and classroom teachers should take initiative to establish and strengthen their collaborative efforts."

Citation:

Lance, Keith Curry, Marcia J. Rodney, and Bill Schwarz. "Collaboration works--when it

happens! The Idaho School Library impact study." *Teacher Librarian* 37.5 (2010):

30+. *Educator's Reference Complete*. Web. 8 Oct. 2010.

Document URL

http://find.galegroup.com/gtx/infomark.do?&contentSet=IAC-Documents&type=retrieve&tabID=T002&prodId=PROF&docId=A231092338&source=gale&userGroupName=lom_accessmich&version=1.0

Providing Community Supports and Resources

Due to the increased number of students who were economically disadvantaged within our high school, the district has instituted a School Based Health Clinic staffed with a school nurse practitioner, and a licensed and registered psychologist that is located directly within our high school. This enables our students to receive sufficient physical and mental health care in order to achieve academic success. The clinic is open 8:00 a.m. to 4:00 p.m. all year round.

The WIA program is sponsored by the Macomb ISD. Two WIA workers are located within our high school. These workers attend the needs of our 40 most "needy" students Monday thru Friday 7:00 to 3:00 p.m. during the school year. Students are assisted with such things as finding employment, college application processes and with state and federal assistance. Students are selected based on a family's total yearly income.

A guaranteed scholarship program was established in 2007 with Baker College in Clinton Township, Michigan. This 100% college guarantee is unique to just CHS graduates. Baker College gives each CHS graduate \$6000 (\$1500/ annually) towards their advanced degree programs. This unique opportunity enables students to attend college despite the lack of financial means. Furthermore, through Baker's unique "open" enrollment all students have an equal opportunity to attend school. In addition, Baker College graduates have a 95% job placement rate.

The high school and school district has provided food and clothing to those in the community who need it most. A large storage place has been set aside for clothing and a food supply. Students receive community service hours for helping collect food and clothing as well as organizing and distributing items.

Proposed Parent / Family Interventions

Parent and family coordinator- the following study provides rationale for providing a better foundation for a healthy family environment for school involvement, role modeling and goal setting. It is vital that the school district not only educate their students and teachers but also their parents and community.

Timeline-September 12, 2010

Providing Operating Flexibility and Intensive Support

Clintondale High School's staff has been empowered to make decisions that are based on student achievement. For example, the school improvement team has developed a bi-weekly assessment schedule and has recently taken part in setting up department and content collaboration meetings dates and times. In addition, they have formulated content area reporting rubrics so that meeting communication is clearly expected and student achievement is emphasized.

Operating Flexibility and Operational Support

Students will have the opportunity to enroll in 0 hour or 7th hour in order to receive additional academic support. They will also have the opportunity to receive one on one tutoring during these same hours. In addition, students will have the opportunity to enroll in a summer credit recovery program. Furthermore, students can enroll in an enrichment course that are hosted on-line and delivered to their mobile device.

Timeline: September 2011

Restructuring School Day and Year

The transformation activity focuses on increasing the time students spend in school, increasing structured academic support, and reorganizing school schedules. CHS's 180-day academic year is currently structured on a six-hour-day schedule, which focuses more on a traditional structure rather than adapting to meet the changing needs and learning styles of our students. The CHS School Improvement Grant proposes to implement change to the outdated interventions of the past by (1) transforming the school instructional schedule to effectively utilize a 7-hour schedule, (2) extending the school day, and (3) offering extended learning opportunities. These reforms will address not only on extending the time students are in school, but also on increasing students' engagement in productive, academic learning. (Silva, 2005)

Transforming the School Instructional Schedule

The instructional time available will be transformed in the 7-hour schedule. The 7-hour schedule is necessary for students to meet the requirement standards for graduation while also providing academic support or alternative learning opportunities to meet the academic needs of students. Teachers will utilize the entire 52-minute period for instruction during each of the 7 instructional periods. Any students with a failing mark will be required to take the Academic Support Center as a class. While examining the relationship between time and learning, WestEd Researchers Aronson et al. (1998) found that the strongest relationship exists between academic learning time and achievement. The Academic Support Center provides students with an environment that fosters achievement and success by providing academic support through mentorship peer and guided tutoring to meet all learning styles, and the monitoring of students progress. The Academic Support Center provides students with academic accountability; improved study habits, self-discipline, and the development of organizational skills all while offering the necessary time and help to encourage student achievement. Many of the students at CHS are classified as high risk. Research conducted by the Carnegie Corporation (*Betchel and Evans*) found that, "...more time in school might be beneficial for economically disadvantaged children

and/or children in this nation's inner cities...and are more at risk during non-school hours. Extending the learning day will meet the needs of our students by providing them with a safe learning environment that fosters academic achievement.

Students that have shown that they do not need additional support by passing all classes will have the opportunity to take a 7th class of their choosing.

2.Explain how the school will use data to inform instruction, guide decision-making and design professional development related to the proposed activities.

i. Discuss how the school will use data to develop and refine its improvement plan and goals based on sub groups in need.

Clintondale High School worked diligently to analyze its data. The School Improvement Team disaggregates strengths as well as weaknesses to promote student achievement. The use of Data Director has allowed for each student to be individually analyzed and monitored.

The use of Data Director as implemented throughout our entire learning environment has made significant improvement to our Reading, Science, and Social Studies MME scores. In January 2010, the School Improvement Team enacted a comprehensive ACT/MME workshop based on lowest-achieving sub-groups. A nine-week rotation in all subjects was conducted using MEL, Study Island, and ACT prep workshops. These implementations made a significant impact on our scores for the ACT/MME for 2009/2010.

Teacher Evaluation

The Clintondale Community School District and MEA/NEA Local 1 Clintondale Education Association will collectively bargain an agreement pertaining to a method of compensation that includes job performance as a significant factor in determining compensation and also implemented a rigorous, transparent, and fair evaluation system to evaluate teacher job performance. The collective bargaining agreement provides that teachers will be evaluated one (1) time during each school year utilizing an approved evaluation instrument. The evaluation system will be based on the research of Charlotte Danielson. The evaluation focuses on teacher preparation and planning; classroom environment; instructional practices; and professional development, and is, in part, based upon data on student growth.

The school district and MEA/NEA Local 1, the bargaining representative that is certified to represent the district's teachers, expect to agree upon a teacher evaluation system with focus on the Charlotte Danielson framework model. Since there are added training and implementation costs associated with the training and institution of such evaluation program which if agreed upon, would be applicable to new teachers, tenured teachers, and teachers in need of assistance, such agreement and implementation would be dependent upon grant funding in the beginning, at least.

Proposed additional improvement step/reforms beyond those measures already being taken as described in this application, can only be implemented if funds are approved beyond those already available to district.

Research:

"The framework for teaching described in this book identifies those aspects of a teacher's responsibility that have been documented through empirical studies and theoretical research as promoting improved student learning."

"A framework for professional practice is not unique to education. Indeed, other professions—medicine, accounting, and architecture, among many others—have well-established definitions of expertise and procedures to certify novice and advanced practitioners. Such procedures are the public's guarantee that the members of a

profession hold themselves and their colleagues to high standards of practice.”

Danielson, C. (2007). *Enhancing Professional Practice: A Framework For Teaching*

(2nd ed.). Virginia: Association for Supervision and Curriculum Development.

- ii. Describe how the school will collect, analyze, and share data with internal and external stakeholders. Include how the school will ensure that all administrators and teachers are able to access and monitor each student’s progress and analyze the results.

All Clintondale High School teachers have been trained by the MISD in Data Director. As of winter 2010, common assessments and ACT practice tests and semester exams have been inputted into Data Director and have been analyzed and disaggregated by the School Improvement Team. All information in advancements has been relayed to the stakeholders via staff meetings, board meetings, conferences, and newsletters.

Clintondale High School will also use data from formative assessments such as PLAN and Explore. This data is available from Data Director and Data for Student Success. Reports are also formulated and available for parents and stakeholders. With the addition of a Data Intervention Specialist, a stronger data-learning community will be aligned.

Targeted Areas: Literacy & Extended Learning Opportunities

Instructional Facilitator & Extended Hours of Operation

The Santilli Library Media Specialist will collaborate with staff to increase teacher instructional versatility. Collaboration will address, but will not be limited to, the implementation of technology, Best-Practices, literacy, and aligning curriculum (see Library Menu).

The Santilli library will extend the hours of operation in order to support all stakeholders during the extended seven-hour day.

Research:

“The more that a child reads, the more he or she can read. Vocabulary skills get stronger, more intricate plots can be followed, and what once seemed a chore can soon be enjoyable.”

“Parents and teachers can promote literacy alongside technology.”

Reference:

Raab, R. (2010). Books and Literacy in the Digital Age. *American Libraries*, 41(8),

34-37.

“One of the cornerstones of No Child Left Behind is teaching children how to read. School libraries play a critical role by providing children with books and resources so that they can improve their reading skills and achieve at high levels”

Research:

Scholastic. (n.d.). *School Libraries Work!* Retrieved from

http://www2.scholastic.com/content/collateral_resources/pdf/s/sl3_2008.pdf

Research:

“School library media centers can contribute to improved student achievement by providing instructional materials aligned to the

curriculum; by collaborating with teachers, administrators, and parents; *and by extending their hours of operation beyond the school day.*"

—"Close Up: NCLB—Improving Literacy through School Libraries," NCLB The Achiever, September 15, 2004, Vol. 3, No 13.

"We live in the Information Age, and because we do, information literacy has become universal currency—the single common denominator required for success at any stage of life. This is especially true for our children who, now more than ever, must be equipped to access, use, and evaluate information competently in both print and electronic formats."

"Resource-rich school libraries and credentialed school librarians play key roles in promoting both information literacy and reading for information and inspiration. When staffed by qualified professionals trained to collaborate with teachers and engage students meaningfully with information that matters in the real world, school libraries become sophisticated 21st-century learning environments that offer equal opportunities for achievement to all students, regardless of the socio-economic or education levels of the community."

"This research foundation paper, updated from the 2006 edition of ***School Libraries Work!***, brings together position statements from a variety of organizations and findings from nearly two decades of empirical studies that cite the measurable impact school libraries and library media specialists have on student achievement. It includes excerpts from a Congressional presentation made by the National Committee on Libraries and Information Science in June 2007; the results of new studies from Delaware, Indiana, Wisconsin, and the Canadian province of Ontario; as well as new data, statistics, resources, and strategies to help principals, school board members, teachers, and library media specialists support and improve their library media centers."

"Since ***School Libraries Work!*** was first released in 2004, more than 200,000 copies have been distributed in print to school administrators across the country. As you will see, mounting evidence affirms that school libraries staffed by certified library media specialists **do** make a measurable difference on school achievement. Whether that achievement is measured by standardized reading achievement

scores or by global assessments of learning, school libraries and library media specialists are a powerful force in the lives of America's children."

"An abundance of evidence strongly supports the connection between student achievement and the presence of school libraries with qualified school library media specialists. When library media specialists work with teachers to support learning opportunities with books, computer resources, and more, students learn more, get better grades, and score higher on standardized test scores than their peers in schools without good libraries."

Research:

Scholastic. (n.d.). *School Libraries Work!* Retrieved from

http://www2.scholastic.com/content/collateral_resources/pdf/s/slw3_2008.pdf

"At the dawn of the 21st century, where knowledge is literally power, where it unlocks the gates of opportunity and success, we all have responsibilities as parents, as librarians, as educators, as politicians, and as citizens to instill in our children a love of reading so that we can give them a chance to fulfill their dreams. That's what all of you do each and every day, and for that, I am grateful." – President Barack Obama

"With proper support, funding, and training, you can turn your facility's academic center into a digital hub."

"The school library media center has one purpose: to support the curriculum of the school."

"Studies of test scores in many states, including my home state of Texas, have demonstrated that there is higher performance at all educational levels in schools with librarians than in schools without."

Researcher Kieth Lance concurs with these findings: Schools with higher rated libraries have 10 to 18 percent better test scores than those with lower rated libraries.”

Citation:

Menefee, M. (2009). The Changing Library. *American School Board Journal*, (196.8),

32-35. Retrieved from Academic Search Complete database.

***The Impact of Michigan School Librarians on Academic Achievement:
Kids Who Have Libraries Succeed***

Table B. School Library Predictors of MEAP Reading Scores by School Level

Variable	Elementary	Middle	High
School Library Staffing			
Librarian hours	■	■	■
Total staff hours	■	■	■
School Library Hours of Operation			
Weekly library hours	■		■
Hours available for flexible scheduling		■	■
Library Staff Activities			
Planning with teachers	■	■	
Teaching with teachers		■	
Teaching information literacy	■		
Providing in-service training to teachers		■	
Reading motivation	■		
Collection development	■		
Managing computer networks			■
Library meetings	■		
Information Resources			
Print volumes	■	■	■
Video materials	■	■	■
Audio materials	■		
Computer software	■		
Information Technology			
Library and school computers networked to library resources	■	■	■
School Library Usage			
Individual library visits		■	■
Group library visits	■	■	
Individual library visits for information literacy instruction	■		
Group library visits for information literacy instruction	■		
Circulation	■		
Library Operating Expenditures	■	■	■

As the following figure demonstrates, school libraries are complex. While school library staffing is the consistent factor from level to level, this study demonstrates that all aspects

of the school library—its hours of operation and availability, its staff, its collections and their usage—are intertwined in their impact on academic achievement.

Reference:

Rodney, M. J., Lance, K. C., & Hamilton-Pennell, C. (2003). *The Impact of Michigan School Librarians on Academic Achievement: Kids Who Have Libraries Succeed*. Retrieved from The Library of Michigan website:
http://www.michigan.gov/documents/hal_lm_schllibstudy03_76626_7.pdf

General Reference:

"Standards for the 21st-Century Learner," American Library Association, November 08, 2006.

<http://www.ala.org/ala/mgrps/divs/aasl/guidelinesandstandards/learningstandards/standards.cfm> (Accessed October 07, 2010)

Document ID: 248674

Raab, R. (2010). Books and Literacy in the Digital Age. *American Libraries*, 41(8), 34-37.

Several technology-based interventions will be implemented based on School Improvement Grant application. These include:

- 800 Apple iPads with Intervention Software
- 50 Classroom LCD projectors
- 40 TI 83 Set of Calculators for students to check out and for tutoring programs
- 2 TI Navigator 3
- CBR for 35 (calculator based ranger)
- Classroom sets of TI- Nspires – 7 sets
- Professional Development for TI-Nspire
- 50 Mimeos Smart White Board
- 50 Elmo Document Cameras

- 25 remote answer Clicker sets
- Flip cam and hand held video cameras in order to record lessons for self-evaluation and web based communication

Traditional Model

Our current school model was once established in order to provide content and expertise to a community that was simple and labor intensive. The primary purpose was to provide school-aged children a learning environment in which children are introduced to educational content and expertise in order to help further their life and others. These schools were set up in accordance to an industrial society with delivery of content and expertise in a face-to-face, systematic model. At the time, technologies only enabled children to physically attend school in order to interact and receive the information (content), as well as, interact with experts (teachers) in the field.

The traditional model has been time tested as our school aged children in the United States have only seen our achievement gap widen compared to other industrial countries school aged children. As a result, efforts through No Children Left Behind and a Nation at Risk have not significantly increase achievement and have left many students frustrated and disconnected. In addition, society has seen a dramatic economic downturn, as we are no longer a thriving industrial society. Furthermore local communities lack a sense of unity as many volunteer agencies lack youth involvement. Therefore, a change has to occur.

Shift of Thinking: Using Technology to Educate Children

Approximately 30 years ago, television became the revolutionary tool for learning among children for decades. Today, advances in technology allow us the same capabilities in revolutionizing education for today's generation. This proposal is a template of how a traditional school district could re-imagine and create their processes in order to better serve their students and community in a more efficient and effective manner.

How Do We Do On-line Learning?

Each student's computer and cell phone has the capabilities to become a personal learning tool in which students can create an on-line learning environment that is available outside the regular school day. As television delivered content right to family's homes, with the

use of computer, a school district is able to deliver and communicate with a student no matter where they are. No longer does school have to be the place in which a student comes to receive content or building professional and personal relationships. With today's technology and the evolution of Web 2.0, often teens have access to information and build relationships without being present.

Advantages of Using On-line Learning and Technology

Convenient learning

A mobile device allows a student to access, gather and process information outside school operation hours. Students would have access to school assignments and relevant school related information twenty-four hours a day and seven days a week rather than 7 a.m. To 3:30 p.m. for five days a week for 180 days. This increases the school hours of operation from 1098 hours a year to over 30,000 hours in which school is available.

Guaranteed Curriculum

Within a school day, teachers make numerous individual decisions about the delivery of curriculum. Within those decisions individual decisions lay personal opinions, strengths and weaknesses, and emotions. Often times a student gets a different experience based on what teacher they have. By automating the delivery of our curriculum, it guarantees exposure to a rigorous curriculum that has continuity and consistency.

Enable a Personalized Learning Experience

Not all students are alike; therefore, instruction should be adaptable to the individual learner. The connectivity through a computer helps students gain access to helpful resources that staff cannot attend to. By having the ability to include additional links through emails, teachers can reach the advanced student by offering more in depth analysis and the struggling student by offering services that enable special populations to thrive.

Automated the Delivery of Our Information

With the digitization of educational content, a school can use auto educational content delivery system. This automated process enables

a school to deliver an article, video, graph etc... right to our students 24 hours a day and 7 days a week. High school students and parents would have access to use it as an occasional reference and for additional review to help aid in recall, training and understanding. This automated delivery of content by web services such as i.e.. Constant Contact enables our school to develop consistent academic content without human or system variation. Once delivered directly to a student's email account, our staff can support them with additional services it in order to help fill in the gaps. The teachers would direct their attention on helping students solidifying their educational foundation. Teachers rather than being the "Sage on the stage" become the "Guide on the side". They no longer have to worry about getting through "all the content", but rather shift their focus on their student's learning and using their expertise in teaching students how to learn difficult concepts. In addition, by delivering a reading assignment, lecture, writing assignment etc... a school district controls the delivery of the content rather than leaving it up to the several individual teachers to figure it out. Furthermore, it effectively deals with employee absenteeism, lack of teacher preparedness and instructional bias. By gaining total control of the delivery of content, we can accurately evaluate all of our student's overall understanding of the state's required curriculum and pinpoint the support that our students desperately need.

Transforming from a Traditional to a Digital School Environment

In order to use the Internet effectively and maximize technological resources, digitizing our information from a traditional information source is the first step. By using such things as Google Wave, Google Groups, Google Docs, emails, links, Apple I-touch, cell phones, Windows Media Player versus books, overheads and movies allows us expand our learning opportunities and communications outside the regular school day. In addition, thousands of hours can be added to our regular school day. This practice enables our students to access their work despite being tardy, absent or having lost and missing assignments, and long-term suspension or disability. By having our content on the Internet enables us to be able to establish clear and consistent services. Instead of having seven variations of cell division given by seven different science teachers, a school would have just one. This multi-media presentation could be shown in multiple classrooms and available outside of school for staff and students. Students would also benefit when moving from class to class when their schedule changes and they could review for later reference. Not

only do students benefit, but schools would greatly benefit as well. School administrators and school improvement teams would be evaluating a constant variable rather than one that changes due to human strengths and choice. It would allow them to strategically add and/or take away components to their instructional information and services rather than having to help each staff deliver it consistently.

The iPad has tremendous educational resources available to every student. Clintondale High School wants to give each and every student the opportunity to have their education at their fingertips.

(See Appendix).

Education publisher [Houghton Mifflin Harcourt](#) has launched a new algebra curriculum delivery system for Apple's iPad. Dubbed "Fuse," the system is being piloted for a one-year period in middle schools in four California school districts.

Houghton Mifflin Harcourt said the *Fuse: Holt McDougal Algebra 1* app is the first full-year algebra curriculum application for the iPad. In addition to Holt McDougal content, the app's interactive tools provide feedback on practice questions, allow students to take notes and save them for later use, give students access to video-based lessons, and provide guided instruction. It also offers tracking tools focused on student comprehension, as well as real-time reporting tools for teachers.

HMH CEO Barry O'Callaghan said in a statement the new app "signals the beginning of a new era in curriculum development, where the goal is not just providing world-class content, but also delivering it in a variety of ways so that students and teachers can individualize the learning experience. We believe this pilot will provide the nation with a glimpse into the future of education."

[California Secretary of Education Bonnie Reiss](#) echoed O'Callaghan's sentiment, saying technology is helping to "transform education" and provide teachers with new tools for reaching students, adding, "This pilot project represents an important step toward embracing a more interactive learning environment that will help our fantastic teachers and school leaders meet the changing needs of California's students in the 21st Century economy."

However, if schools are to do a better job of educating every student, not just the students in the middle, then schools need to embrace the technology that allows for the “multiplication” of teachers in the classroom without having to pay the salary of extra educators. The iPad’s technology could easily allow for more individualized instruction and curriculum for every student. Students that struggle can get more guided practice and teachers could focus more energy on them, while the other students can work more independently as they work ahead to master the content. The students could also collaborate with their peers as they work through the curriculum. In this way the teacher begins to facilitate a more student-centered classroom instead of a teacher-center classroom built around lectures. Students would no longer become bored because they do not understand the material or because the teacher is going too slow. Education can truly become personalized. This can all be thanks, in part, to the iPad and the iPad app developers”

Clicker research:

Reference:

Filer, D. (July-August 2010). Everyone's answering: using technology to increase

classroom participation. *Nursing Education Perspectives*, 31, 4. p.247(4).

Retrieved October 07, 2010, from Educator's Reference Complete via Gale:

http://find.galegroup.com/gtx/start.do?prodId=PROF&userGroupName=lom_

accessmich

Findings:

“Background: Resembling a television remote control, the ARS device, commonly known as a clicker, allows students to answer questions by entering a response on a keypad. Entries are captured remotely by a computer, equipped with specialized software.

Questions can be presented to the class using the software or may be embedded in a PowerPoint lecture. Working independently or as groups, students may be asked to respond to multiple-choice or true/false questions, choose a position on a topic, or participate in a case study. For example, students provided with a scenario are asked to make decisions regarding priorities and appropriate delegation of clinical tasks."

"Use of the ARS actively involves students in the classroom. Students are required to commit to a response and to engage physically with the content as they enter answers via the keypad. Immediate anonymous feedback on the assessment of knowledge is possible, and students are able to determine how their responses compare with those of the class as a whole. If the student's response is correct, learning is reinforced. If the response is incorrect, the student may ask for clarification. During classroom presentations, the use of clickers heightens the learner's level of attention and interaction, and ultimately enhances the student's learning experience (Miller, Ashar, & Getz, 2003; Schackow, Chavez, Loya, & Friedman, 2004)."

"Discussion In this study, the use of clickers enhanced the students' emotional experiences in the classroom by promoting a sense of comfort, encouraging participation, and motivating students to answer questions correctly. Clickers can aid in the creation of classroom environments that are emotionally stimulating, and stimulation of good emotional responses is known to increase retention of information (Morris, 2004). Brookfield (1990) writes, "When students speak about learning, they do so in highly emotional terms" (p. 45)."

"In this study, the student's comfort level, or feelings of safety when responding to questions posed throughout the lecture, increased with the use of clickers. The anonymity of clicker responses allays fears of giving a wrong answer in front of peers or of expressing unpopular opinions (Morris, 2004). Students must feel they can take risks and make mistakes without penalty if learning is to occur. Even when the student's choice is incorrect, he or she may actually experience a sense of relief when aggregate data reveal others in the class have also not understood a concept."

"Students who used clickers were motivated to answer questions correctly. Motivation leads to increased effort as students concentrate their energy on the task at hand. Motivation helps students focus on content, increases memory, and enhances cognitive processing, all of which lead to improved performance."

“Participation levels increased when students used the ARS. While verbal feedback in response to classroom questions requires answers from only a single or a few students, electronic feedback promotes active participation among the entire class. Students are required to engage physically in the environment and are encouraged to process information independently and commit to an answer.”

“The use of clickers enhances the affective components of learning and transforms the lecture from a one-way method of communication to an interactive classroom.”

“When electronic feedback is used, the degree and accuracy of student recall and learning is immediate and quantifiable. This immediacy benefits both students and faculty and facilitates **formative classroom assessments**. As educators, we spend hours gathering informal or formative assessment information on student learning, only to become overwhelmed with the quantity of data. We are often data rich and analysis poor. Instructional changes, if made at all, may be implemented the following semester or academic year and then with an entirely different cadre of students. The immediate feedback and summary of data with wireless **technology** enable timely adjustments to content delivery and/or methods of instruction. Assessments gain efficiency and meaning as faculty shift focus, time, and energy to areas of student need.”

Technology:

Reference:

Extracurricular: for technologists who do their homework. July 2007
v34 i7 p50(1) *T H E*

Journal (Technological Horizons In Education), 34, 7. p.50(1). Retrieved October 07,

2010, from Educator's Reference Complete via Gale:

<http://find.galegroup.com/gtx/start.do?prodId=PROF&userGroupName=lom>

_accessmich

“The most dramatic finding is the growth in the percentage of Floydada ISD 10th-graders who passed the math and science sections of the TAKS. From 2005 to 2006, the percentage of students who passed TAKS math went up 36 points, while science saw a 34-point rise.”

iii. Describe how the school plans to adjust instruction based on progress monitoring and data results collected. Describe and name any local and national assessments used to measure student progress at each grade level.

Based on formative and summative assessments, MEAP, MME, PLAN, and Explore, the School Improvement Team, teachers, and a Data Intervention Specialist will ensure that student achievement will be monitored. All students will be given the Northwest Evaluation Association screening tool up to four times a year to monitor students' progress. The School Improvement Team aligned with the Data Intervention Specialist will make recommendations and adjust instruction as needed based on student achievement.

iv. Discuss how the school has a clearly defined procedure in place for writing a professional development plan that aligns to the National Staff Development Council (NSDC) Standards for Staff Development. (<http://www.nsd.org/standards/index.cfm>) that focuses on context standards. If the school or LEA does not have a professional development plan in place, describe the process and timeline for completing a professional development plan.

In 2009/2010, the staff and administration of Clintondale High School spent 114 days on professional development. These days included development and learning sessions at the MISD and other training sites. Five PD days were conducted at Clintondale High School based on technology, data, and student achievement. Our staff is dedicated to learning new practices and works closely with the MISD to enhance all areas of instruction. The professional development plan is aligned

for the context, process, and content standards as outlined by the National Development Council. These standards include:

Context Standards - Staff development that improves the learning of all students:

- Organizes adults into learning communities whose goals are aligned with those of the school and district. ([Learning Communities](#))
- Requires skillful school and district leaders who guide continuous instructional improvement. ([Leadership](#))
- Requires resources to support adult learning and collaboration. ([Resources](#))

Process Standards - Staff development that improves the learning of all students:

- Uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement. ([Data-Driven](#))
- Uses multiple sources of information to guide improvement and demonstrate its impact. ([Evaluation](#))
- Prepares educators to apply research to decision making. ([Research-Based](#))
- Uses learning strategies appropriate to the intended goal. ([Design](#))
- Applies knowledge about human learning and change. ([Learning](#))
- Provides educators with the knowledge and skills to collaborate. ([Collaboration](#))

Content Standards - Staff development that improves the learning of all students:

- Prepares educators to understand and appreciate all students, create safe, orderly and supportive learning environments, and hold high expectations for their academic achievement. ([Equity](#))
- Deepens educators' content knowledge, provides them with research-based instructional strategies to assist students in meeting rigorous academic standards, and prepares them to use various types of classroom assessments appropriately. ([Quality Teaching](#))
- Provides educators with knowledge and skills to involve families and other stakeholders appropriately. ([Family Involvement](#))

3. List the individuals and job titles of the central office and school personnel who will oversee the school receiving School Improvement Grant – Section 1003(g) funds. Include the percentage of time dedicated to oversight of the school.

The following staff members will oversee the SIG grant funds:

George Sassin	Superintendent of Schools	
Rob Smith	Finance Director	10%
	High School Principal	
Karen Hessler	District Administrator	33%

MDE Preferred Provider - The NCRESA has been approved as a SIG preferred provider. NCRESA staff will participate in all aspects of the SIG project as determined necessary by the Grant Superintendent of Schools.

4. Explain specific school improvement technical assistance and evaluation responsibilities needed. Include personnel responsible for coordinating such services.

In order to complete this school improvement process, technical assistance will be provided through the Macomb Intermediate School District. School improvement leaders will meet regularly with School Improvement consultant, Lisa Asaro while participating in the Facilitators of School Improvement program designed to provide teacher leaders with the skills necessary for meaningful and purposeful school improvement work.

Data Dialogues will assist Clintondale High School in “collaborative inquiry”. The real methodology for system change begins and ends with ongoing authentic dialogues about important questions, states Tony Wagner. This training will provide schools with data inquiry, mining and analysis steps that shift schools toward a data-centered focus. Using the MME, ACT, PLAN, and EXPLORE to conduct item analysis will serve to ground Clintondale High School in baseline and summative data. Clintondale High School will be able to make real time program and instructional decisions. This training will engage our staff in systemic, continuous improvement in the quality of the educational experience of students and to subject themselves to the discipline of measuring their success by the metric of student’s

academic performance. This is emphasized in the research practices of Richard F. Elmore.

Section IV: Fiscal Information

Individual grant awards will range from not less than \$50,000 to not more than \$2,000,000 per school, with grants averaging around \$500,000.

The MDE has asked for a waiver of section 421(b) of GEPA to extend the period of availability of the SIG funds, that waiver automatically applies to every LEA in the State seeking SIG funds. Accordingly, if an SEA is granted this waiver, an LEA must create a budget for the full period of availability of the funds, including the period granted by the waiver.

An SEA that requests a waiver of section 421(b) of GEPA to extend the period of availability of SIG funds may seek to make the funds available for up to two years beyond the regular period of availability. For example, without a waiver, FY 2009 SIG funds will be available until September 30, 2011. Through a waiver, those funds could be made available for up to two additional years – until September 30, 13.

USES OF FUNDS

School Improvement Grant – Section 1003(g) funds must be used to supplement the level of funds that, in the absence of the Title I monies, would be made available from non-federal sources for the education of children participating in Title I programs. Therefore, **funds cannot supplant non-federal funds or be used to replace existing services.**

Improvement funds must be tracked separately from the Title I Basic Grant and the Section 1003(a) School Improvement Grant. Local fiscal agents are to place improvement funds in a Title I account assigned for school improvement. (This funding number must not be the same number as is used for the Title I Basic Grant award or Section 1003(a) School Improvement Grant.)

Intensive monitoring of grant implementation and evaluation will be required.

Since these are school improvement funds, districts may not combine funds into one account, and the amount awarded to each school must be spent on implementing one of the four turnaround models at the school.

The CFDA (Code of Federal Domestic Assistance) Number for this grant is #84.377A; 84.388A.

For a listing of allowable uses of funds, go to the guidance document listed on the USED website.
<http://www2.ed.gov/programs/sif/applicant.html>

Section 4: Fiscal Information

Funding Sources for each Activity

Program	Support	Need	Cost	Yr. 2	Yr. 3	Inservice / Service Provider	Funding Source
Professional Development							
WEST ED Reading Apprentice	All Teachers	Curriculum	28320			WEST ED	Title 2A
Tool and Talk	All Teachers	PD	890	890		MISD	SIG
Northwest Evaluation software	All Teachers	Curriculum	11,900	11,900	11,900	Northwest	SIG
Professional Development for TI Inspires	Math Teachers	PD	3,000			Texas Inst.	Title 2A
Adaptive Schools Training	All staff	PD				Bruce Wellman and Robert Garmston/MISD	
Lenses on Learning		PD	1500	1500	1500	MISD	Title 2A
Principal Leadership Coach		PD	8500				Title 2A
Reading Interventions							
Read 180	Curriculum/Supplies/Software	Curriculum/Supplies/Software	38,320			Scholastic	SIG
Computers for Read 180	Tier II	Hardware	5,000			Apple	SIG
Corrective Reading	Tier III	Curriculum/Supplies/Software	35,863	13,333	10,093	SRA/McGraw Hill	SIG
Math Interventions							

Carnegie Cognitive Tutor	Multi- Tiered	Software	15,000			Carnegie	Carnegie	SIG
Accelerated Math	Tier III	Curriculum / Software	9,000				Renaissance Learning	SIG
Program	Support	Need	Cost	Yr. 2	Yr. 3		Inservice / Service Provider	
Behavior Support								
Challenge Day		Intervention	8,000	8,000	8,000		Challenge Day.org	SIG
Positive Behavior Support System		Intervention	4500	4500	4500		CCS	SIG
9th Grade Transition Activities		Intervention	3000	3000	3000		CCS	SIG
Parent Support Programs		Intervention	500	500	500		CCS	SIG
Technology								
50 LCD Projectors	Instructional Delivery Expand School Day	Hardware	25,000				Dell	SIG
50 Mimios Interactive Whiteboard	Instructional Delivery	Hardware	44,950				DYMO Office Solutions	SIG
50 Elmo Document Cameras	Instructional Delivery	Hardware	31,250				ELMO LTD	SIG
10 Classroom Assessment clicker sets	Continuous Assesemnt	Hardware	35,000				Turning Technologies	SIG
2 TI Navigator	Continuous Assesemnt	Hardware	25,600				Texas Instruments	SIG
TI Nspires - 7 sets	Continuous Assesemnt	Hardware	28966				Texas Instruments	SIG
50 LCD/TV 42 Inch for classrooms	Instructional Delivery	Hardware	30,000					SIG
7 Flip cameras for teacher filming/review/ 2 hand held cameras with tripods	PD/ Expand School Day and Opportunities	Hardware	2,500				ABC Warehouse	SIG
Computers for Literacy Lab	Lab for Tiered Programs	Hardware	25,000				Apple	SIG
Apple Wi-Fi Ipad (80-10 packs)(all students)	Expand Opportunities Personalize Learning	Hardware	446,400				Apple	SIG
Ipad Case-qty 800		Hardware	29,328				Apple	SIG
Bretford Ipad Mobility Cart-qty-35		Hardware	59,185				Apple	SIG
Teacher MacBook Pro-qty-60 (all teachers)	Expand Learning Lessons and Student Opportunities		65,818				Apple	SIG
MacBook Maintenance			10,321				Apple	SIG
MacBook Screen Upgrade			2,817				Apple	SIG
Apple Server (inc maint and install)		Hardware	17,888				Apple	SIG
Apple Server (inc maint and install)		Hardware	36,190				Apple	SIG
HS/Library Wireless Campus	Expand Learning Opportunities	Hardware	55,000				Apple	SIG
Intervention software for ipads (TBD)	Software/Applications		250,000				Apple	SIG
Personnel / Staffing								
Literacy Coach	Personnel	1.0 FTE	100,000	100,000	100,000		CCS	31A

Literacy Support Coaches	Personnel	1.0 FTE	50,000	50,000	50,000		CCS	SIG
Math Coach	Personnel	1.0 FTE	100,000	100,000	100,000		CCS	31A
Math Support Coaches	Personnel	1.0 FTE	50,000	50,000	50,000		CCS	SIG
Data Analyst/Instruction Technology Spec.	Personnel	1.0 FTE	150,000	150,000	150,000		CCS	SIG
Parent Support /.5 Social Worker	Personnel	0.5	50,000	50,000	50,000		CCS	SIG
Program director	Oversee program	0.33	45,000	45,000	45,000		CCS	SIG
Grant finance director	Oversee finance	0.1	15,000	15,000	15,000		CCS	SIG
Miscellaneous								
Free Credit Recovery	Expand Learning Opp.	Core Academic	11,000	8,000	6,000		E20/20	31A
Peer Tutoring		Incentives	2500	2500	2500		CCS	SIG
Summer Literacy / Academic Bootcamp	Expand Learning Opp.	9-12 grade	10,000	10,000	10,000		CCS	31A
Mobile Phone Credit Recovery	Expand School Day		15,000				Learncast.com	SIG
Financial Totals			1,993,006	624,123	617,993			
SIG			1,730,686	344,333	339,093			
General Fund								
Title IIA			41,320	1,500	1,500			
Title 1								
31A At - Risk			221,000	218,000	216,000			
			Year 1	Year 2	Year 3			
*Currently using: At-Risk Monies	2010/11	\$616,467						Will continue thru 2011/12

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LEA Application Part III

School funding allocations to major spending categories			
• School staff input on allocation			
• Approval of allocation			
• Change of allocation midyear			
Major contracts for goods and services			
• Approval process streamlined			
• Restrictions (e.g., amounts, vendors)			
• Legal clarifications			
• Process			
• Stipulations (e.g., targeted vs. unrestricted spending)			
• Timeline			
• Points of contact			
Auditing of school financial practices Process			
• Consequences			

*Modified from Making Good Choices – A Guide for Schools and Districts, NCREL, c2002, 1998

Surveys

2010 Parent Survey

Table 1: All things considered, what grade would you give your child's high school for the quality of education it is providing students?

	COUNTY	Clintondale High
# of respondents	2130	17
A	634 29.8%	- -
B	785 36.9%	5 29.4%
C	252 11.8%	4 23.5%
D	67 3.1%	2 11.8%

Fail	29 1.4%	1 5.9%
didn't say	363 17.0%	5 29.4%
ABOVE AVERAGE	1419 66.6%	5 29.4%
AVERAGE	252 11.8%	4 23.5%
BELOW AVERAGE	96 4.5%	3 17.6%

Table 2: My child tries hard to do his/her best in school.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	1003 47.1%	5 29.4%
agree (3.00)	830 39.0%	7 41.2%
disagree (2.00)	261 12.3%	5 29.4%
strongly disagree (1.00)	32 1.5%	- -
no response	4 0.2%	- -
AGREEMENT	1833 86.1%	12 70.6%
DISAGREEMENT	293 13.8%	5 29.4%
Mean	3.32	3.00

Table 3: Classes are challenging.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	578 27.1%	6 35.3%
agree (3.00)	1328 62.3%	5 29.4%
disagree (2.00)	191 9.0%	4 23.5%
strongly disagree (1.00)	21 1.0%	2 11.8%
no response	12 0.6%	- -
AGREEMENT	1906 89.5%	11 64.7%
DISAGREEMENT	212 10.0%	6 35.3%
Mean	3.16	2.88

Table 4: Teachers give extra help outside of class.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	449 21.1%	1 5.9%
agree (3.00)	1152 54.1%	10 58.8%
disagree (2.00)	392 18.4%	2 11.8%
strongly disagree (1.00)	108 5.1%	4 23.5%
no response	29 1.4%	- -
AGREEMENT	1601 75.2%	11 64.7%
DISAGREEMENT	500 23.5%	6 35.3%
Mean	2.92	2.47

Table 5: Teachers make topics interesting.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	228 10.7%	- -
agree (3.00)	1357 63.7%	9 52.9%
disagree (2.00)	427 20.0%	6 35.3%
strongly disagree (1.00)	62 2.9%	2 11.8%
no response	56 2.6%	- -
AGREEMENT	1585 74.4%	9 52.9%
DISAGREEMENT	489 23.0%	8 47.1%
Mean	2.84	2.41

Table 6: My child was well prepared to do this year's work.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	658 30.9%	3 17.6%
agree (3.00)	1146 53.8%	9 52.9%
disagree (2.00)	261 12.3%	5 29.4%
strongly disagree (1.00)	58 2.7%	- -
no response	7 0.3%	- -
AGREEMENT	1804 84.7%	12 70.6%
DISAGREEMENT	319 15.0%	5 29.4%
Mean	3.13	2.88

Table 7: Teachers expect students to do their best.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	923 43.3%	8 47.1%
agree (3.00)	1054 49.5%	6 35.3%
disagree (2.00)	126 5.9%	2 11.8%
strongly disagree (1.00)	19 0.9%	1 5.9%
no response	8 0.4%	- -
AGREEMENT	1977 92.8%	14 82.4%
DISAGREEMENT	145 6.8%	3 17.6%
Mean	3.36	3.24

Table 8: Students are honored for doing good work.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	558 26.2%	4 23.5%
agree (3.00)	1168 54.8%	6 35.3%
disagree (2.00)	324 15.2%	5 29.4%
strongly disagree (1.00)	49 2.3%	2 11.8%
no response	31 1.5%	- -
AGREEMENT	1726 81.0%	10 58.8%
DISAGREEMENT	373 17.5%	7 41.2%
Mean	3.06	2.71

Table 9: Standards are high enough.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	604 28.4%	4 23.5%
agree (3.00)	1175 55.2%	8 47.1%
disagree (2.00)	275 12.9%	3 17.6%
strongly disagree (1.00)	52 2.4%	2 11.8%
no response	24 1.1%	- -
AGREEMENT	1779 83.5%	12 70.6%
DISAGREEMENT	327 15.4%	5 29.4%
Mean	3.11	2.82

Table 10: My child knows why it's important to learn what is being taught.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	952 44.7%	6 35.3%
agree (3.00)	939 44.1%	8 47.1%
disagree (2.00)	195 9.2%	3 17.6%
strongly disagree (1.00)	35 1.6%	- -
no response	9 0.4%	- -
AGREEMENT	1891 88.8%	14 82.4%
DISAGREEMENT	230 10.8%	3 17.6%
Mean	3.32	3.18

Table 11: Textbooks and materials are up-to-date.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	510 23.9%	3 17.6%
agree (3.00)	1258 59.1%	5 29.4%
disagree (2.00)	263 12.3%	8 47.1%
strongly disagree (1.00)	61 2.9%	1 5.9%
no response	38 1.8%	- -
AGREEMENT	1768 83.0%	8 47.1%
DISAGREEMENT	324 15.2%	9 52.9%
Mean	3.06	2.59

Table 12: Homework helps reinforce what my child has learned in class.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	593 27.8%	6 35.3%
agree (3.00)	1256 59.0%	9 52.9%
disagree (2.00)	227 10.7%	2 11.8%
strongly disagree (1.00)	39 1.8%	- -
no response	15 0.7%	- -
AGREEMENT	1849 86.8%	15 88.2%
DISAGREEMENT	266 12.5%	2 11.8%
Mean	3.14	3.24

Table 13: My child cares about getting a good education.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	1148 53.9%	7 41.2%
agree (3.00)	788 37.0%	6 35.3%
disagree (2.00)	156 7.3%	3 17.6%
strongly disagree (1.00)	30 1.4%	1 5.9%
no response	8 0.4%	- -
AGREEMENT	1936 90.9%	13 76.5%
DISAGREEMENT	186 8.7%	4 23.5%
Mean	3.44	3.12

Table 14: School is preparing my child to live in today's world.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	643 30.2%	5 29.4%
agree (3.00)	1105 51.9%	6 35.3%
disagree (2.00)	289 13.6%	3 17.6%
strongly disagree (1.00)	72 3.4%	3 17.6%
no response	21 1.0%	- -
AGREEMENT	1748 82.1%	11 64.7%
DISAGREEMENT	361 16.9%	6 35.3%
Mean	3.10	2.76

Table 15: I have emphasized to my child the importance of additional education after high school.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	1756 82.4%	11 64.7%
agree (3.00)	365 17.1%	5 29.4%
disagree (2.00)	5 0.2%	1 5.9%
strongly disagree (1.00)	3 0.1%	- -
no response	1 0.0%	- -
AGREEMENT	2121 99.6%	16 94.1%
DISAGREEMENT	8 0.4%	1 5.9%
Mean	3.82	3.59

Table 16: The adults at school show respect for students.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	574 26.9%	5 29.4%
agree (3.00)	1199 56.3%	6 35.3%
disagree (2.00)	250 11.7%	3 17.6%
strongly disagree (1.00)	77 3.6%	3 17.6%
no response	30 1.4%	– –
AGREEMENT	1773 83.2%	11 64.7%
DISAGREEMENT	327 15.4%	6 35.3%
Mean	3.08	2.76

Table 17: Students generally get along with one another.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	308 14.5%	3 17.6%
agree (3.00)	1422 66.8%	5 29.4%
disagree (2.00)	314 14.7%	4 23.5%
strongly disagree (1.00)	69 3.2%	5 29.4%
no response	17 0.8%	– –
AGREEMENT	1730 81.2%	8 47.1%
DISAGREEMENT	383 18.0%	9 52.9%
Mean	2.93	2.35

Table 18: Students who get high grades are respected by other students.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	335 15.7%	5 29.4%
agree (3.00)	1229 57.7%	4 23.5%
disagree (2.00)	451 21.2%	6 35.3%
strongly disagree (1.00)	58 2.7%	2 11.8%
no response	57 2.7%	– –
AGREEMENT	1564 73.4%	9 52.9%
DISAGREEMENT	509 23.9%	8 47.1%
Mean	2.89	2.71

Table 19: Discipline rules are fair.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	431 20.2%	3 17.6%
agree (3.00)	1250 58.7%	5 29.4%
disagree (2.00)	307 14.4%	3 17.6%
strongly disagree (1.00)	122 5.7%	6 35.3%
no response	20 0.9%	– –
AGREEMENT	1681 78.9%	8 47.1%
DISAGREEMENT	429 20.1%	9 52.9%
Mean	2.94	2.29

Table 20: School rules are fairly applied to all students.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	355 16.7%	3 17.6%
agree (3.00)	1224 57.5%	5 29.4%
disagree (2.00)	383 18.0%	4 23.5%
strongly disagree (1.00)	127 6.0%	5 29.4%
no response	41 1.9%	- -
AGREEMENT	1579 74.1%	8 47.1%
DISAGREEMENT	510 23.9%	9 52.9%
Mean	2.87	2.35

Table 21: My child is not bullied by other students.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	586 27.5%	3 17.6%
agree (3.00)	1158 54.4%	10 58.8%
disagree (2.00)	277 13.0%	1 5.9%
strongly disagree (1.00)	95 4.5%	3 17.6%
no response	14 0.7%	- -
AGREEMENT	1744 81.9%	13 76.5%
DISAGREEMENT	372 17.5%	4 23.5%
Mean	3.06	2.76

Table 22: My child feels safe at school.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	522 24.5%	1 5.9%
agree (3.00)	1322 62.1%	10 58.8%
disagree (2.00)	215 10.1%	2 11.8%
strongly disagree (1.00)	58 2.7%	4 23.5%
no response	13 0.6%	- -
AGREEMENT	1844 86.6%	11 64.7%
DISAGREEMENT	273 12.8%	6 35.3%
Mean	3.09	2.47

Table 23: Teachers are fair in their use of the grading system.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	402 18.9%	3 17.6%
agree (3.00)	1398 65.6%	8 47.1%
disagree (2.00)	251 11.8%	4 23.5%
strongly disagree (1.00)	62 2.9%	2 11.8%
no response	17 0.8%	- -
AGREEMENT	1800 84.5%	11 64.7%
DISAGREEMENT	313 14.7%	6 35.3%
Mean	3.01	2.71

Table 24: Students respect each other, including those who are different.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	267 12.5%	1 5.9%
agree (3.00)	1043 49.0%	2 11.8%
disagree (2.00)	639 30.0%	8 47.1%
strongly disagree (1.00)	138 6.5%	6 35.3%
no response	43 2.0%	– –
AGREEMENT	1310 61.5%	3 17.6%
DISAGREEMENT	777 36.5%	14 82.4%
Mean	2.69	1.88

Table 25: Teachers keep me informed about how my child is doing in class.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	517 24.3%	4 23.5%
agree (3.00)	1019 47.8%	4 23.5%
disagree (2.00)	424 19.9%	5 29.4%
strongly disagree (1.00)	162 7.6%	4 23.5%
no response	8 0.4%	– –
AGREEMENT	1536 72.1%	8 47.1%
DISAGREEMENT	586 27.5%	9 52.9%
Mean	2.89	2.47

Table 26: This school is a supportive, inviting place to learn.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	490 23.0%	4 23.5%
agree (3.00)	1338 62.8%	6 35.3%
disagree (2.00)	208 9.8%	4 23.5%
strongly disagree (1.00)	72 3.4%	3 17.6%
no response	22 1.0%	- -
AGREEMENT	1828 85.8%	10 58.8%
DISAGREEMENT	280 13.1%	7 41.2%
Mean	3.07	2.65

Table 27: My child generally likes school.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	553 26.0%	3 17.6%
agree (3.00)	1258 59.1%	10 58.8%
disagree (2.00)	253 11.9%	3 17.6%
strongly disagree (1.00)	60 2.8%	1 5.9%
no response	6 0.3%	- -
AGREEMENT	1811 85.0%	13 76.5%
DISAGREEMENT	313 14.7%	4 23.5%
Mean	3.08	2.88

Table 28: Teachers care about my child as an individual.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	459 21.5%	5 29.4%
agree (3.00)	1220 57.3%	5 29.4%
disagree (2.00)	340 16.0%	2 11.8%
strongly disagree (1.00)	82 3.8%	4 23.5%
no response	29 1.4%	1 5.9%
AGREEMENT	1679 78.8%	10 58.8%
DISAGREEMENT	422 19.8%	6 35.3%
Mean	2.98	2.69

Table 29: The new graduation requirements will better prepare students for life after high school.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	679 31.9%	6 35.3%
agree (3.00)	1031 48.4%	9 52.9%
disagree (2.00)	321 15.1%	– –
strongly disagree (1.00)	81 3.8%	2 11.8%
no response	18 0.8%	– –
AGREEMENT	1710 80.3%	15 88.2%
DISAGREEMENT	402 18.9%	2 11.8%
Mean	3.09	3.12

Table 30: The school provides plenty of opportunities for parents to become involved in their child's education.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	416 19.5%	4 23.5%
agree (3.00)	1140 53.5%	6 35.3%
disagree (2.00)	468 22.0%	3 17.6%
strongly disagree (1.00)	83 3.9%	4 23.5%
no response	23 1.1%	- -
AGREEMENT	1556 73.1%	10 58.8%
DISAGREEMENT	551 25.9%	7 41.2%
Mean	2.90	2.59

Table 31: I expect my child to always do his/her best in school and I hold my child accountable when he/she doesn't.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	1489 69.9%	11 64.7%
agree (3.00)	622 29.2%	6 35.3%
disagree (2.00)	12 0.6%	- -
strongly disagree (1.00)	3 0.1%	- -
no response	4 0.2%	- -
AGREEMENT	2111 99.1%	17 100.0%
DISAGREEMENT	15 0.7%	- -
Mean	3.69	3.65

Table 32: My child was encouraged to participate in school activities outside of class.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	874 41.0%	7 41.2%
agree (3.00)	964 45.3%	7 41.2%
disagree (2.00)	246 11.5%	2 11.8%
strongly disagree (1.00)	38 1.8%	1 5.9%
no response	8 0.4%	- -
AGREEMENT	1838 86.3%	14 82.4%
DISAGREEMENT	284 13.3%	3 17.6%
Mean	3.26	3.18

Table 33: High school is preparing my child for further education after graduation.

	COUNTY	Clintondale High
# of respondents	2130	17
strongly agree (4.00)	890 41.8%	7 41.2%
agree (3.00)	1039 48.8%	7 41.2%
disagree (2.00)	146 6.9%	1 5.9%
strongly disagree (1.00)	41 1.9%	1 5.9%
no response	14 0.7%	1 5.9%
AGREEMENT	1929 90.6%	14 82.4%
DISAGREEMENT	187 8.8%	2 11.8%
Mean	3.31	3.25

Table 34: School:

	COUNTY	Clintondale High
# of respondents	2130	17
Clintondale	17 0.8%	17 100.0%

2010 Comparative Survey

Grade for the overall quality of education provided

	STUDENT		TEACHER		PARENT	
# of respondents:	18,748	201	1,184	21	2,130	17
A	17%	7%	23%	19%	30%	0%
B	50%	31%	49%	62%	37%	29%
C	22%	45%	16%	5%	12%	24%
D	4%	7%	2%	5%	3%	12%
Fail	2%	3%	0%	0%	1%	6%
didn't say	5%	5%	10%	10%	17%	29%

Percentage of respondents indicating agreement

	STUDENT		TEACHER		PARENT	
	County	School	County	School	County	School
RIGOR	18,748	201	1,184	21	2,130	17
1. Students try their hardest to do their best in school.	82%	82%	37%	19%	86%	71%
2. Classes are challenging.	68%	52%	84%	90%	89%	65%
3. Teachers give extra help outside of class.	75%	60%	96%	100%	75%	65%
4. Teachers make topics interesting.	47%	47%	98%	100%	74%	53%
5. Students were well prepared to do this year's work.	78%	75%	56%	48%	85%	71%
6. Teachers expect students to do their best.	91%	91%	99%	100%	93%	82%
7. Standards are high enough.	77%	50%	74%	71%	84%	71%

Percentage of respondents indicating agreement

	STUDENT		TEACHER		PARENT	
	County	School	County	School	County	School
RELEVANCE	18,748	201	1,184	21	2,130	17
8. Students know why it's important to learn what is being taught.	76%	85%	64%	67%	89%	82%

9. Textbooks and materials are up-to-date.	58%	41%	71%	71%	83%	47%
10. Homework helps reinforce what is learned in class.	72%	70%	93%	95%	87%	88%
11. Students care about getting a good education.	96%	96%	52%	33%	91%	76%
12. School is preparing students to live in today's world.	70%	68%	73%	76%	82%	65%
13. The importance of additional education has been emphasized.	87%	79%	99%	100%	100%	94%
14. The new graduation requirements will better prepare students for life.	64%	71%	61%	57%	80%	88%

Percentage of respondents indicating agreement

	STUDENT		TEACHER		PARENT	
	County	School	County	School	County	School
RELATIONSHIPS	18,748	201	1,184	21	2,130	17
15. Adults at school show respect for students.	70%	73%	95%	100%	83%	65%
16. Students generally get along with each other.	87%	73%	91%	95%	81%	47%
17. Students who get high grades are respected by other students.	55%	49%	80%	67%	73%	53%
18. Discipline rules are fair.	48%	49%	78%	86%	79%	47%
19. School rules are fairly applied to all students.	51%	48%	64%	71%	74%	47%
20. Students are not bullied by other students.	85%	77%	49%	76%	82%	76%
21. Students feel safe at school.	79%	63%	89%	100%	87%	65%
22. Teachers are fair in their use of the grading system.	71%	61%	99%	100%	85%	65%
23. Students respect each other, including those who are different.	37%	32%	68%	76%	62%	18%
24. Parents are kept informed of how their child is doing in class.	66%	47%	95%	95%	72%	47%
25. School is a supportive, inviting place to learn.	69%	54%	91%	95%	86%	59%
26. Students generally like school.	59%	61%	74%	67%	85%	76%

27. Teachers care about students as individuals.	69%	74%	99%	100%	79%	59%
28. Students are honored for doing good work.	61%	45%	93%	86%	81%	59%

Clintondale High School's Vision Statement

The vision of the Clintondale High School for the 21st century is to provide the opportunity for faculty, staff, parents and community to develop, through *positive* communication, a sense of ownership, spirit, and pride in the school. Not only must students be prepared academically; they must be nurtured with a sense of cultural awareness, which includes an appreciation of the arts, of tolerance, of diversity, and commitment to bettering their community.

Clintondale High School's Mission Statement

Preparing today's learners to be tomorrow's leaders

Clintondale High School Belief System

What is a Vision Statement? A statement of aspirations for Clintondale High School and the children, families and community *the schools* serve.

People

1. We have a school environment and culture that creates enthusiasm for learning, where all students embrace the value of learning for its own sake.
2. We reach out to ensure that our families and community have access and open communication at every level of the educational system.
3. We have teachers and staff who are empowered to:
 - Adapt to students' individual needs;
 - Utilize different instructional techniques and settings;
 - Create improved and innovative learning environments; and
 - Require the highest standards of work and discipline.
4. We have students, teachers and staff who are:
 - Recognized for their dedication and excellence;
 - Responsible for the development and wellness of the whole person;
 - Respected and valued for their input and creativity; and
 - Tolerant and sensitive to ethnic, cultural and individual differences.

5. We have a safe and orderly school where we share accountability among students, parents, teachers, support staff, administrators and board members for academic excellence and consistently enforced standards of conduct.
6. We have partnerships with families, government, businesses, churches and community organizations to promote superior academic and extra-curricular activities, placing children first.
7. We have mechanisms for honest and effective communication among students, families, teachers, support staff, administrators and board members.

Systems

1. We have learning systems that integrate technology to achieve better instruction.
2. We fully and creatively utilize facilities to support education, recreation and community activities.
3. We have an objective employment process that is aware of the need to hire highly qualified people of diverse backgrounds.
4. We provide creative and effective use of funding that is appropriate to accommodate student growth, quality standards and equitable educational opportunities.
5. We have effective methods for ongoing evaluation of all aspects of the school system.
6. We have schools that reflect the highest standards of work, discipline and values.

Standards, Practices and Outcomes

1. We have educational opportunities that are diverse, rigorous, challenging and fair.
2. We aspire to standards of our students' educational achievement that are second to none.
3. We graduate responsible and productive citizens.

School Data Profile

School Code: 50070

School: Clintondale High School

Principal: Greg Green

Person/Group completing the comprehensive needs assessment:
Janeen DenBaas, Robert Dameron

Date: October 4, 2010

Data Point One: DEMOGRAPHICS

School and Student Demographic Data and Information

A. Enrollment:

1. What grade levels are taught in this school? **9-12**
2. What is the current school enrollment? **728**
3. What has been the enrollment trend for the past five (5) years?

_____ Increasing _____ Stable X Decreasing

Grade	'08 / '09		'07 / '08		'06 / '07		'05 / '06		'04 / '05	
	#	%	#	%	#	%	#	%	#	%
09	205	-10.9	157	-12.8	228	-1.7	178	23.6	199	-12.3
10	198	-9.6	207	3.5	218	9.5	219	-4.8	216	-6.9
11	220	6.3	219	0.5	200	-8.7	199	-7.9	230	10.0
12	175	11.5	230	0.9	180	1.1	232	16.6	144	-10.6
Total	798	-1.8	813	-1.6	826	-0.2	828	4.9	789	-4.8

09/10	#	%
9 th	177	
10 th	185	
11 th	189	
12 th	177	

4. When looking at sub-groups, has the percentage of students from any group changed by more than 5% over the past five years?

Yes

4a. If yes, for which sub-group(s)? **African American, Hispanic, White**

Subgroup	'08 / '09		'07 / '08		'06 / '07		'05 / '06		'04 / '05	
	#	%	#	%	#	%	#	%	#	%
American Indian	1	0.0	1	0.0	1	-66.7	3	50.0	2	0.0
Asian	24	-20.0	30	0.0	30	-9.1	33	-5.7	35	2.9
African American	447	10.9	403	4.7	385	12.9	341	15.6	295	1.4
Hispanic	9	80.0	5	-50.0	10	11.1	9	12.5	8	-33.3
White	310	-14.6	363	-5.7	385	-11.1	433	-3.1	447	-8.8
Native Hawaiian	6	-33.3	9	12.5	8	-11.1	9	350.0	2	
Multiracial	1	-50.0	2	-71.4	7		0		0	
Total	798	-1.8	813	-1.6	826	-0.2	828	4.9	789	-4.8

09/10

American Indian 0
Asian 16
African American 437
Hispanic 10
White 258
Native Hawaiian 0
Multiracial 3
Total 728

Summary of Enrollment Data and Information:

1. After reviewing the information on enrollment, what patterns or trends in enrollment can be identified?

Enrollment decreased from 834 in 08/09 to 728 in 09/10

2. After reviewing the changes in the school enrollment trends, what implications do the data present for the school in the following areas: staffing, fiscal resource allocations, facility planning, parent involvement, professional development, advertisement, recruitment, etc.?

Downsizing in staffing occurred

Low funds for professional development

Advertising on the rise

B. Staff:

Using the charts provided, answer the following questions:

1. What is the average number of years teachers in this school have been teaching? **14.9**
2. What is the average number of years current teachers have been assigned to this school? **12-15**

Questions	# Teachers	0-3 years	4-8 years	9-15 years	>15 years
1. Indicate how long teachers have been teaching.	14.9	0	8	24	9
2. Indicate the number of years, each of the teachers has been assigned to this school.	11.4	9	3	24	5

3. For the teachers in this school, during the past school year how many teachers have been absent? (Absences that result in a sub-teacher being assigned to the classroom.)

0-3 days	4-5 days	5-10 days	10 or more days
2	6	11	28

4. Indicate the number of teachers by grade level who meet the federal Highly Qualified and state Teacher Certification requirements for grade/subject area assignments.

Grade/Subject Area	Total Number of teachers in grade/subject	% who meet Criteria	% who do not meet criteria
	41	100%	

5. How long has the administrator(s) been assigned to this school?

Principal	8
Assistant Principal	21
Assistant Principal	

C. Parent/Community:

1. Describe/list the types of family/community participation/engagement that are in place to support student achievement that are:

- Designed to encourage two way communication
- Designed as one way communication only
- Designed to actively involve parents/community in the decision making at the building
- Designed to actively involve parents/community in student learning

Blogs, twitter, email, phone, pt conferences, board meetings, PFS, Communicator

2. Does the school have a current parent/teacher compact for each student? (Required for Federal Funds...Title I).
NA

3. Using the following chart, how has parent/guardian attendance at parent-teacher conferences changed over the last five years?

Group	Parent Conference Attendance									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	#	%	#	%	#	%	#	%	#	%
Economically disadvantaged	NA									
Race/Ethnicity	NA									
Students with Disabilities										
Limited English Proficient (LEP)										
Homeless										
Neglected & Delinquent										
Migrant										
Gender										
Male										
Female										

Summary of School Demographic data and Information

1. Based on the staff discussions about the data contained in the sample charts, are there any areas of concern noted? **YES**
2. If yes, what are the areas of concerns? Based on changing demographics, our school enrollment is declining.
3. After discussion about these areas of concerns, what possible causes for the problems were identified? Students traveling great distances to school

Summary of School Enrollment, Staffing and Parent/Community: concerns factors, and actions: Use the following chart to list your responses.

Area(s) of Concern Noted	Factors identified that contribute to concern	Possible action(s)
Retention	Course offerings	Economy/dual enrollment

Failure rate	Attendance/skill level	Academic center
Reduction in diversity	Gain in one ethnicity/drop in enrollment	Increase enrollment

Data Point Two: Performance Data

Michigan AYP Targets

As the school reviews student academic achievement data, the following table provides the Michigan AYP Targets for the percent of students scoring in the proficient category of the MEAP/MME tests.

*for students with significant or multiple impairments, please refer to MI-Access results

Category	Level 1	Level 2	Level 3	Level 4	Number Met	Not Met	Total Students
08-09 School	0 (0%)	53 (26%)	108 (52.9%)	43 (21.1%)	53 (26%)	151 (74%)	204
07-08 School	0 (0%)	49 (27.1%)	90 (49.7%)	42 (23.2%)	49 (27.1%)	132 (72.9%)	181
06-07 School	1 (0.6%)	53 (30.3%)	79 (45.1%)	42 (24%)	54 (30.9%)	121 (69.1%)	175
08-09 District	0 (0%)	53 (22.9%)	109 (47.2%)	69 (29.9%)	53 (22.9%)	178 (77.1%)	231
07-08 District	1 (0.5%)	50 (23.9%)	103 (49.3%)	55 (26.3%)	51 (24.4%)	158 (75.6%)	209
06-07 District	1 (0.6%)	54 (30.3%)	80 (44.9%)	43 (24.2%)	55 (30.9%)	123 (69.1%)	178
08-09 ISD	217 (2%)	5199 (48.9%)	3989 (37.5%)	1234 (11.6%)	5416 (50.9%)	5223 (49.1%)	10639
07-08 ISD	166 (1.6%)	5381 (51.9%)	3633 (35%)	1195 (11.5%)	5547 (53.5%)	4828 (46.5%)	10375
06-07 ISD	117 (1.1%)	5037 (48.8%)	3951 (38.3%)	1220 (11.8%)	5154 (49.9%)	5171 (50.1%)	10325
08-09 State	3789 (3.2%)	59847 (50.6%)	40806 (34.5%)	13933 (11.8%)	63636 (53.8%)	54739 (46.2%)	118375
07-08 State	2888 (2.4%)	61299 (51.5%)	39907 (33.5%)	14943 (12.6%)	64187 (53.9%)	54850 (46.1%)	119037
06-07 State	2346 (2%)	59464 (50.6%)	41993 (35.7%)	13662 (11.6%)	61810 (52.6%)	55655 (47.4%)	117465

MEAP Assessment Test Item Analysis

The following charts are samples of reports that look at how students across the district are scoring on the MEAP/MME test items. These charts can compare schools within the district, and the district to the state. Websites for these charts are listed.

A review of the school overall performance on these test items can assist in determining if there are areas of concern with the school's instructional program, or within the district's curriculum.

Student Performance Data

MME 2007: CLINTONDALE HIGH SCHOOL

	Math	Reading	Science	Social Studies	Writing	ELA
Level 1: Advanced	4	1	1	31	0	1
Level 2: Proficient	33	76	65	83	34	53
Level 3: Partially Proficient	25	50	33	46	109	79
Level 4: Not Proficient	119	54	81	17	32	42
Met or Exceeded	37	77	66	114	34	54
Not Met	144	104	114	63	141	121
Number Included	181	181	180	177	175	175
Number Tested	181	181	180	177	175	175

Note: High school scores are number of students, not percentages.

* = Fewer than 10 students included.

N/A = Not Applicable.

MME 2008: CLINTONDALE HIGH SCHOOL

	Math	Reading	Science	Social Studies	Writing	ELA
Level 1: Advanced	2	1	3	29	0	0
Level 2: Proficient	32	63	53	84	36	49
Level 3: Partially Proficient	34	62	39	48	110	90
Level 4: Not Proficient	112	57	86	23	35	42
Met or Exceeded	34	64	56	113	36	49
Not Met	146	119	125	71	145	132
Number Included	180	183	181	184	181	181
Number Tested	180	183	181	184	181	181

Note: High school scores are number of students, not percentages.

* = Fewer than 10 students included.

N/A = Not Applicable.

MME 2009: CLINTONDALE HIGH SCHOOL

	Math	Reading	Science	Social Studies
Level 1: Advanced	6	1	3	35
Level 2: Proficient	45	75	66	94
Level 3: Partially Proficient	31	68	30	40
Level 4: Not Proficient	126	65	109	39
Met or Exceeded	51	76	69	129
Not Met	157	133	139	79
Number Included	208	209	208	208
Number Tested	208	209	208	208

Note: High school scores are number of students, not percentages.

* = Fewer than 10 students included.

N/A = Not Applicable.

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MME READING

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1077)	(1078-1099)	(1100-1157)	(1158-1250)	(1100-1250)
2009	209	1087	1085-1089	31%	33%	36%	0%	36%
2008	183	1087	1082-1092	31%	34%	34%	1%	35%
2007	181	1090	1086-1094	30%	28%	42%	1%	43%

MME WRITING

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1050)	(1051-1099)	(1100-1145)	(1146-1250)	(1100-1250)
2009	206	1073	1070-1076	15%	64%	21%	0%	22%
2008	181	1073	1068-1078	19%	61%	20%	0%	20%
2007	175	1073	1068-1078	18%	62%	19%	0%	19%

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MME TOTAL ENGLISH LANGUAGE ARTS

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1064)	(1065-1099)	(1100-1151)	(1152-1250)	(1100-1250)
2009	204	1081	1079-1083	21%	53%	26%	0%	26%
2008	181	1081	1077-1085	23%	50%	27%	0%	27%
2007	175	1082	1078-1086	24%	45%	30%	1%	31%

* Includes students who received valid scores.
 ** This is the likely range within which the true mean scale score would fall for the students listed on this report.

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MME MATHEMATICS

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1088)	(1089-1099)	(1100-1127)	(1128-1250)	(1100-1250)
2009	208	1072	1069-1075	61%	15%	22%	3%	25%
2008	180	1075	1070-1080	62%	19%	18%	1%	19%
2007	181	1076	1072-1080	66%	14%	18%	2%	20%

MME SCIENCE

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1086)	(1087-1099)	(1100-1142)	(1143-1250)	(1100-1250)
2009	208	1079	1076-1082	52%	14%	32%	1%	33%
2008	181	1081	1075-1087	48%	22%	29%	2%	31%
2007	180	1085	1079-1091	45%	18%	36%	1%	37%

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MME SOCIAL STUDIES								
Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1085)	(1086-1099)	(1100-1128)	(1129-1250)	(1100-1250)
2009	208	1108	1106-1110	19%	19%	45%	17%	62%
2008	184	1109	1106-1112	13%	26%	46%	16%	61%
2007	177	1109	1106-1112	10%	26%	47%	18%	64%

Due to rounding, percents might not total 100%

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SCHOOL SUMMARY REPORT

Students with Disabilities

Grade 11

Spring

2009

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MME READING

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1077)	(1078-1099)	(1100-1157)	(1158-1250)	(1100-1250)
2009	25	1035	1027-1043	92%	4%	4%	0%	4%
2008	20	1033	1017-1049	95%	0%	5%	0%	5%
2007	19	1062	1045-1079	68%	16%	16%	0%	16%

MME WRITING

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1050)	(1051-1099)	(1100-1145)	(1146-1250)	(1100-1250)
2009	22	1022	1012-1032	73%	27%	0%	0%	0%
2008	18	1021	1004-1038	72%	28%	0%	0%	0%
2007	17	1028	1011-1045	71%	29%	0%	0%	0%

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MME TOTAL ENGLISH LANGUAGE ARTS

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1064)	(1065-1099)	(1100-1151)	(1152-1250)	(1100-1250)
2009	21	1030	1022-1038	86%	14%	0%	0%	0%
2008	18	1030	1017-1043	89%	11%	0%	0%	0%
2007	17	1048	1034-1062	76%	12%	12%	0%	12%

* Includes students who received valid scores.
 ** This is the likely range within which the true mean scale score would fall for the students listed on this report.

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MME MATHEMATICS

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1088)	(1089-1099)	(1100-1127)	(1128-1250)	(1100-1250)
2009	24	1005	996-1014	96%	4%	0%	0%	0%
2008	18	1031	1015-1047	89%	11%	0%	0%	0%
2007	19	1047	1032-1062	100%	0%	0%	0%	0%

MME SCIENCE

Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1086)	(1087-1099)	(1100-1142)	(1143-1250)	(1100-1250)
2009	23	1042	1032-1052	87%	13%	0%	0%	0%
2008	18	1042	1021-1063	89%	6%	6%	0%	6%
2007	19	1057	1039-1075	79%	0%	21%	0%	21%

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MME SOCIAL STUDIES								
Year	* No. of Students Assessed	Scale Score		Performance Levels				
		Mean	** Margin of Error	4-Not Proficient	3-Partially Proficient	2-Proficient	1-Advanced	Levels 1 & 2
Scale Score Range		(950-1250)		(950-1085)	(1086-1099)	(1100-1128)	(1129-1250)	(1100-1250)
2009	24	1079	1075-1083	71%	17%	13%	0%	13%
2008	20	1085	1078-1092	55%	30%	15%	0%	15%
2007	18	1092	1083-1101	33%	33%	28%	6%	33%

Due to rounding, percents might not total 100%

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The above sample chart is available to schools in the pilot sites only.

Using information gathered about how students in the school are doing on skills that are tested on the MEAP/MME, discuss the following:

1. What skill area(s) is the school doing well on? **Social Studies**
2. When comparing the school with the district and state, which skills would the staff identify as a challenge area for the school? **ALL**
3. When reviewing the district curriculum, where are these skills taught? **Core Classes**
4. When reviewing the school instructional program, are these skills being taught at the appropriate grade level? **YES**
5. How can this information be used for curriculum, instructional and remediation purposes?

Transformation of curriculum. Developing intervention programs for reduced skill level students.

Grade Level Achievement –School Level Data – All Students

Year:

Grade Level Achievement - School Level Data - All Students

ISD: Macomb ISD
District: Clintondale Community Schools
School: Clintondale High School

'08 - '09 School Year '07 - '08 School Year '06 - '07 School Year

Grade	ACS **	% HQ ***	ELA *		Math *		Science *		Social Studies *	
			#	%	#	%	#	%	#	%
06	-	-	-	-	-	-	-	-	0	0.0
09	-	-	-	-	-	-	-	-	89	48.6
11	-	-	53	26.0	51	24.5	69	33.2	129	62.0
12	-	-	2	33.3	2	33.3	0	0.0	2	33.3

* - % of population demonstrating proficiency of GLCE/HSCE
** - ACS - Average Class Size
*** - Highly Qualified as defined by NCLB or State Teacher Certification Requirements

**ACS – Average Class Size

*** Highly Qualified as defined by NCLB or State Teacher Certification Requirements

1. What additional data sources (other than MEAP/MME) were used to inform decision making about student achievement? Examples include: formative tests, other forms of norm/criterion referenced tests, end of course exams, MI-Access, ELPA (English Language Proficiency Assessment), curriculum based measures, etc.

Common Assessments, formative tests, course exams, informative/formative classroom assessments

- ___ DD
- ___ D4SS
- ___ Power School
- ___ SASI
- ___ School Brings

Continuity of Instructional Program

The are students who have been in school for their entire instructional program.

Students	Grade levels in the School	# of Students	% of students proficient			
			ELA	Math	Social Studies	Science
Students who have been in school for all grades taught	9-12		26%	25%	62%	33%
Students who have not been in school for all grades taught	9-12					

Using the information gathered about the school's instructional program, discuss the following:

1. What data/information (other than MEAP/GLCE or MME/HSCE) does the school use to measure student achievement at each grade level? **Data director ,10 week assessments**
2. What are the criteria for student success at each grade level?
3. How has student achievement changed over the last 3 years? **ELA down, Math on the rise, SS constant, Science in the rise**

4. What examples of *outcome indicators* have been developed for analysis of writing, reading, science, math, and social studies? **The use of Data Director, 10 week assessments**
5. What examples of demographic indicators have been developed for analysis of writing, reading, science, math, and social studies?
6. What *process indicators* have been developed for analysis of writing, reading, science, math, and social studies? assessments
7. Which grade level(s) is not meeting the criteria for grade level proficiency and would be identified as a challenge area by the staff? **9th grade**
8. For any grade level identified as a challenge, after reviewing the data and information, what has the staff determined to be a leading cause for any challenge identified? **Lack of study skills, no problem-solving skills**
9. For any grade level identified as a challenge area, what impact, if any, could teacher absences that resulted in significant interruption in instruction be a factor. (Be sure to track teacher absences back to prior grades). **No...professional development only enhances the instruction**

Use the following chart to organize any challenge and causal factors identified.

Grade Level	Challenge Identified	Factors Identified
9th	Study skills	Prior education, Parental Involvement

Sub Group Analysis

Grade: Percent of Sub-group meeting State Proficiency Standards

Student Group	School Year	School Percent of Students Proficient & Advanced	District Percent of Students Proficient & Advanced	State Percent of Students Proficient & Advanced	Percent Not Tested in School	Advanced Level 1	Proficient Level 2	Basic Level 3	Below Basic Level 4
All	2006-2007	42.60%	43%	60%		0.60%	42%	27.60%	29.80%
All	2007-2008	34.90%	32%	62%		0.50%	34.40%	33.90%	31.10%
All	2008-2009	36.40%	33%	60%		0.50%	35.90%	32.50%	31.10%
Am Ind/AK Native	2007-2008	0%	0%	56%		0%	0%	100%	0%
Asian or Pac. Isl.	2006-2007	44.40%	44%	65%		0%	44.40%	33.30%	22.20%
Asian or Pac. Isl.	2007-2008	50%	50%	69%		0%	50%	31.20%	18.80%
Asian or Pac. Isl.	2008-2009	50%	50%	67%		0%	50%	25%	25%
Black	2006-2007	31.70%	32%	32%		0%	31.70%	26.80%	41.50%
Black	2007-2008	24.70%	21%	34%		0%	24.70%	40.70%	34.60%
Black	2008-2009	27.30%	23%	33%		0%	27.30%	32.20%	40.50%
Hispanic	2006-2007	0%	0%	44%		0%	0%	0%	100%
Hispanic	2008-2009	40%	40%	45%		0%	40%	40%	20%
White	2006-2007	52.80%	53%	66%		1.10%	51.70%	28.10%	19.10%
White	2007-2008	42.40%	42%	68%		1.20%	41.20%	27.10%	30.60%
White	2008-2009	49.40%	49%	66%		1.30%	48.10%	32.90%	17.70%
EDD	2006-2007	29.40%	29%	40%		0%	29.40%	30.90%	39.70%
EDD	2007-2008	26.20%	26%	43%		0%	26.20%	36.20%	37.50%
ELL	2006-2007	0%	0%	15%		0%	0%	0%	100%
Male	2006-2007	39.80%	40%	56%		1.20%	38.60%	27.70%	32.50%
Male	2007-2008	39.30%	36%	58%		1.10%	38.20%	28.10%	32.60%
Male	2008-2009	32.40%	29%	56%		0.90%	31.50%	36.10%	31.50%
Female	2006-2007	44.90%	45%	64%		0%	44.90%	27.60%	27.60%
Female	2007-2008	30.90%	28%	66%		0%	30.90%	39.40%	29.80%
Female	2008-2009	40.60%	38%	64%		0%	40.60%	28.70%	30.70%
SWD	2006-2007	15.80%	16%	49%		0%	15.80%	15.80%	68.40%
SWD	2007-2008	5%	5%	37%		0%	5%	0%	95%
SWD	2008-2009	4%	4%	79%		0%	4%	4%	92%
FLEP	2006-2007	0%	0%	38%		0%	0%	0%	100%

Percent Not Tested in School	Advanced Level 1	Proficient Level 2	Basic Level 3	Below Basic Level 4
	0.60%	42%	27.60%	29.80%
	0.50%	34.40%	33.90%	31.10%
	0.50%	35.90%	32.50%	31.10%
	0%	0%	100%	0%
	0%	44.40%	33.30%	22.20%
	0%	50%	31.20%	18.80%
	0%	50%	25%	25%
	0%	31.70%	26.80%	41.50%
	0%	24.70%	40.70%	34.60%
	0%	27.30%	32.20%	40.50%
	0%	0%	0%	100%
	0%	40%	40%	20%
	1.10%	51.70%	28.10%	19.10%
	1.20%	41.20%	27.10%	30.60%
	1.30%	48.10%	32.90%	17.70%
	0%	29.40%	30.90%	39.70%
	0%	26.20%	36.20%	37.50%
	0%	0%	0%	100%
	1.20%	38.60%	27.70%	32.50%
	1.10%	38.20%	28.10%	32.60%
	0.90%	31.50%	36.10%	31.50%
	0%	44.90%	27.60%	27.60%
	0%	30.90%	39.40%	29.80%
	0%	40.60%	28.70%	30.70%
	0%	15.80%	15.80%	68.40%
	0%	5%	0%	95%
	0%	4%	4%	92%
	0%	0%	0%	100%

www.mi.gov/MEAP - click on MEAP Test Results - (you must be an authorized user)

Using formation from the above charts for Sub-group data, answer the following questions:

1. Based on MEAP/MME reports, which of the sub-groups are **not** at/or above the current state AYP content area targets? **ALL**
2. Are any of the sub-groups scoring more than 10 percentage points lower than the current state AYP targets? **ALL**
3. Based on the staff's review of these data and information, what has the school staff determined to be the contributing cause(s) for the gaps?

Lack of baseline fundamentals previous to entering HS

4. What trends have been identified when looking at the 3 years of MEAP/MME of data?

Slight variations and fluctuations in scores

5. Were there any discrepancies between the sets of data? If so:
 - How do additional data sources compare?
 - Are the data from the additional data sources congruent with MEAP/MME results?
 - What discrepancies were noted?
 - How are these different data sources used for planning purposes?
 - How does staff collaboratively analyze student work?

Review of Special Education Population

Students with Disabilities Group Demographics
www.mi.gov/MEAP - click on MEAP Test Results)

Review of Special Education Population

Students Taking the MEAP/MME

Sub-group: Students with Disabilities (use ed settings data from MI- CIS)	Total # of Students In Group	% of Total District Population	% of Students Scoring in Each Category											
			ELA			Math			Science		Soc.Stu.			
			B	P	A	B	P	A	B	P	A	B	P	A
Instructed in General Education Setting 80% or more	151	13.48	10	21	69	6	22	72	15	19	56	20	21	69
Instructed in general Education Setting 79- 40%	130	11.60	18	31	51	9	19	72	18	22	60	23	26	51
Instructed in general education <40%	52	4.6	23	35	42	17	16	67	23	28	49	27	28	45
MEAP A= Levels 1 & 2 P= Level 3 B=level 4														

Note: B=Basic, P=Proficient, A=Advanced
www.michigan.gov/MEAP - click on MEAP Test Results)

A. MEAP Analysis Questions

1. How many students with disabilities in the school participate in the MEAP/MME testing (number enrolled vs. number participating)?

436/434

2. What percentage of students took MI-Access/MEAP-Access or other modified test?

< 1%

3. Are there any grade levels, subject areas, or disability groups with significant changes in their MEAP/Mi-Access performance over the past 3 years? If there are significant changes in performance, why?

NO

4. Is there a difference in performance between students who receive content instruction in general education settings and those who receive content instruction in special education settings? If there is a difference in performance, why?

Apparently, exposure to the MME Curriculum in regular education setting with accommodations results in an increase in student scores.

B. Curriculum/Delivery

<input type="checkbox"/>	DD
<input type="checkbox"/>	D4SS
<input type="checkbox"/>	Power School
<input type="checkbox"/>	SASI
<input checked="" type="checkbox"/>	School Brings

1. What is your school's identification rate for students with disabilities? How does this compare to the overall identification rate in your district?
 - a. How does your school identification rate for any specific disability category differ from your district's identification rate? (Refer to MI-CIS data). No significant differences identified. Four out of five are below state averages.
 - b. Is there over or under representation of racial/ethnic groups in your school's special education programs? NO
 - c. Are there differences in achievement between racial/ethnic groups for students with disabilities? YES

2. For students not receiving instruction in general education setting, what curriculum is used and how is it aligned with the State Grade Level Content Expectations/High School Content Expectations, and/or Extended Grade-level Content Expectations?

It is the same curriculum with accommodations.

3. How are services provided that will help the student become successful in the general education setting? For example:

Co-Teaching	•
Differentiated instruction	•
Supplementary aids and services	•
Peer tutoring	Limited
Additional interventions	•

4. How do you ensure that students with disabilities have access to the full array of intervention programs (Title 1, Title III, Section 31a, credit recovery programs, after-school programs, etc.)? Comprehensive referral. Evaluation, and service delivery systems.

X	DD
—	D4SS
—	Power School
—	SASI
—	School Brings

Limited English Proficient Group Demographics

Using these sample charts, list which languages are included in the school’s LEP sub-group.

MEAP/MME

Student Name	Student ID	Teacher ID	08-09 Comprehension Scaled Score	08-09 Comprehension Rawscore
Carmona, Luz Irene	5.96E+08	0	69	22
Kerhoni, Renata	4.57E+09	0	62	11
Mirkajlovic, Alberto	1.84E+08	0	65	17
Petrovic, Petar	2.91E+09	0	66	18
Thao, Bee	1.01E+09	0	65	16
Thao, Chee	1.93E+09	0	67	20

LEP

Student Name	Student ID	Teacher ID	08-09 ELPA Form	08-09 LEP Audio Tape	08-09 LEP CD	08-09 LEP Read
Carmona, Luz Irene	5.96E+08	0	1	0	0	1 N/A
Kerhoni, Renata	4.57E+09	0	1	0	0	1 N/A
Mirkajlovic, Alberto	1.84E+08	0	1	0	0	1 N/A
Petrovic, Petar	2.91E+09	0	1	0	0	1 N/A
Thao, Bee	1.01E+09	0	1	0	0	1 N/A
Thao, Chee	1.93E+09	0	1	0	0	1 N/A

(www.mi.gov/MEAP - click on MEAP Test Results)

Discussion for LEP Sub-group analysis:

1. For each language group, what is the percent of students in the language group who are not at/or above the current state standard for each content area? **ALL**
2. How are each of the language groups achieving in comparison to the school aggregate?
3. Are any of the LEP sub-groups scoring more than 10 percentage points lower than the state AYP standards?
4. How are students who are most at risk of failing to meet the current state academic achievement standards identified for support services?
5. Based on staff review of the data and information, what has the school staff determined to be the leading cause(s) for the gap in performance?

Enrollment and Graduation Data

Year:

Grade	# of Students	# Students enrolled in a Young 5's program	# Students in course/grade acceleration	Early HS graduation	# of Retentions	# of Dropout	# promoted to next grade
K							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

**Number of Students enrolled in Extended Learning Opportunities
And Information about Educational Development Plans (EDP)**

Year:

Number of Students in Building by grade	# Enrolled in Advanced Placement Classes	# Enrolled in International Baccalaureate Courses	# of Students in Dual Enrollment	# of Students in CTE/Vocational Classes	Number of Students who have approved/reviewed EDP on file*
6					
7					
8					
9					
10					
11					
12					

- EDP must be developed for all 8th graders, and reviewed annually in grades 9-12 to ensure that course selections align with the plans.

Sub Group Analysis

Group		ELA 2008				Trend	Math 2008				Trend
TOTAL NUMBER ASSESSED	180	Level 1	Level 2	Level 3	Level 4		Level 1	Level 2	Level 3	Level 4	
Black	81	0%	25%	41%	35%		1%	6%	19%	73%	
White	85	1%	41%	27%	31%		0%	27%	18%	55%	
Economically Disadvantaged	80	0%	26%	36%	38%		1%	13%	18%	68%	
Male	89	1%	38%	28%	33%		2%	21%	24%	53%	
Female	94	0%	31%	39%	30%		0%	15%	14%	71%	
Group		ELA 2009				Trend	Math 2009				Trend
TOTAL NUMBER ASSESSED	184	Level 1	Level 2	Level 3	Level 4	Trend	Level 1	Level 2	Level 3	Level 4	Trend
Black	121	0%	27%	32%	40%	DOWN	0%	9%	12%	79%	DOWN
White	79	1%	48%	33%	18%	UP	6%	42%	19%	32%	UP
Economically Disadvantaged	106	0%	28%	29%	42%	DOWN	2%	16%	16%	66%	UP
Male	108	1%	31%	36%	31%	DOWN	4%	21%	14%	62%	DOWN
Female	101	0%	41%	29%	31%	UP	2%	23%	16%	59%	UP
Trend Data											
Group		ELA 2010				Trend	Math 2010				Trend
TOTAL NUMBER ASSESSED	179	Level 1	Level 2	Level 3	Level 4	Trend	Level 1	Level 2	Level 3	Level 4	Trend
Black	104	0%	31%	35%	35%	UP	0	10%	13%	77%	UP
White	67	0%	63%	22%	15%	UP	6%	33%	21%	40%	DOWN
Economically Disadvantaged	111	0%	43%	27%	30%	UP	3%	18%	14%	65%	UP
Male	95	0%	46%	24%	29%	UP	3%	21%	17%	59%	UP
Female	84	0%	43%	33%	24%	UP	1%	17%	17%	65%	DOWN
Trend Data											

Annual Trend	2009-10
POSITIVE TRENDING	
NEGATIVE TRENDING DOWN	

Group		READ 2008				Trend	Math 2008				Trend
TOTAL NUMBER ASSESSED	180	Level 1	Level 2	Level 3	Level 4		Level 1	Level 2	Level 3	Level 4	
Black	81	0%	25%	41%	35%		1%	6%	19%	73%	
White	85	1%	41%	27%	31%		0%	27%	18%	55%	
Economically Disadvantaged	80	0%	26%	36%	38%		1%	13%	18%	68%	
Male	89	1%	38%	28%	33%		2%	21%	24%	53%	
Female	94	0%	31%	39%	30%		0%	15%	14%	71%	
Group		READ 2009				Trend	Math 2009				Trend
TOTAL NUMBER ASSESSED	184	Level 1	Level 2	Level 3	Level 4	Trend	Level 1	Level 2	Level 3	Level 4	Trend
Black	121	0%	27%	32%	40%		0%	9%	12%	79%	
White	79	1%	48%	33%	18%		6%	42%	19%	32%	

Economically Disadvantaged	106	0%	28%	29%	42%	2%	16%	16%	66%
Male	108	1%	31%	36%	31%	4%	21%	14%	62%
Female	101	0%	41%	29%	31%	2%	23%	16%	59%
Trend Data									
Group		READ 2010					Math 2010		
TOTAL NUMBER ASSESSED	179	Level 1	Level 2	Level 3	Level 4	Level 1	Level 2	Level 3	Level 4
Black	104	0%	31%	35%	35%	0%	10%	13%	77%
White	67	0%	63%	22%	15%	6%	33%	21%	40%
Economically Disadvantaged	111	0%	43%	27%	30%	3%	18%	14%	65%
Male	95	0%	46%	24%	29%	3%	21%	17%	59%
Female	84	0%	43%	33%	24%	1%	17%	17%	65%
Trend Data									

THREE YEAR TREND	2008-2010
POSITIVE TRENDING SINCE 2008	
TRENDING DOWN SINCE 2008	
MIXED TRENDING	
NO CHANGE	

PLEASE NOTE: REDUCTION OF LEVEL 3 AND 4 IS A POSITIVE TREND. HOWEVER, IT HAS TO BE A MOVEMENT UP TO LEVEL 1 OR 2

Duplicate these sample charts for multiple years

Using data about the school's mobility, attendance patterns, suspension, expulsion, retention rates, dropout rates, graduation rates, and extended learning opportunities:

1. What are the student mobility rates for the school and for each identified sub-group?
2. Has the mobility rate changed over time?
3. What percentage of students has been in the school since the first day of school?
4. What are the differences in achievement between students who have been in the school since the first day of school and those students who moved in during the school year?
5. What is the average student attendance rate? (For whole school and by sub-group).
6. What % of students missed more that 11 days of school? Is there a high concentration in any of the school sub-groups?

92.7%

7. Are there grade level differences in attendance?

YES

8. What is the trend of dropouts over the past 3-5 years (whole school and sub-group)?

Same

9. Has the dropout rate decreased, increased or stayed the same?

Same

10. What does the dropout pattern look like when disaggregated by sub-group?

11. Is there a grade level that has a higher percentage of students dropping out?

11th

12. **What are the achievement levels of students who dropout of school?**

Below grade level

13. What are the attendance patterns of students who dropout of school?

Poor attendance

14. What are the discipline patterns of students who dropout of school?

Below average

15. What percentage of eligible students is participating in Extended Learning Opportunities?

0

16. Are the percentages for participation in Extended Learning Opportunities increasing?

NO

17. What is the school doing to inform students and parents of Extended Learning Opportunities?

Letters home, principal's emails home

18. How many of the schools 8th graders have a parent approved Educational Development Plan on file?

90%

19. What data do you have that documents that all of these EDP's are reviewed and updated annually to ensure academic course work aligns with the EDP?

none

20. Based on a review of these data about student mobility, attendance, behavior, dropout, graduation rates, and extended learning opportunities, did the staff identify any areas of challenge?

Transient student population/poor attendance

21. For the identified challenge(s), what has the staff/school determined to be the leading cause(s) for the challenge(s)?

Systematic cultural challenges

—	DD
—	D4SS
—	Power School
—	SASI
X	School Brings

Data Point Three: Perception Data

A. Student

1. In what ways does the school collect information about student perception in the following areas:

- o How they feel about their school; their teacher; their principal?

Surveys, Blogs

- o What they think the teachers and principal(s) feel about them?

Surveys, Blogs

- o What they feel the staff expectations for their learning ability are?

Surveys, blogs

B. Parent/Guardian

2. In what ways does the school collect information about parent/guardian perception in the following areas:

Teacher/Administration Blogs, CHS help desk, Surveys

- o Teacher preparation and ability to prepare their children to be successful learners
- o Principal(s) effectiveness

C. Staff

3. In what ways does the school collect information about staff perceptions in the following areas: **Staff surveys, staff meetings, open dialogue/principal**

- o High expectations for all students
- o Coherence of instructional program
- o Leadership effectiveness and support

D. Community

4. In what ways does the school collect information about community perception in the following areas:

Surveys, Blogs

Parent/teacher conferences, board meetings

- o Teacher preparation and ability to prepare all students to be successful learners
- o Principal(s) leadership abilities
- o Staff has high expectations for all students

Summary Discussion: Perception Data

1. In what ways does the school use this perception information to inform decision-making activities? **School Improvement team and staff development**
2. What challenges have been identified as a result of reviewing the data/information collected about stakeholder perceptions? Transient population, **ACT/MME Prep**

Data Point Four: Process Data

___	DD
___	D4SS
___	Power School
___	SASI
X	School Brings

Process Data

Policies & Procedures
School Process

Rubrics:

- 40
- 90
- SA
- SAR

MDE

NCA

Professional Development Asses

In order to incorporate the required state professional development plan into your school improvement plan, discuss the following questions and identify area of needs:

1. Based on a review of the professional development needs/activities identified by stakeholders in the building what activities were noted that stakeholders would like to address?
Parents, students, teachers need easier access to technology
2. What activities have the building provided that will build collaborative decision making skills for teachers and instructional leaders in the building? **School improvement/MISD meetings**
3. What activities have been provided that will improve site-based decision making skills for school leaders? **School improvement meetings, teacher leaders**
4. What activities have been provided that will improve the school improvement planning process to better meet the teaching and learning needs within the building? **Release time for school Improvement team**
5. What activities does the building currently have in place to improve instructional leadership skills school leaders? **Inservices, teacher-led staff meetings**
6. Describe how professional development activities are collaboratively designed to support building level school improvement efforts. How are they tied to teacher or student identified needs? Who is involved? **A committee of 10 teachers and administrators form a collaborative group to support improvement efforts which identify and address the needs of our pupils. Examples of such efforts would be datadirector.**
7. What resources are available to support professional learning activities? **Internet, in-services, blogs, and email**
8. What activities have been identified to support classroom teacher use of student achievement data to guide instruction and remediation activities within the building(s)? **Standardized tests have been created to measure student ability and modify instruction accordingly.**
9. How does the school currently use professional development as a way to eliminate the achievement gap? **By studying data from standardized test and modifying daily curriculum accordingly, we are able to help close the achievement gap.**

10. What policy/practice does the building/district have in place to support professional learning communities? **Staff meetings and professional development days**
11. How are professional learning activities that are offered, measured for their impact on teaching and learning? **Standard Tests**

Summary of Professional Development: Concerns, Factors, and Actions

After reviewing the school, staff, parent and community, and student achievement data for the building, and information about professional development needs identified by stakeholders within the building, what did the building identify as areas of need for professional development?

Appendix A

See following pages

**Letter of Agreement
Between Clintondale Board of Education
And MEA-NEA Local 1, Clintondale**

The qualities and characteristics that make a teacher and/or administrator successful should be reflected in any evaluation. To this end, the parties agree to refer the matter of teacher evaluation to a joint teacher/administration committee, (the same committee which will deal with recent changes in the law), to review the specific skills, knowledge, and characteristics upon which evaluation is based. The intent is to recommend to the Bargaining Teams a plan specific to Clintondale based on the principles of the Framework for Teaching (also called the Danielson Model) to be effective no later than September 5, 2011. Both parties agree that appropriate training in the Framework will be necessary and desirable for both teachers and administrators in order to implement an approved plan in an effective manner and that the purpose provide clear and positive assistance for teachers as well as other professional staff and administrators to improve professional practices and that will insure that all staff shall have multiple opportunities to improve consistent with MCL380.1249, the Tenure Act, as recognized in the MISD/MEA/AFT "Teacher Evaluation Parameters to Comply with the Michigan Tenure Act and MCL 380.1249" attached here, and /or applicable collective bargaining agreement.

For MEA-NEA, Local 1, Clintondale:

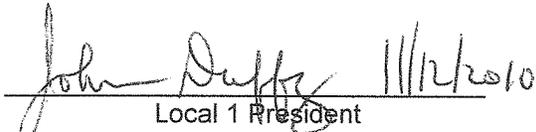
For Clintondale Board of Education:



Clintondale EA President



Board President



Local 1 President



Board Secretary

**LETTER OF UNDERSTANDING
BETWEEN
CLINTONDALE BOARD OF EDUCATION
AND
MEA-NEA LOCAL 1, CLINTONDALE**

It is understood and agreed by the parties that basing any part of a salary increase on satisfactory evaluation and possible removal, consistent with applicable laws as referenced in the MISD/MEA/AFT "Teacher Evaluation Parameters to Comply with the Michigan Tenure Act and MCL 380.1249"(copy attached), as well as the contractual modifications/clarifications referred to below, are agreed to because of the current status of Clintondale High School being a "priority school" and therefore working on a "transformational" plan under MCL 380.1280C8 to be submitted to the State of Michigan Department of Education and the federal government for a School Improvement Plan to fund the supplemental actions proposed to be added to the existing High School program directed at increasing student achievement in the Clintondale High School taken as whole so as to allow it to achieve levels of student growth that remove the "priority school" designation within the period of the plan . The parties recognize that this is in the best interests of the Board and the teachers while this plan remains in effect, and Clintondale High School has "priority school" designation/is in the bottom 5% of public schools. This agreement shall be non-precedent setting.

The parties also understand that while the school is subject to MCLA 380.1280C8 and the transformational intervention model is being implemented:

(a) That any contractual seniority that would otherwise be applicable shall not apply at the High School while it remains on "priority school" list /in bottom 5% of public schools for the purpose of teacher assignment to or within the High School. This subdivision does not allow unilateral changes in pay scales or benefits.

(b) That there are no contractual or other work rules that are impediments to implementing the redesign plan as presented as compensation for job accomplishments/extra work/added time/duties and /or achievement of goals and/or financial/flexible working conditions designed to recruit or retain staff to meet the needs of students in a transformational school have been or will be bargained jointly consistent with MCL 380.1250 upon the plan's approval by State/federal government consistent with the SIG application/plan. The parties agree that nothing in this agreement nor the law allow unilateral changes in pay scales or benefits, but that annual step increases for all professionals (teacher and administrators) at High School will be subject to satisfactory evaluations done consistent with the mutually agreed process referred in the Letter of Agreement on Evaluations dated November 15, 2010, while the High School remains a "priority school"/ is in bottom 5% of public schools. Compensation for any change in working conditions would have to be bargained..

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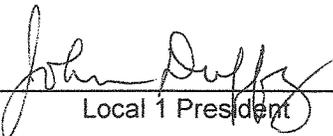
For Clintondale Schools:



President



BOARD PRESIDENT



Local 1 President



BOARD SECRETARY

November---2010

**Letter of Agreement
Between Clintondale Board of Education
And MEA-NEA Local 1, Clintondale**

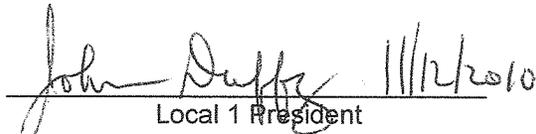
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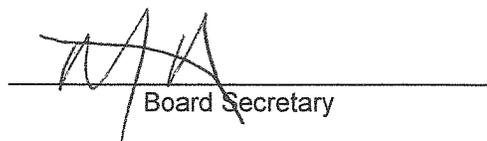
For MEA-NEA, Local 1, Clintondale:

For Clintondale Board of Education:


Clintondale EA President


Board President


Local 1 President


Board Secretary

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BETWEEN
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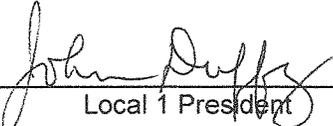
(b) That there are no contractual or other work rules that are impediments to implementing the redesign plan as presented as compensation for job accomplishments/extra work/added time/duties and /or achievement of goals and/or financial/flexible working conditions designed to recruit or retain staff to meet the needs of students in a transformational school have been or will be bargained jointly consistent with MCL 380.1250 upon the plan's approval by State/federal government consistent with the SIG application/plan. The parties agree that nothing in this agreement nor the law allow unilateral changes in pay scales or benefits, but that annual step increases for all professionals (teacher and administrators) at High School will be subject to satisfactory evaluations done consistent with the mutually agreed process referred in the Letter of Agreement on Evaluations dated November 15, 2010, while the High School remains a "priority school"/ is in bottom 5% of public schools. Compensation for any change in working conditions would have to be bargained..

For MEA-NEA, Local 1, Clintondale:

For Clintondale Schools:

 11/11/2010

President

 11/11/2010

Local 1 President

 11/12/2010

BOARD PRESIDENT



BOARD SECRETARY

November----2010

Apple Classrooms of Tomorrow—Today

Learning in the 21st Century

Background Information

April 2008



Apple Classrooms of Tomorrow—Today 2

Learning in the 21st Century

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Apple Classrooms of Tomorrow—Today 3

Learning in the 21st Century

What Is ACOT₂?

Apple Classrooms of Tomorrow—Today (ACOT₂) is a collaborative effort with the education community to identify the essential design principles for the 21st century high school by focusing on the relationships that matter most: those between students, teachers, and curriculum.

ACOT₂ follows in the tradition of Apple Classrooms of Tomorrow (ACOT), a research and development collaboration among public schools, universities, and research agencies that Apple initiated in 1985 and sustained through 1995 with outstanding results. Its goal was to study how the routine use of technology by teachers and students might change teaching and learning. ACOT identified effective models for teaching and learning with technology, developing the professional lives of teachers, and diffusing innovation.

The goal of ACOT₂ is more targeted: to help high schools get closer to creating the

kind of learning environment this generation of students needs, wants, and expects so they will stay in school. To that end, ACOT2 is pursuing a strategy in three phases:

- In the first phase, ACOT2 developed the essential design principles of the 21st century high school, and then clearly and simply articulated them so any high school can act on them immediately.
- In the second phase, ACOT2 brought the essential design principles to life through online resources, including “clickable” data, research, expert commentaries, tools, and rich media capturing students’ and educators’ voices. The voices offer especially compelling testimony for why and how these design principles should be implemented in our nation’s high schools today.
- In the third phase, ACOT2 will take these design principles and apply them to a bold project: 200 Days for a Lifetime of Success, a freshman year high school curriculum specifically designed to prepare students for success in life and work in the 21st century.

This report and the ACOT2 website (<http://www.acot2.com>) present the rationale for urgent action in our nation’s high schools and offer a detailed presentation of the ACOT2 design principles.

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Executive Summary

Apple Classrooms of Tomorrow—Today (ACOT2) is a collaborative effort with the education community to identify the essential design principles for the 21st century high school by focusing on the relationships that matter most: those between students, teachers, and curriculum. The factors driving ACOT2 are these:

- America is caught in the grip of a crisis in education that threatens the ability of an entire generation of young Americans to achieve success in life and work. The crisis also threatens America’s ability to remain competitive on the global stage.
- Especially vulnerable are our high school students. Research on high school dropout rates and causes highlights the severity of the situation. Nearly one in three high school students in America this year will not graduate.
- Current education reform strategies are inadequate or failing.

ACOT2 assumes as its starting point that time-honored yet outmoded approaches to education and education reform must be replaced with new and creative ways of thinking about designing learning environments for this generation of students.

The ACOT2 strategy is to offer a simple, clean approach that focuses on the essential design principles of the 21st century high school—rather than a more prescriptive school reform model. While the design principles themselves are not new, what is new is that the complexity that characterizes most education reform models has been cleared away, enabling immediate action and results.

Applying this philosophy, ACOT2 has identified six design principles for the 21st century high school:

- **Understanding of 21st Century Skills and Outcomes.** Establishes as a baseline that educators, students, and parents must be well versed in the 21st century skills that students need to acquire to be successful. Teachers should be able to make relevant and useful choices about when and how to teach them, and whether or not students are making progress toward their personal demonstration of accomplishment.

Rethinking what we teach must come before we can rethink how we teach.

- **Relevant and Applied Curriculum.** Offers an innovative vision of what the learning environment should be by applying what we know about how people learn and adapting the best pedagogy to meet the needs of this generation of learners. Students should be engaged in relevant and contextual problem-based and projectbased learning designed to apply 21st century skills and that is provided using a multi-disciplinary approach. Curriculum should apply to students’ current and future lives and leverage the power of Web 2.0 and other ubiquitous technologies.

- **Informative Assessment.** Identifies the types and systems of assessments schools need to develop to fully capture the varied dimensions of 21st century learning as well as the independent role students need to take on in monitoring and adjusting their

own learning. Assessments used in the classroom should increase relevant feedback to students, teachers, parents, and decision-makers and should be designed to continuously improve student learning and inform the learning environment.

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- **A Culture of Innovation and Creativity.** Acknowledges the fuel that drives today's global economy and, in turn, its importance in both student learning and the school environment. As a result, schools should create a culture that supports and reinforces innovation for student learning and leverages the creativity and ingenuity of every adult and student in their environment to solve their unique problems. Additionally, the teaching and learning environment should generate the continuous development of those skills.

- **Social and Emotional Connections with Students.** Gives appropriate recognition to the personal, professional, and familial relationships that determine the health, growth, and cognitive development of a child within the family, school, and community. Specifically, each student should have a clear and purposeful connection to the social environment in school, with at least one adult who is purposefully in tune with the student's learning preferences, learning interests, and social connections.

- **Ubiquitous Access to Technology.** Underscores the essential role technology plays in 21st century life and work and, consequently, the role that it must play in learning. Students and educators need 24 by 7 access to information, resources, and technologies that engage and empower them to do background research, information and resource gathering, and data analysis, to publish with multiple media types to wide and varied audiences, to communicate with peers and experts, and to gain experience and expertise in collaborative work.

This report and the ACOT2 website (<http://www.acot2.com>) explore each of these six design principles in detail, including the current research that supports their inclusion in this approach.

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Part I

The Challenge for American Education

America is caught in the grip of a crisis in education that threatens the ability of an entire generation of young Americans to achieve success in life and work. The crisis also threatens America's ability to remain competitive on the global stage.

The need for action is urgent, and especially vulnerable are our high school students.

Research on high school dropout rates and causes highlights the severity of the situation: Nearly one in three high school students in America this year will not graduate.¹

Every 29 seconds, another high school student in America gives up on school, resulting in more than 1 million high school dropouts every year. Nearly one-third of all public high school students—and nearly one-half of all African American, Hispanic, and Native American students—fail to graduate with their class. In nearly 2000 high schools in the United States, the typical freshman class loses 40 percent of its students by their senior year.²

The long-term impact of high school dropout rates on our society is catastrophic.

Dropouts are more likely than high school graduates to be unemployed, in poor health, living in poverty, on public assistance, and to be single parents with children who also drop out of high school. They are eight times more likely than high school graduates to be in jail or prison. They are four times less likely to volunteer than college graduates, twice less likely to vote or participate in community projects, and they represent only three percent of actively engaged citizens in the United States today.³

Most students report that dropping out of high school is a gradual process of disengagement that results in the lack of social or emotional connection to school.

The good news is that the disengagement process can be reversed with more relevant, challenging coursework and individualized support from schools, educators, parents, and community.

Preparing Students for Life and Work in a Changing World

Young Americans coming of age in this century—the 70 million people born between 1982 and 2000—live in a world that is dramatically more complex than it was just a few years ago. In a remarkably short period of time, the world and its people, economies, and cultures have become inextricably connected, driven largely by the Internet, innovations in mobile computers and devices, and low-cost telecommunications technology.

This global interdependence has profound implications for all aspects of American society—from how we think and work to how we play and learn.

In business, for example, 9 to 5 has been replaced by 24 by 7, as technology keeps us “always on” and our markets and workforces extend across every time zone. And the focus of business is changing to match the largest growth opportunities—those abroad. International commerce now accounts for a quarter of the American economy and is fueling a third of U.S. economic growth.

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The business case for global markets is compelling, and to compete abroad successfully, American companies need a workforce equipped to translate American business models and offerings to international marketplaces.

Moreover, many of the challenges facing us—geopolitical tensions, climate change, and disease pandemics—are global in nature and scale, and thus demand cross-border perspectives and solutions.

In such a world, tangible skills such as language proficiency are obviously critical to success. But language skills are just part of the equation. To be productive global citizens, Americans need other skills that are less tangible, including greater sensitivity to cultural differences, openness to new and different ideas, and the ability to adapt to change.

The massive amount of information and opinion available to us offline and online can help us meet these challenges, but awash in this sea of information, each of us needs to be able to sort fact from fiction and evaluate and interpret conflicting ideas. We also need to know how to work collaboratively and creatively in person, by telephone, and online to make decisions and take action.

Educating young people to be successful in this changing world is no small task, but the consequences of failing to do so are enormous. Current data show that high school graduates in jobs requiring the highest degree of innovative thinking earn more than 50 percent more than those in jobs requiring the least innovation. For college graduates, the difference is 135 percent.⁴

A parallel trend shows that our current practice of outsourcing jobs to countries such as China and India is making it more difficult for unskilled American workers to earn middle-class incomes.⁵

These trends, combined with high school dropout rates, make it clear that as a nation, we must rethink what we are now doing to improve K–12 education in America.

Increasingly, policy makers and education leaders are doing this.

For example, the No Child Left Behind Act of 2001 requires schools to demonstrate adequate yearly progress (AYP) toward the goal of all students being able to perform at grade level. This has helped focus attention on some of the problems with K–12 education in America and attempted to provide added resources to schools that are failing. But many education leaders believe that No Child Left Behind’s demand that progress be measured solely through standardized tests of students’ knowledge of a limited number of core subjects has caused many schools to “teach to the test.”

While this may produce better test scores, it diminishes schools’ incentive to focus on teaching methods that engage students and on teaching skills that prepare students for success in life and work in the 21st century.

Equally important, No Child Left Behind has had no impact on keeping students in school. The national high school dropout rate has remained unchanged for decades.

Rethinking Education in America

With a 30-year history of delivering innovative technology and education solutions, Apple initiated the ACOT2 project to join with other education leaders committed to improving education in America. ACOT2 assumes as its starting point that time-honored yet outmoded approaches to education and education reform must be replaced with new and creative ways of thinking about the expected outcomes of our schools and the role of educators.

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For example, 20 years ago school was the place where students learned information and skills in core subject areas such as English, language arts, science, and history. Educators were primarily information experts who passed along to their students what they had learned in school.

Today, information is readily available from numerous sources. With a computer, the Internet, and a search engine, much of the information students once spent the entire school year learning can be acquired in a fraction of the time or on an as-needed basis. These technology innovations democratize information, giving students direct access to the building blocks of their future knowledge—organized, indexed, and affordable content, resources, and instruction available 24 by 7. It also shifts the locus of control to the student, enabling them to pursue learning both in school (formal learning) and outside of school (informal learning).

These are profound changes that require schools to become more than information repositories; they must also be places where students can acquire knowledge and skills they can use to solve complex problems for the rest of their lives. These changes affect the role of educators even more dramatically. Educators must become more than information experts; they must also be collaborators in learning—leveraging the power of students, seeking new knowledge alongside students, and modeling positive habits of mind and new ways of thinking and learning.

What and How We Teach Must Change

To make these transitions, schools and educators must be well versed in core subjects, the broad range of interdisciplinary knowledge, skills, and attitudes that education and business leaders call “21st century skills,” and in teaching methods that engage and inspire students to learn.

Examples of 21st century skills include global awareness, financial and entrepreneurial literacy, information and media literacy, civic literacy, and health literacy. Students also need to acquire skills such as innovation and creativity, critical thinking and problem-solving, information and media literacy, self-direction, adaptability, and accountability.⁶

In terms of teaching methods, schools must recognize that what engages this generation of learners is very different from what may have engaged previous generations.

Students today have grown up in a world where mobile computers, cell phones with browsers, and other personal digital devices are common tools, and instant messaging, blogs, and wikis are common modes of self-expression.

All together, students spend an average of nearly 6.5 hours a day with media.⁷

According to the 2005 Pew Internet & American Life Project, 87 percent of 12- to 17-year-olds—or 21 million young people—are Internet users, an increase of 24 percent from 2000. Three-quarters of today’s teens use at least two digital devices daily.⁸ Students routinely observe adults in professions and workplaces enabled by the same technologies and tools they use in their own daily lives.

Because of today’s digital technology, students live a media rich, connected, and mobile lifestyle, and they are just as often producers of content as they are consumers. Web 2.0 technologies, including social networks and participatory sites such as YouTube, MySpace, Second Life, and World of Warcraft, provide them with engaging opportunities for interaction and informal learning, and create new opportunities to leverage this informal learning by integrating it purposefully into the fabric of formal learning.

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Not surprisingly, students today expect to learn in an environment that mirrors

their lives and their futures—one that seamlessly integrates today’s digital tools, accommodates a mobile lifestyle, and encourages collaboration and teamwork in physical and virtual spaces.

Too often, though, these are not the attributes students find at school. For example, one student described going to school as being like flying on an airplane. He has to turn off all his digital devices, strap himself in, and wait until the end of the flight to resume his digital life.

The disconnect between a student’s digital life and school matters because students learn better when they are engaged, and research about what engages them points to technology.⁹ Numerous studies have shown that effective integration of technology into teaching and learning can result in higher levels of student achievement.

The link between technology, engagement, and achievement is especially important for our K–12 schools because by government mandate, their mission has evolved from providing an opportunity for young people to learn to making sure they do. When students must learn, motivating them to learn becomes essential.

Learning Optimized for the 21st Century

There is no shortage of opinions about why American education reform initiatives have fallen short of their goals and no shortage of new ideas for future reforms. The intent of ACOT₂ is not, however, to belabor past failures or deconstruct new proposals. Instead, our goal is to help high schools get closer to creating the kind of learning environment this generation of students needs, wants, and expects so they will stay in school. The ACOT₂ strategy is to bring 21st century learning into our nation’s high schools.

Twenty-first century learning is at the confluence of three major influences: globalization, which increases global interdependence and competition; technology innovations that enable more engaged teaching and learning and provide 24 by 7 access to content and people; and new research on how people learn.

Figure 1: Three major influences on 21st century learning

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This report has already discussed the implications of globalization and technology. The importance of research is that it proves what educators have long experienced about how today’s students learn best. For example, educators know that students learn best when they learn with understanding, or use what they already know to derive meaning from new information. Awareness and productive use of one’s own cognitive processes—metacognition—is also important to learning. However, when combined with new and sophisticated cognitive and neuroscience research on such topics as working memory, cognitive overload, and executive function, these fundamental concepts become breakthrough ideas that can lead to new and better ways of teaching.

There is another cornerstone concept that informs the ACOT₂ approach to 21st century learning and that is the concept of “flow.” “Flow” is learning with the volume cranked up, when everything is clicking just right. ACOT₂ believes that the most effective educators create opportunities for students to get into the flow—in the context of subjects and curriculum—by working with them to balance the complexity of the task with their current repertoire of learning strategies.

Figure 2: The flow experience in learning

The ACOT₂ Approach: Focus on Essential Design Principles

One of the guiding principles of ACOT₂ is that the need for change is urgent and the time to act is now. This informs the ACOT₂ strategy, which is to offer a simple, clean approach that focuses on the essential design principles for the 21st century high school—rather than a more prescriptive school reform model. While the design principles themselves are not new, what is new is that the complexity that characterizes most education reform models has been stripped away, enabling the principles to produce immediate benefits and results.

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Applying this philosophy, ACOT₂ has identified six design principles for the 21st century high school:

Figure 3: Six Design Principles

- **Understanding of 21st Century Skills and Outcomes.** Establishes as a baseline that educators, students, and parents must be well versed in the 21st century skills that students need to acquire to be successful. Teachers should be able to make relevant and useful choices about when and how to teach them, and whether or not students are making progress toward their personal demonstration of accomplishment. Rethinking what we teach must come before we can rethink how we teach.

- **Relevant and Applied Curriculum.** Offers an innovative vision of what the learning environment should be by applying what we know about how people learn and adapting the best pedagogy to meet the needs of this generation of learners. Students should be engaged in relevant and contextual problem-based and projectbased learning designed to apply 21st century skills and that is provided using a multidisciplinary approach. Curriculum should apply to students' current and future lives and leverage the power of Web 2.0 and other ubiquitous technologies.

- **Informative Assessment.** Identifies the types and systems of assessments schools need to develop to fully capture the varied dimensions of 21st century learning as well as the independent role students need to take on in monitoring and adjusting their own learning. Assessments used in the classroom should increase relevant feedback to students, teachers, parents, and decision-makers and should be designed to continuously improve student learning and inform the learning environment.

- **A Culture of Innovation and Creativity.** Acknowledges the fuel that drives today's global economy and, in turn, its importance in both student learning and the school environment. As a result, schools should create a culture that supports and reinforces innovation for student learning and leverages the creativity and ingenuity of every adult and student in their environment to solve their unique problems. Additionally, the teaching and learning environment should generate the continuous development of those skills.

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- **Social and Emotional Connections with Students.** Gives appropriate recognition to the personal, professional, and familial relationships that determine the health, growth, and cognitive development of a child within the family, school, and community. Specifically, each student should have a clear and purposeful connection to the social environment in school, with at least one adult who is purposefully in tune with the student's learning preferences, learning interests, and social connections.

- **Ubiquitous Access to Technology.** Underscores the essential role technology plays in 21st century life and work and, consequently, the role that it must play in learning. Students and educators need 24 by 7 access to information, resources, and technologies that engage and empower them to do background research, information and resource gathering, and data analysis, to publish with multiple media types to wide and varied audiences, to communicate with peers and experts, and to gain experience and expertise in collaborative work.

Part II of this report explores each of these six design principles in detail, including the current research that supports their inclusion in this approach.

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Part II

ACOT₂: The Six Design Principles for the 21st Century High School

Understanding of 21st Century Skills and Outcomes

Early in this century, leaders and visionaries in the business and education

communities joined together to recommend the skills needed to enrich the lives of those living in the 21st century and to make them more successful in their work. Business leaders were especially outspoken in their call for a workforce well versed in 21st century skills. In a recent survey, business leaders were asked about the skills most needed for readiness for today's business environments.¹¹ The highest ranked skills for students entering the workforce were not facts and basic skills; they were applied skills that enable workers to use the knowledge and basic skills they have acquired.

For example, the most desirable skills identified were work ethic, collaboration, social responsibility, and critical thinking and problem-solving. Employers also see creativity and innovation as being increasingly important in the future.

Current thinking about these skills is based not only on recommendations from business leaders, but also on research about how people learn. Much of the early research on this topic was carried out by cognitive psychologists during the 1970s and 1980s and focused on how individuals, especially experts, learn and solve problems. Although fruitful, researchers realized that their work did not take into account the rich environment in which individuals worked to solve problems—environments filled with tools and colleagues. This realization has led to the study of learning and solving problems in social environments.

In the 1990s, cognitive psychologists began to study collaboration and the role of social context in learning, while educational researchers began to study collaboration in school settings.¹² These studies underscore the importance of expanding goals that we have for students to include both basic and applied skills and to focus on both individual and collaborative problem-solving.¹³

Through the efforts of the Partnership for 21st Century Skills (P21) and other organizations, specifics regarding these skills have been refined. The Partnership for 21st Century Skills developed a complete framework for articulating these skills, which is being widely adopted by visionary states and school districts. These states and districts are beginning to strategize how these skills might best be supported.

The framework recognizes the centrality of core subject areas in the educational milieu but also emphasizes new themes that must be interwoven across disciplines to increase the relevance for today's learners. In addition, the framework outlines skills

"We need people who think with the creative side of their brains—people who have played in a band, who have painted, been involved in the community as volunteers.

*It enhances symbiotic thinking capabilities, not always thinking in the same paradigm, learning how to kick-start a new idea or how to get a job done better, less expensively."*¹⁰

— Annette Byrd, GlaxoSmithKline

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in three areas: Life and Career Skills, Learning and Innovation Skills, and Information, Media, and Technology Skills. Each of these areas is described briefly here, but much more information can be found on the P21 website.¹⁴

Figure 4: P21 framework for 21st century skills

The term "core subjects" is used in the P21 framework to designate the content knowledge that most people recognize as school subjects. While content knowledge has always been a part of schooling, cognitive psychology research on expert problem-solving has helped explain the nature of the content knowledge needed for the 21st century. This research demonstrates that experts have extensive amounts of content knowledge and that they organize this knowledge about important concepts in their field of expertise. This method of organizing content helps them retrieve it when it is needed quickly and with little effort.¹⁵

Although most learners will not become experts in the fields that they study, it is important to understand that knowing a subject is not just about memorizing facts and acquiring basic skills. It is also about organizing this knowledge in a way that

connects it to problem situations. Experts' knowledge organization is acquired in thousands of hours of experience in attempting to solve problems and understanding which facts and skills are useful in which situations. Educational research has suggested that these kinds of connections can also be established in school settings in which students learn facts and skills while they are solving problems. Developing conceptual structures that are correct and rich requires a deep understanding of a domain. This process can be facilitated by curricula that emphasize depth over breadth so that learners have time to develop understanding. It can also be facilitated by instruction that encourages learners to reflect on their process of learning and their understanding. Interwoven within each of these content areas are several interdisciplinary themes. Although there are many important and interesting interdisciplinary themes, the ones presented here have been identified by the Partnership as areas likely to be increasingly important in the future.¹⁶ They represent emerging content areas that are not typically covered in school today.

Core Subjects

- English, reading, or language arts
- World languages
- Arts
- Mathematics
- Economics
- Science
- Geography
- History
- Government and civics

Interdisciplinary Themes

- Global awareness
- Financial, economic, business, and entrepreneurial literacy
- Civic literacy
- Health literacy

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These themes are intended to cross content boundaries and should be developed within multidisciplinary study. Economic literacy, for example, contains key social science concepts. And without mathematics and persuasive writing, the effectiveness of any economist would be diminished. These themes are best developed through rich, authentic work that mirrors the work of professionals in the field.

Also linked to core subjects and interdisciplinary themes is the need for information, media, and technology skills.

Today, students get their information from sources that have not been vetted by the traditional publishing processes. Consequently, they “must be able to recognize when they need information, what kind of information they need, and where to look for it to complete a task successfully. They must also be able to do this effectively regardless of the information’s format, source, or location.”¹⁷ And they must also be able to judge the quality of the information, its accuracy and objectivity.

Information literacy moves beyond students’ ability to evaluate the information they receive to being able to communicate their own understanding and perspectives in a wide variety of media modes, genres, and forms. For example, Web 2.0 tools such as blogs and wikis have put students in the position of being creators as well as consumers of published information.

One example, controversial among educators, is the use of Wikipedia as a research tool. This collaborative, socially constructed encyclopedia can be edited by anyone and thus may contain errors and biases. While some teachers forbid its use for research, others are using it as a tool for helping students become more information literate by having them create and verify their own entries. Students may begin by looking up entries for their own hometown, check them for accuracy, and add something that is missing. This idea of knowledge as the product of students working collaboratively is strongly connected to the way that academic and scientific communities work. It also supports the development of students in providing evidence and argumentation for their ideas.¹⁸

Learning and innovation skills are those needed to solve complex problems. They include critical thinking and problem-solving skills, creativity and innovation skills, and communication skills.

These areas have a long history of research. Individual cognition and problem-solving research findings have highlighted the skills that experts use in critical thinking. In addition to an extensive knowledge base of organized factual information, a key finding is that experts monitor their own thinking: they define their learning and problem-solving goals and keep track of their progress toward achieving them. There is evidence that children can be taught these skills and enhance their problemsolving performance.

Creativity and innovation are the processes of developing new perspectives and applying them to specific problems. These skills are thought to arise as problemsolvers reinterpret problems and elaborate on these new interpretations. Research has recently begun to contrast “routine experts,” those who efficiently and accurately retrieve a solution for a problem, with “adaptive experts,” those who continually evolve new approaches to problem situations.¹⁹ Traditional assessments and schooling tend to emphasize routine efficiency, but in the 21st century, routine tasks will be done by machines or be outsourced to lower paid workers. Research suggests that if learners and teachers are aware of these two different kinds of expertise, and monitor and encourage their development, students can be both efficient and adaptive.

Information, Media, and Technology Skills

- Information literacy
 - Media literacy
 - Information and communication technologies (ICT) literacy
- Learning and Innovation Skills
- Creativity and innovation
 - Critical thinking and problemsolving
 - Communication and collaboration

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In the 1990s, researchers shifted their focus from studies of individual thinking and began to concentrate on how people solved problems in groups using books, tools, and machines. Instead of studying a single problem-solver in a laboratory or school, they began to study problem-solvers in informal settings and in the workplace.

The focus was on how successful groups work together to solve problems using commonly available tools.

Knowing how to participate in groups and use group tools is a critical aspect of learning and problem-solving in the 21st century. In fact, over 80 percent of employers rank collaboration and teamwork as a “very important” skill for those entering the workforce in the 21st century.

Basic subject knowledge and skills are necessary but not sufficient for successful performance in life and on the job. Many additional traits are needed, including taking initiative, being accountable, and being a leader. In recent surveys, more employers rated these applied skills as more important than basic subject knowledge.²⁰ They also found that most high school graduates and many graduates of two- and four-year schools are deficient in these skills. It is important that schools align their learning environments, requirements, and assessments to promote the acquisition of these skills prior to graduation.

Relevant and Applied Curriculum

Educators often think of “curriculum” as being limited to the academic goals and standards within each content area, and the books and learning materials that support those goals. According to Ronald Doll, curriculum actually refers to all purposeful activity that takes place within the classroom.²²

Curriculum that is crucial to 21st century learning must be designed to support active, authentic, and engaged learning. It must also leverage the technologies that are just beginning to make an impact in schools and universities across the nation. With these requirements in mind, the ACOT₂ project has identified six key characteristics for a

21st century curriculum:

1. Involves collaboration and community
2. Is based on authenticity and relevance
3. Leverages real-world tools, resources, and methodologies
4. Incorporates a rich continuum of teaching and learning strategies
5. Is grounded in rich content with a 21st century context
6. Creates linkages to the outside world

1. Collaboration and Community

The ability to function as a member of a team is key in the 21st century workplace.

Therefore, it should also be a key characteristic of the 21st century classroom where one stated goal is to prepare students for a productive and successful work life.

It is important to note, however, that it is not only workplace imperatives that recommend a focus on cooperative and collaborative learning in 21st century learning. Cooperative and collaborative learning have long been recognized as one of the most consistent strategies for increased student achievement. For example, in his *“Curriculum is the formal and informal content and process by which learners gain knowledge and understanding, develop skills, and alter attitudes, appreciations, and values under the auspices of that school.”*²¹

— Ronald Doll

Life and Career Skills

- Flexibility and adaptability
- Initiative and self-direction
- Social and cross-cultural skills
- Productivity and accountability
- Leadership and responsibility

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recent book, *Classroom Instruction that Works*, Robert Marzano identifies cooperative learning as one of the nine most effective instructional strategies available to classroom teachers.²⁴

It is also important to note that the education literature makes a distinction between cooperative and collaborative learning. Generally speaking, cooperative learning is a set of strategies that provide the structure for students to learn and work effectively in small groups or teams. Collaboration is more generally defined as positive interactions during the learning process that build relationships and lead to increases in learning, understanding, and product quality. The importance of understanding the differences is to better understand the relationship between the two: collaboration is greatly enhanced if the skills and processes of cooperative learning are mastered.

In a recent meta-analysis completed by David and Roger Johnson of over 164 studies on various methods of cooperative learning, the Johnson brothers suggest that cooperative learning should have a certain set of characteristics.²⁵ These include:

- *Positive interdependence.* Members of the group understand that they can only succeed by working together, and rewards and celebrations are based on the success of the group.
- *Promotive interactions.* Rather than compete, members of the group support one another, exchange information and resources, and accept as well as provide constructive criticism.
- *Individual accountability and personal responsibility for group goals.* Everyone in the group takes responsibility for the successful completion of the project and is held accountable for their portion of the work.
- *Frequent use of interpersonal and small-group skills.* Students are taught the various roles that need to be assumed when functioning as members of a team and practice these roles in the context of rich, relevant work.
- *Assessing and refining the functioning of the group.* In formal cooperative learning environments, processes are established to continually assess the quality and effectiveness of group interactions. Each member is responsible for evaluating his or her own contributions as well as those of others.

Recent work on learning communities has extended the importance of collaboration from student-to-student collaboration into teacher-to-teacher and teacher-to-student interactions. With the democratization of information that is taking place and in a world where virtually all information on a topic is available to anyone in real time, the relationships of teachers and students need to evolve significantly. Teachers need to move even beyond the role of facilitators and become collaborators in learning, seeking new knowledge alongside students and modeling positive ways to work and think.

Not surprisingly, technology can play a central role in promoting collaboration in the learning environment. A powerful example of this is the CSILE (Computer-Supported Intentional Learning Environments) project from University of Toronto.²⁶ Developed by Scardamalia and Bereiter in the late 1980s, CSILE invited students into a knowledge-building environment where they would enter interesting things that they had learned into a shared database. Then, through a series of scaffolded interactions with their information, information contributed by others, and prompts provided by the software, they would refine these interests into researchable questions. While CSILE is still available as Knowledge Forum, many of the functionalities of the original environment can be duplicated using Web 2.0 technologies such as wikis.

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Another example of technology-anchored collaboration is Margaret Riel's Learning Circles.²⁷ This project, now part of the iEarn network, allows student groups in geographically diverse locations to collaborate on curriculum-related projects where both teachers and students work and learn together.

Research Findings Related to Collaboration and Community

While models of student and teacher collaboration have not yet been widely researched, the impact of cooperative or collaborative learning has been well documented. In the Johnson brothers' meta-analysis of over 164 studies on various methods of cooperative learning, virtually all of the studies showed significant positive results.²⁸ Depending on the strategy employed and whether cooperative learning was compared to competitive or individual learning, the Johnsons recorded average effect sizes ranging from .18 to 1.04. Most of the effect sizes reported would be considered strong effects. Marzano, after completing a similar review of cooperative learning studies, reported an average effect size across studies of .73—an extremely large effect that would account for learning gains of approximately 27 percentile points.

2. Authenticity and Relevance

The concept of more authentic, relevant learning has been bandied about in education since the time of John Dewey in the early part of the last century. Dewey's concept of "learning by doing" was based on his understanding that people learn best when they are actively involved in tasks that have meaning and importance.

Unfortunately, except for a few schools involved in active learning models such as problem-based or project-based learning, most classrooms still focus to a great degree on "exercise-based" work as the basis of student learning. From math worksheets to essays and reports, most of the work assigned to students is destined solely for the gradebook. This raises the question: Are exercises and reports the best way to prepare for a world that values innovation and new knowledge? Are these tasks rich enough to allow teachers to embed other important 21st century skills in the learning process? Recent theorists, such as Fred Newmann, think not.

Fred Newmann from University of Wisconsin defines a set of standards for Authentic Instruction, Authentic Student Performance, and Authentic Assessment Tasks.²⁹

These standards paint a picture of authenticity and relevance in practice. Newmann's standards are organized into three areas:

- *Construction of knowledge*. Students must apply the facts, concepts, and skills that they learn into the construction of some knowledge product or new understanding.
- *Disciplined inquiry*. Students must use disciplined inquiry; that is, develop an adequate base of knowledge and an in-depth understanding of the content and methods of the discipline, which are exhibited through complex communication of ideas central to the discipline.

• *Value beyond school.* The performance must have value beyond the school; that is, the work must have meaning or value that transcends the student-teacher relationship and is not simply used to rate the performance of the student for grading purposes. This value may be a result of sharing the work in a meaningful way with an audience outside the classroom. It may also have value simply because the topic and product are personally valued by the student. Or it may be that the product or task closely mirrors the kind of work done in the real world and that relationship is clearly evident to the student.

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The most challenging of Newmann's standards are those for Value Beyond School. These standards would have been extremely difficult to address in the past, but with the advent of new technologies such as wikis and blogs, students can now communicate with audiences outside the school in safe and efficient ways. For example, technologies such as iMovie and GarageBand allow students to create products that can be shared with a host of audiences in their schools, communities or even globally. Projects such as those found on the iEarn website and web-based technologies such as SurveyMonkey or Zoomerang allow students to create and collect survey research with real subjects and real audiences. In the 21st century curriculum, authentic, relevant work is finally scalable.

Integrated within Newmann's model for authentic learning is the concept of Deep Learning. Noel Entwistle from the University of Edinburgh contrasts deep, strategic learning with shallow, apathetic learning.³⁰ (Note that the entries in the table are not always parallel.)

Deep Learning Shallow Learning

Relating key concepts Routine memorizing

Using evidence and developing schema Following rote procedures

Focus is on growth and understanding Focus is on minimum requirements

Intention is to seek meaning for yourself Intention is to get it done

Deep Learning is a style of learning that comes more naturally to some students than others. In fact, the literature on Deep Learning has many similarities with the literature on self-directed learning, a 21st century skill. But habits of Deep Learning can be nurtured in all students. Deep Learning requires deep teaching. Teachers must give students challenging tasks that require them to wrestle with core concepts in the curriculum and the time to do so.

Research Findings Related to Authenticity and Relevance

While randomized studies that demonstrate the power of relevant, authentic learning have yet to be conducted, a body of compelling correlational research hints at the power of this instructional theory. Newmann has applied the authentic learning framework and assessment tools in two compelling studies. One is an analysis of the role of authenticity in promoting student achievement in school reform projects over a five-year period,³¹ and the other is a study of the relationship between authentic work and student achievement in 100 classrooms in the Chicago Public School system.³²

In each of these studies, Newmann found a strong relationship between the authenticity of the work assigned in classrooms and student achievement. In the Chicago study, for example, multiple assignments were gathered from over 100 teachers randomly selected from schools in grades 3, 6, and 8. The assignments were analyzed using the standards and rubrics for authenticity described above. The state assessments in reading and math and the Iowa Test of Basic Skills were used, controlling for race, socioeconomic class, gender, and prior achievement. Newmann found that students in classrooms where intellectually rigorous, authentic work was assigned gained 20 percent more than the national averages. In classrooms where assignments were less rigorous, student growth was approximately 25 percent below national averages.

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3. Real-World Tools and Methodologies

If student work is to be truly authentic, the tools and methodologies that are used to do that work need to be authentic as well. As the tools of professionals become

increasingly digital, they become more economical for use in education. For example, word processors, spreadsheets, databases, and presentation software are ubiquitous in high schools around the nation. But other tools are available as well. Professional historians, for example, seldom rely on textbooks for their information. They piece together the stories of history from firsthand documents, letters, and other artifacts. Through resources such as the Library of Congress, the Smithsonian, and others, these same artifacts are now available to anyone with a digital device and an Internet connection.

For example, oceanographers make use of real-time data from buoys scattered across the oceans of the Earth. Students can now access that same data and conduct analyses that parallel those of professionals. Movie editing software, once prohibitively expensive and requiring massive computer systems to run, is now included for free with many computers purchased by schools. Students can now use the same resources for learning that once were the exclusive province of the professional and report the results of their learning in a variety of media reflective of the world in which they live.

One of the major hurdles that must be overcome if students are to have access to the tools and practices of professionals is the lack of knowledge of many teachers of the real-world applications of the content that they teach. Many mathematics teachers at the high school level, for example, have been classically trained in mathematics. In many universities, this means that their training has been steeped in theories and algorithms with very little connection to practical applications.

Just as students need scaffolding to develop 21st century skills, teachers may need scaffolding to begin to identify the applications of the content they teach and to construct real-world problems and projects related to that content. For example, providing math teachers with access to architects or civil engineers can provide the impetus needed to create those projects. Even providing students, through email or other Web 2.0 communications, with access to professionals can sow the seeds of real-world applications within the classroom.

The opportunity for the use of real-world tools in the curriculum is as new as many of the tools themselves. Solid research documenting the impact of these tools on student learning is sparse. There are hints in early research, though, of the potential power of these approaches. In a review of the use of databases of firsthand historical resources in the curriculum, for example, Michael Berson from the University of South Florida reported that studies have “demonstrated increased academic achievement, motivation, self-directed thinking, self-initiated activity, construction of meaning, analytical analysis, and increases in collaborative peer interaction.”³³

Research Findings Related to Real-World Tools and Methodologies

In a series of research studies conducted with students using Geographic Information Software (GIS) to study science and geography, GIS was found to strengthen problemsolving skills, increase geographic knowledge, and encourage spatial analysis. In two of these studies, it was demonstrated that despite the use of these professional tools resulting in less coverage of content breadth, the depth of coverage consistently resulted in similar or better performance on factual tests and exams.³⁴ The use of data

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collection “probes” has been linked to increases in the ability to interpret data and decreases in student misconceptions in science.³⁵ Despite the infrequency of use in today’s schools, the use of professional tools in the curriculum shows great promise.

4. A Continuum of Teaching and Learning Strategies

The best teachers have always had a variety of “arrows in their quiver” when it comes to teaching and learning strategies. The value of diverse teaching and learning practices is that they can be applied depending on the content. For example, there are times when a lecture or demonstration is the most efficient way to provide students with the information they need. But as access to information becomes more transparent, the need to lecture diminishes and new practices can be developed. Some of these practices—the use of project-based learning, for example—are established and familiar to most educators. Some new practices, however, are only now being conceived and refined. Online learning has been widely available for less

than 10 years. Video and audio podcasts of classes—and even of entire courses—are now available from iTunes U on the iTunes Store. Leveraging these resources and orchestrating these new teaching and learning practices are the challenges for teachers today.

Additionally, as more data becomes available to teachers, they are now better able to diagnose individual students' needs and make better decisions about what will help individual students learn. This ability opens up a whole new range of possibilities for personalizing teaching to meet the abilities of each learner. Options include small group projects and investigations, WebQuests, just-in-time video lessons, and podcasts that integrate lecture content with slide presentations.

Never before have there been as many options for teaching and learning available to classroom teachers. Where technology resources are sufficient, innovative classroom teachers are radically altering their roles within the school as they move from being the primary source of information and direction to acting as a coordinator of purposeful activity that matches student learning needs with available resources, thereby promoting self-directed learning behavior.

Research Findings Related to Teaching and Learning Strategies

Most of the learning and teaching strategies discussed above have their own bases of research. Some, like authentic learning and assessment, have strong correlational studies supporting them but not much in terms of randomized controlled trials, the gold standard of research. Project-based and problem-based learning each has a considerable body of research behind it, but the results in these studies vary greatly depending on the specific content and process employed.

Some of the strategies are too new to have bodies of research. For example, only a couple of studies have looked at the efficacy of WebQuests in improving student achievement. In one of these studies, a control group in Texas outperformed the treatment group, which participated in a WebQuest on the Texas Revolution.³⁶ But, as the author notes, the control group did not use a traditional, textbook-based approach to learning. They participated in a project that represented that span of Texas history through visual symbols, a compelling group learning approach that seemed more steeped in content and critical thinking than was the WebQuest.

One lesson that can be learned from much of the research on new, technology-supported learning tools and strategies is that their effectiveness is more dependent upon the quality of the content than on the medium. Harold Wenglinsky, known

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in education technology circles primarily for his landmark study on the subject, conducted one of the more compelling studies on the impact of varied teaching practices in the classroom.³⁷ It demonstrated that the students of teachers who used technology for higher order uses such as simulation and inquiry outperformed students whose teachers did not use technology or used it for drill and practice. In the study, Wenglinsky noted that the students of teachers who used varied teaching strategies, hands-on learning, critical thinking activities working with real-world problems, and so on did significantly better on the NAEP mathematics test than those students of teachers with more limited instructional repertoires.

5. Rich Content with a 21st Century Context

As previously noted, 21st century skills are an imperative that schools cannot ignore. Some of these skills can be taught directly, then integrated within the content areas; critical thinking skills are one example. Some require specific environmental, instructional, and organizational changes to provide scaffolds for students as they build new, more productive learning strategies. Self-directed learning is an example here.

Some skills need to be integrated into content and involve changing the context of the content being taught more than involving specific knowledge and skills. A good example here is global awareness. Global awareness can be incorporated into virtually all subject areas by developing the skills, knowledge, and attitudes that will help students learn to operate in a global context.

Several principles should guide the selection of content and context in 21st century learning. First, when possible, educators should err on the side of depth

versus breadth. As described earlier in this report, Deep Learning results in student achievement that is the same or better than rote tasks on assessments of rote learning. But Deep Learning also leads students to the understanding of core concepts and principles in the content area and, if combined with authentic, relevant work, allows the student to develop the higher order skills defined in the P21 framework.

Second, schools must link standards across content areas through the creation of rich, multidisciplinary units or projects. The real world is multidisciplinary. Any field of study—journalism, computer science, environmental science, accounting, and so on—has aspects of language, writing, science, math, and communications. Assigning multidisciplinary work better prepares students for this reality.

In addition, assigning rich, relevant product-oriented work is often inefficient in a departmentalized context. Recently, in California, students participated in a three-week unit developing a travel website with its theme based on the California Standards for ancient Greek history. If the only standards to be addressed were those history standards, the amount of time spent on the unit might have seemed excessive. But the teachers designing the unit incorporated math instruction for pricing, money conversion, and time/distance calculation; language arts instruction for persuasive and descriptive writing; technology standards for use of graphics and web tools; and a host of 21st century skills. The unit increased their efficiency in covering the curriculum.

Finally, schools must infuse the curriculum with a forward-looking context. A teacher in Virginia studying weather patterns in an earth science unit had students collect realtime data from buoys in the Caribbean Sea and Atlantic Ocean to look for changes in currents and temperatures that might be impacted by global warming. Students used those data in concert with satellite images of water vapor to prepare an advocacy report to send to local legislators. Involving students in the issues of today and doing

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so with the tools of professionals in the field can provide students with a sense of the importance of the content they are studying and its linkage to the world around them.

Research Findings Related to Rich Content with a 21st Century Context

Several bodies of research are linked to the topic of rich content with a 21st century context. First would be the research already discussed in an earlier section on assigning rich, authentic work to students. Studies also suggest that in authentic problem-based learning environments, students develop flexible knowledge, linked knowledge that is more easily activated and transferred to novel situations, more effective problem-solving skills and, perhaps most importantly, build skills of metacognition. Metacognition, the ability to monitor the quality and effectiveness of one's own thinking, is a key to critical thinking, self-directed learning, and other key 21st century skills.

6. Linkages to the Outside World

Another defining characteristic of 21st century learning is linkages to the world beyond the classroom. These linkages serve several purposes. First, linkages with local community groups, small businesses, and institutions such as local museums and historical societies, can provide outlets for authentic student work. Second, these linkages can provide additional opportunities for students to collaborate and to act as part of multidimensional teams. Third, these linkages can provide positive role models for students. Interacting with real scientists in an online project, for example, can give students positive insights into professions and professionals alike. Finally, these connections can help students understand their position in relationship to others in their community, nation, and the world, expanding their sense of place and connectedness.

There are several levels at which linkages to the outside world can become a regular part of the student experience. First, simply assigning work on topics where the student has had some say in the development of that topic or where the topic is of obvious interest and importance to the life of the student outside the classroom establishes a link to that outside world. While studying immigration issues in American history, for example, asking students to research their own family's immigration using tools such as the Ellis Island website or interviews recorded with

elder members of their family relates the learning to the life of the student.

A second type of link can be a simulative one. Many online projects offer students the opportunity to emulate the work done in the outside world through rich simulations. In the IMMEX project from UCLA, for example, students studying genetics in the seventh grade can play the role of a genetic detective using actual lab results to try to determine which of three claimants is the twin of a wealthy heir. Perhaps one of the best-known education simulations of the 1990s was the Jasper Woodbury series from Vanderbilt that allows students to solve real-world problems in a videosupported, simulated environment.

The third and most powerful mode of connecting to the real world is through genuine engagement with the world outside of the classroom through joint projects or through authentic projects with a real-world audience. For some time, theorists have discussed the potential for increases in motivation when students are provided with opportunities to do work that has an audience outside of the classroom.

Historically, however, this has been difficult to organize at scale in the insular classroom of the past.

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Today, through email and Web 2.0 technologies such as wikis, blogs, and podcasts, it is now possible to engineer collaborations between students and virtually any other individual or group: students of other nations, experts in a chosen field, university staff, and more. At the entry level, pre-existing projects such as those within iEarn are here today, allowing teachers and students to join global writing or science projects in a safe environment pre-populated with schools across the globe. More advanced teachers are relying on their own visions to leverage the web and new technologies to envision new, exciting, and engaging projects that bring the world into their classrooms on a daily basis.

Research Findings Related to Linkages to the Outside World

Early studies of the IMMEX simulation environment documented improvement in problem-solving accuracy across problem sets and, more importantly, increases in metacognition.³⁸ A large study of the Jasper Woodbury simulation found that while basic achievement was the same in students using that program versus controls, the Jasper Woodbury group outperformed controls on more advanced problem-solving skills and had more positive attitudes toward mathematics.³⁹

Informative Assessment

Informative assessment guides and facilitates learning. Teachers can use informative assessment to make instructional and curricular changes intended to yield immediate benefits for students. Likewise, students can maintain their work as demonstrations of their learning and use reflective and metacognition practices for continuous and deep learning. A continuous or frequent stream of data can be used to monitor outcomes with the explicit purpose of ensuring a quality journey and timely arrival at the destination.

To understand informative assessment, consider the student as gamer. She is motivated to play because she gets feedback every few seconds. That feedback entices and enables her to “stay in the game,” provided she has learned from prior experiences, monitors the current situation, pays attention to the constant feedback, and reacts quickly enough. “Failure” simply provides her a quick break before she gets back into the game—with renewed effort, new data, and new resolve to achieve new plateaus.

Another example of informative assessment might be the comments a student gets back from a circle of learning where peers critique the storyline and flow of her early version digital story. Here the goal is twofold. First, the student is provided with feedback so she might revisit, review, and improve current work (self-regulation of learning). Second, the intent is to provide information for responsive teaching so the next action by the teacher can be differentiated based on actual student needs and interests. The result is meaningful feedback.

Through informative assessment, students, teams of learners, and teachers can use evidence of current progress to adjust, adapt, or supplement the learning experience. Informative assessment serves as a GPS, helping all to see the current position relative

to the destination, while judiciously avoiding judgments.

The type of data collection for informative assessment varies considerably, but might include student journals and self-assessments, peer reviews, teacher observations, student-teacher conferences, interim product analysis (based on rubrics), and others. Informative assessments are conducted during the learning process before any summative evaluation can occur and are typically ongoing and often not recorded.

*"When our students understand that we value their learning more than their test scores, then, maybe—just maybe—they will stop asking the short-sighted question and embark on their own learning journeys."*⁴⁰

— Marge Scherer, ASCD 2007

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Summative assessment, on the other hand, is intended to evaluate progress to date.

It may take the form of the grade a student earned on a classroom assignment, a measure of program effectiveness, or a determination about whether or not a school has made adequate yearly progress. These are referred to as assessments of learning. While summative assessments are administered for the purposes mentioned, they can serve dual purposes and be used formatively as well.

As student work becomes more collaborative, technological, and inquiry-based, students are increasingly learning in online, informal, and team settings. As such, feedback is often generated by other participants working in the same virtual learning spaces and through joint development of wikis, blog responses, text messaging, verbal interactions, or video/audio responses. This is also the case when learners produce multimedia products, publish to the web, and then peers, instructors, co-developers, parents and family, experts, and others provide feedback. This translates into a critical need for self-regulation of learning by students, coupled with clarity of goals.

Research Findings Related to Informative Assessment

According to Dr. Dylan Wiliam of the University of London, research findings from over 4000 studies indicate that it is informative and not summative assessment that has the most significant impact on student achievement.⁴¹ The research on informative assessment in learning stresses the key role of meaningful, timely, and continuous feedback on Deep Learning. For the assessment to be meaningful and timely, the student or team must be clear not only about the learning goals but also on the criteria by which the learning will be measured.

A student's or team's thinking should be made visible through active learning strategies such as discussions, argumentation, papers, journaling, reflections, peer reviews or critiques, quizzes, response systems, and so on. Researchers also stress that such feedback must emphasize understanding of Deep Learning of content and process—not just memorization or procedures.⁴² Such feedback is most effective when students are provided the opportunity to use the data to revise their thinking and their work while the unit is still in progress—in other words, self-assess. Researchers are also finding that opportunities for students to work collaboratively can increase the quality of the feedback. Today such opportunities can be augmented through technology and web tools. Similarly, it is important that the teacher approaches informative assessment with the intent of improvement rather than evaluation. That translates into a mindset where the teacher is continually seeking to rethink and adjust her teaching to meet the needs of learners. Whether the learning goals are self-initiated or established by the school, informative assessment through such feedback and revision cycles is a powerful aspect of learning. The use of effective informative processes in school establishes strong models for the student to use in more informal learning settings.

Summative assessment also plays a role in student learning, for it ultimately acknowledges whether or not the student or team has attained the goal. Doug Reeves recommends designing a "student-centered accountability system."⁴³ If informative assessments are effective, the summative assessment will be a formal, culminating affirmation of the accomplishments and, in some cases, an opportunity

for public performance, publication, or implementation of the student's or team's work.

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Two new elements of summative assessment are being reported in the research community. One is the issue of performance assessments augmented by scaffolds. Roy Pea discusses the need to recognize that many of the technology-based scaffolds such as web access to resources, web access to experts, access to productivity tools, and others should be fully accessible to students in summative assessments.⁴⁴

The second issue is the need to recognize a second type of learning beyond what the individual student is expected to attain by herself—that is, learning that is collaborative in nature that cannot be accomplished by a single individual. In this case, the assessment does review the individual's role in the teamwork, but is largely focused on the outcomes from the team effort. According to Kai Hakkarainen and colleagues, this moves beyond the acquisition metaphor for learning to the participation and knowledge creation metaphors.⁴⁵

A Culture of Innovation and Creativity

Businesses have long recognized innovation as the fuel that drives the global economy. In fact, the new competitive frontier in the world of work is place-based innovation—the ability to innovate again and again within one environment. What this means for education is that learning, creativity, and innovation skills are critical to future success in life and work and should be an integral part of a 21st century curriculum.

Some experts argue that systems can be designed and deployed that produce innovation while others argue that systems squash innovation, and the answer lies instead in creating a culture that supports and advances innovation at its core.

Those who have successfully created cultures of innovation and creativity suggest that one key is to abandon efficiency as a primary working method and instead embrace participation, collaboration, networking, and experimentation. This does not mean that focus, process, and discipline are not important; just that innovation and creativity require freedom, disagreement, and perhaps even a little chaos—especially at the beginning.

In this way, fostering innovation and creativity is often counterintuitive to the beliefs and practices of efficiency-minded business managers and administrators. According to Stanford professor Richard Sutton, creative, “weird” ideas work because they provide three key things: an increase in the range of an organization's knowledge, the ability for people to see old problems in new ways, and an opportunity to break from the past. On the other hand, he warns that creative environments are often “remarkably inefficient and terribly annoying places to work.”⁴⁷

This suggests that teachers should attend to and scaffold students' creativity by providing opportunities for students to engage in deep, complex thinking, employ strategies that are unorthodox and nonlinear, and to explore ideas that are new and even radical. Moreover, these opportunities should exist in an environment that is positive and upbeat, tolerant of failure, provides tools for experimentation, and has little overt evaluation of student work.

Borrowing Models from Business

In addition, schools should consider emulating models of managing innovation from the business world. Management expert Peter Drucker offers one such model.⁴⁸

Drucker suggests that there are seven windows of opportunity that open up

“Like short skirts, innovation has traditionally swung in and out of fashion: popular in good times and tossed back into the closet in downturns. But as globalization tears down the geographic boundaries and market barriers that once kept businesses from achieving their potential, a company's ability to innovate—to tap the fresh value-creating ideas of its employees and those of its partners, customers, suppliers and other

*parties beyond its own boundaries—is anything but faddish. In fact, innovation has become a core driver of growth, performance and valuation.”*⁴⁶

— Joanna Barsh, Marla M. Capozzi, and Jonathan Davidson

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possibilities for innovations. His list includes unexpected occurrences, incongruities, need for efficiencies, industry/market changes, demographic shifts, changes in perception, and new knowledge.

For example, there is currently an incongruity between the contemporary technology tools used by adolescents, such as cell phones, and the high percentage of school districts that ban those very tools from use in schools. Given the large number of students who are disenfranchised from school, this incongruity provides a window of opportunity for educators to re-engage students and catalyze their innovation and creativity through creative use of technologies currently banned.

Another Drucker-style window of opportunity is the positive change in perception recently by the public about the integration of 21st century skills into schools. This represents an incredible opportunity for educators to not only integrate technology into academic standards, but to embrace the 21st century skills as operating principles for their own careers. This would involve a recasting of professional educators as co-stewards—with students and community—of a forward thinking, high-tech, adaptive, 21st century learning system.

Another model of managing innovation in business arises out of the open-source business model. Open source is a set of principles and practices on how to write software that is openly available to anyone who would like to add to it, change it, or use it. Open source is also culture in which giving back to the community is a core value. In businesses based on an open-source model, innovations and creative ideas often come from community members external to the business, which requires radical new techniques for process management and decision-making, among other things.

Mitchell Baker, chairman and former chief executive officer of Mozilla—developer of the very successful open-source browser, Firefox—is a pioneer of the participatory open-source model of collaboration to manage innovation that she introduced at Mozilla to evolve Firefox.

In a recent article, Baker discussed how this works at Mozilla. “For some things at the center, we must have extreme discipline. If you’re touching code that goes into Firefox, the process is very disciplined. But there are lots of areas for participation—whether it’s building an extension or localizing the product or building new products—that don’t need that degree of discipline. And a key point is for people to ‘own’ what they are doing, not in a financial or legal sense but in an emotionally committed sense that gives them a chance to decide, ‘I’m excited about this. I want to do something. I want to write an extension. I want to go tell people how to do this.”⁴⁹ When asked about how the model specifically enables innovation, Baker cited three things: “Sometimes, just giving people permission does wonders... Second, we create scaffolding for people to work from, so that even if we’re not innovating ourselves, other people can... Third, we’ve assembled a set of people here who are really motivated by seeing other people do interesting things. So if somebody appears, out in another community, doing something interesting, we don’t have a not-invented-here culture; we just say, ‘Wow!’”

Still, open-source collaboration is not without its challenges. “There are days when somebody’s done something and you wonder, ‘What were they thinking?’” said Baker. “At that point, you have to look really carefully and evaluate what’s just uncomfortable and what really must be fixed. And then you try to keep that latter category to a minimum. A healthy community will do a lot of self-correction.”

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Educators should look closely at these and other business approaches to see where there might be openings for innovation within their own schools.

Research Findings Related to Innovation and Creativity

Up until the 1990s, the creativity literature looked at creative individuals to the exclusion of creative situations. In 1996, Teresa Amabile updated her 1983 book on creativity to include this new focus: the creative situation (the creative individual within a social or cultural context, the creative team, and/or the creative organization).⁵⁰ Research on social factors related to creativity suggest it is influenced in the individual by birth order, family relationships, early exposure to cultural diversity, environments that encourage autonomy and self-directed learning, and exposure to a creative model within that particular work area.

Research also tells us something definitive about the impact of motivation on creativity. Findings suggest that intrinsic motivation is a necessary component to creativity. This is due, in part, to the fact that it requires genuine interest in the topic to sustain the hard work and perseverance required to be creative. Extrinsic motivation, on the other hand, usually diminishes or extinguishes creativity. The only exception is when the extrinsic motivation is perceived as a bonus rather than as the reason for the creativity.

Similarly, the element of evaluation shifts motivation from the intrinsic to the extrinsic, which in turn undermines creativity. The research is not yet clear on the impact of competition, deadlines, self-evaluation, and rewards on creativity. While further research is needed, there are indications that the modeling of creative solutions can further creativity.

Organizational interests in innovation are driven by the need to constantly reinvent. The factors related to innovative environments include group autonomy, group socialization, mentoring, knowledge transfer, innovation norms, innovation sequence, cultural valuing of innovation, and a culture of risk taking.⁵¹ In addition, there seems to be a strong correlation between levels of innovation and job satisfaction.

Social and Emotional Connections with Students

Social and emotional factors profoundly affect student engagement and motivation as well as student perceptions of relevancy of task. All of these elements have an impact on learning.⁵³ For example, when students lack social and emotional connections to learning, educators, schools, and their peers, it often leads to behavior issues or disengagement, which inevitably leads to declining achievement and, in the worst cases, students dropping out of high school.⁵⁴

Schools are communities, and care can be taken to ensure that each and every student has a purposeful connection with at least one adult in the environment. That adult engages the student in conversation about life and their learning and is a resource for the student. This strategy can be accomplished in myriad ways, but because it is a critical prerequisite for student success, it cannot be left to happenstance.

Having a social and emotional connection supports engagements and, on the surface, engagement as a prerequisite for learning seems obvious and straightforward.

However, engagement is more complex and is typically defined in three ways: behavioral motivation (student participation in learning tasks); emotional engagement

"Reports from the young learners... highlight the dynamic, highly social, and self-sustaining processes that are an important aspect of knowledge and identity development... we should expect interest in learning to originate within and outside school and that adolescents have a significant role to play in sustaining their own development. 52

— Bridget Barron

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(reactions to teachers, other participants, activities in the learning task, and school as well as student attitudes, interests, and values); and cognitive engagement (the willingness to exert the effort that the task requires).⁵⁵

Looking at engagement across these three areas reflects the complexity of students'

experiences in the classroom. Research studies indicate that student perception of relatedness to teachers, parents, and peers uniquely contributes to emotional and behavioral engagement, as does a student's "feeling secure" with teachers and having a feeling of "belonging," as defined by an individual's sense of being accepted, valued, included, and encouraged by others. Similarly, a positive association has been established between students' need for competence and their engagement—behavioral, emotional, and cognitive.⁵⁶

One of the key elements of learning, both in school and beyond, is student motivation. What determines a student's choices, persistence, and efforts in learning? The answer to this question is social and emotional influences.⁵⁷ Researchers generally agree that learning is inherently social—it happens in the context of interactions and relationships with teachers, peers, family, experts, and others.⁵⁸

Social interactions provide tremendous opportunities for students to deepen learning. They find kindred spirits who fuel joint explorations and productions, reinforce understandings, and provide divergent opinions and clarification of understandings as discussions ensue. In many cases, social interactions enable levels of learning that simply wouldn't be possible for students to accomplish on their own. Successful leveraging of such opportunities requires some degree of social and emotional maturity on the part of the student—especially when interactions occur outside the school environment.

The school has several roles to play in building social and emotional connections among students. The obvious role is the establishment of learning environments that promote healthy social and emotion interactions. Educators have found that introducing healthy social interactions such as learning circles, collaborative learning, and active learning strategies into learning does increase academic performance.⁵⁹ Ultimately schools should be building self-direction in learners, enabling students to learn successfully in informal settings outside of school.

Actions at the classroom level that directly affect students' cognitive, behavioral, and emotional engagement include: teacher support (interpersonal and academic); connections with peers (idea discussion/argumentation, peer critiques); classroom structure (one that ensures respect, high academic challenges, and socially supportive environments); autonomy support; and task characteristics (the nature of the task, including its authenticity, the level of interest and/or ownership it generates in the student, the opportunities it presents for collaboration, its level of cognitive complexity, linkages to the real world, and so on). In addition, student perceptions of work and norms established by teachers were positively correlated with behavioral, emotional, and cognitive engagement.

One example of a school that is implementing many of these best practices is High Tech High, a charter high school in San Diego, California. High Tech High is at the top of its game with respect to academic achievement, critical thinking and problemsolving, student engagement, and the percentages of graduates who go on to succeed at higher education institutions. The school attributes its success to three key principles all interwoven into the fabric of the school: personalization, adult world connection, and common intellectual mission.

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The school engages the students socially, emotionally, and cognitively—school leaders have come to understand, through research and practice, that the three are intrinsically interdependent.⁶⁰ One of the ways the school ensures those connections is through the assignment of a staff advisor to each student. The advisor monitors the student's personal and academic development and provides a point of contact for the family. This caring adult matters tremendously to the student's success in school by socially and emotionally personalizing the learning environment. In the role of mentor, the advisor knows if the student is in school each day, is there to celebrate successes, and generally serves as an advocate.

Research Findings Related to Social and Emotional Connections

The literature on social and emotional engagement stems back to Vygotsky's view that the process of learning is at once individual and sociocultural, and includes research from the cognitive, educational psychology, and social sciences.⁶¹ Researchers generally

acknowledge that socialization results in attitudes, values, and cognitive and linguistic skills—all necessary tools that children and adolescents use as they learn.

Recent research summaries also suggest that social and emotional competencies do make a positive difference in student learning. The Collaborative for Social and Emotional Learning (CASEL) announced preliminary results from a study that summarizes the impact of social and emotional competence across 207 research studies. They report that, on average, students in programs that addressed social and emotional competencies outperformed control groups academically by 11 percentiles.⁶² The authors of the book, *Building Academic Success on Social and Emotional Learning: What Does the Research Say?*, agree, reporting that social-emotional competence predicts academic achievement and, conversely, antisocial behavior correlates highly with poor academic performances.⁶³

Jennifer Fredrick's and her colleagues' recent article on student engagement offers context for the discussion around declining academic achievement and disenfranchisement of students from schools.⁶⁴ The article discusses a multifaceted construct of engagement that clearly links social competence to higher levels of learning and emotional competence to higher levels of learning. A look at high school reform across the country is synergistic with the literature on student motivation and engagement.

There is sound research to suggest that to succeed, school reform must address social and emotional competencies.⁶⁵ Bridget Barron of Stanford University goes a step further. She provides a qualitative look at student engagement in students who are using informal learning in combination with formal learning in schools to accomplish specific learning goals.⁶⁶

Ubiquitous Access to Technology

Despite the strong presence of ubiquitous technology in students' lives, a gap exists between teenagers' use of technology and the use of technology for teaching and learning.

When Mark Weiser coined the term "ubiquitous computing" in 1991, he envisioned that "the most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable."⁶⁸

*"Our nation's education system must join the ranks of competitive U.S. industries that have made technology an indispensable part of their operations and reaped the benefits of their actions."*⁶⁷

— ISTE, P21, SETDA Report

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Many schools have determined that the way to increase engagement, improve student achievement, and establish digital equity is to provide each student with his or her own notebook computer. This practice enables students to weave the technology into their learning, both in school and out of school, leveraging it for learning, thinking, creating, researching, and publishing; in short, for their daily work of developing critical 21st century skills.

Also at the core of today's ubiquitous technology is a collection of new generation web-based tools and businesses that form a "participatory web."⁶⁹ Many of these tools are free. Many are social in nature and promote self-expression. Many allow multiple users to participate by editing, commenting, and polishing a document collaboratively rather than working alone. In some ways, both the tools and the products created with them can be considered works in progress, available for anyone to contribute to, *ad infinitum*.⁷⁰

About 96 percent of students with online access report using at least one social networking technology. "Online social networking is now so deeply embedded in the lifestyles of tweens and teens that it rivals television for their attention," according to a study done by Grunwald Associates, LLC in 2007 in cooperation with the National School Boards Association.

Students identified by this study as nonconformists—students who step outside

of online safety and behavior rules—are particularly drawn to social networking. According to the Grunwald report, “These students are on the cutting edge of social networking, with online behaviors and skills that indicate leadership among peers.”⁷¹ Thirty-three percent of all students are nonconformists, meaning in this study that they report breaking one or more online safety or behavior rules, such as using inappropriate language, posting inappropriate pictures, sharing personal information with strangers, or pretending to be someone they are not. Yet they demonstrate a high level of 21st century skills, including communication, creativity, collaboration, and leadership skills, and technological proficiency. At the same time, they are more likely than other students to have lower grades, which they report as a mix of Bs and Cs.⁷² This latter finding reminds us that student achievement may come in many forms and that current methods of assessing student achievement may be too narrow in their focus.

Another population that has much to gain from ubiquitous technology and social networks for learning is youths with disabilities. The National Center for Technology Innovation (NCTI) sees these technologies as great equalizers. “Youths with disabilities, already at risk for being left on the educational and social sidelines, can through social media and these emerging communications technologies, connect with the world in ways that have not been possible before.”⁷³ NCTI points to Brigadoon, an island developed in Second Life by a researcher as a support group for youths with Asperger’s Syndrome, and the collaborative efforts to make multi-user games accessible to gamers who are visually impaired.

Ubiquitous Technology: A Gap with Teaching and Learning

Despite the strong presence of ubiquitous technology in the lives of students, a gap continues to exist between teenagers’ use of technology and schools’ use of technology for teaching and learning. However, one positive sign is the growing interest in 1 to 1 learning programs, where students and teachers have 24 by 7 access to a notebook computer and Internet access. In 2003, Quality Education Data (QED)

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reported that 4 percent of U.S. school districts had started 1 to 1 programs. According to America’s Digital Schools 2006, since 2006 more than 24 percent of school districts are in the process of transitioning to 1 to 1.⁷⁴

1 to 1 Programs Work

Though empirical research is limited on the effectiveness of 1 to 1 programs on student achievement, districts and states report promising results. Students in 1 to 1 environments show greater independence and self-directed learning. They are more engaged and motivated, with significant improvements in attendance and have fewer discipline problems.⁷⁵

As a result, educator experts increasingly have the view that 1 to 1 programs can be a critical component of preparing students for the future. As U.S. Secretary of Education Margaret Spellings noted in a December 2006 speech to business leaders, “Technology can provide a platform to transform education to meet the demands of the 21st century. With education so crucial to our country’s future, we must focus ... energy, effort and investment into transforming this critical sector.”⁷⁶

Carla Beard, chair of the English Department at Connersville High School in Indiana, has said, “If someone were to invent an Engagement-o-meter, our kids would zoom off the top end, and their teachers would not be far behind. We are seeing kids who WANT to take notes. We are seeing kids who were once willing to take a zero and just not do an assignment but who now complete it because a computer is involved. Just today I thought someone was surreptitiously online during my lesson. I asked him to turn off his monitor. He did, but he also said, ‘I was at the dictionary site looking up a word.’ And he was. Wow!”⁷⁷

An increasing number of schools and school districts are experiencing the reality of such observations after implementing 1 to 1 programs. In Maine, for example, 33,000 seventh and eighth graders enrolled in a 1 to 1 program improved their scores in language arts, math, and science. Having used notebook computers all four years of high school, twelfth grade students scored higher than 85 percent of their peers in all five core subjects of the last Maine Educational Assessment.⁷⁸

While use of notebooks for learning is on the rise, most districts remain cautious about the use of mobile technologies other than computers in the classroom, such as cell phones and iPod players, often prohibiting use during school hours. Many districts are also locking down the social networking capabilities of Web 2.0 tools, concerned about issues of safety and distraction.

It is interesting to note, however, that in spite of this lockdown in schools, students report that one of the most common topics of conversation in social networking is education. Almost 60 percent of students who use social networking talk about education topics online and 50 percent talk specifically about schoolwork.⁷⁹

What impact can ubiquitous technology have on teaching and learning? What is pedagogically possible when these tools and social environments are made available to students? Two trends are shaping 21st century learning.

First, the volume of both new and old content is coming online at a staggering pace.⁸⁰ The sheer quantity of stored information in the world is growing at a rate of 30 percent per year, which means it is doubling every three years.⁸¹ Teachers' and students' ability to use that knowledge effectively and deliberately is of the highest importance.

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Second, the creation of content is becoming increasingly collaborative. Almost all software applications on the market today have collaborative tools built in. "Right now, teachers are employing blogs and wikis in ways that are transforming the curriculum and are allowing learning to continue long after the class ends."⁸²

These trends make possible new models of learning, allowing students to do a substantial amount of learning outside of school and collaboratively in peer-to-peer or small group networks. In "The Educators Manifesto," Robbie McClintock describes three of these models:⁸³

- *Connecting to the world.* "Communications technologies have the potential to change schools and classrooms from isolated places with scarce access to information environments with rich connections to the world and all its ideas."⁸⁴

- *Multiple representations of knowledge.* "Multimedia and multiple representations of knowledge make it increasingly evident that the work of thinking can take place through many forms—verbal, visual, auditory, kinetic, and blends of all and each."⁸⁵

- *Augmenting knowledge.* Digital tools designed to "augment human intelligence—from digital calculators, word processors, databases and spreadsheets to very complex modeling, statistical, and graphical software—automate lower level intellectual skill, allowing their users to concentrate on higher level thinking."⁸⁶

A fourth model involves higher order thinking:

- *Collaborative thinking.* Collaborative tools enable teams of students to participate in creating, editing, and revising documents collectively, thus enhancing the possibilities for group wisdom. As they create and collaborate, students find their voices as they are recognized collectively and individually.

Another view of new models of learning compares the Traditional Classroom with the Classroom of the Read/Write Web.⁸⁷

Traditional Classroom Classroom of the Read/Write Web

Textbook Staggering breadth and depth of content. Open-source type classrooms in which everyone contributes to the curriculum.

School teachers Knowledge of primary sources such as authors, historians, and researchers.

Do your own work Produce work in collaborative ways for larger audiences.

Lecture Conversation.

Textbooks and more "closed"

sources of information

Create own texts from different content providers such as blogs, wikis, websites, discussion groups, and so on. Teachers and students employ the many ways to find information on the web.

Reading as passive and

"trusted" process

Active engagement in reading for truth and accuracy.

Paper-based content Electronic learner portfolios.

Text-based writing Write in many different genres.

Mastery of content as

measured by passing a test

Electronic online portfolios.

Handing in assignments Contribute ideas and work to larger body of knowledge that is the web.

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Barriers and Challenges to Ubiquitous Technology for Learning

Evaluations of 1 to 1 programs point to the importance of ensuring that the systems are in place to support teachers as they use ubiquitous computing in the classroom. This starts with a clear focus on desired goals. Careful attention is required for planning, professional development, hardware and software acquisition, managing change, and program monitoring and evaluation.⁸⁸

As ubiquitous computing expands to ubiquitous technology, with greater use of handheld mobile devices and Web 2.0 tools to support 21st century learning, other important issues arise. Some of these issues relate to the privacy of personal information, safety, and control. “The more invisible the technology, the harder it becomes to know what is controlling what, what is connected to what, where information is flowing, how it is being used, what is broken.”⁸⁹ These are significant issues for educators and, in many ways, justify their reluctance to use these new and disruptive tools.

What’s Next?

Alan Kay has predicted that “similar to the impact of printing, computers would only make a difference in people’s lives if they were to become universally available,” which he equated with affordable and portable.⁹⁰ With the growing access to multiple computers and digital devices for an individual anytime, anywhere, it appears that vision is just coming to fruition.

But policy makers should begin to build public vision and add capacity for technology-enabled ubiquitous learning now. They will benefit from the successes, setbacks, and lessons learned from 1 to 1 learning environments. Most importantly, educators need to recognize that with ubiquitous technology, the world becomes the classroom.

Research Findings Related to Ubiquitous Technology

While there are no national standards yet for measuring the success of 1 to 1 programs, results from individual schools and districts indicate the programs boost students’ academic performance and test scores. This has been documented in the state of Maine, previously mentioned, and in other schools, including Pleasanton High School in Texas (see the next section).

The Pleasanton High School example speaks to one of the critical goals—and successes—of 1 to 1 programs: to close the digital divide and equip all students with the skills they need to succeed in the 21st century workplace. This is especially important for lower income students who may not have access to computers and the Internet at home. By helping to improve students’ academic, creative, and technical skills, 1 to 1 programs support the needs and interests of local businesses and can help fuel local economic growth and development.

While most 1 to 1 learning programs focus on improving academic achievement, equity, economic development, and teaching, outcomes often extend far beyond those areas. One compelling outcome is the role students often play in teaching teachers how to use technology.

In a number of 1 to 1 programs, students play an important role in providing the first line of technical support. In Maine, for example, student “iTeams” help troubleshoot routine problems. In other programs, students play a similar role in providing technical support—both formally and informally—as part of the program design.

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The results can be powerful, as noted by a teacher in the Maine Learning Technology Initiative: “We have a kid who isn’t a top student. He doesn’t get all A’s, but he knows a lot about computers. The other teacher on my team is not very good with technology, and she goes to him and he loves that. It’s been a way for him to stand out and make

a difference.”⁹¹

In addition, research shows that 1 to 1 programs have a significant impact beyond schools to families and communities, with students acting as mentors to parents, siblings, and other community members. The programs similarly energize parents, with marked improvements in parent-teacher interaction and parent attendance at school events.⁹² Moreover, 1 to 1 programs increase teacher retention and enthusiasm as well as recruitment efforts.⁹³

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Pleasanton High School

Pleasanton Independent School District

Atascosa County, Texas

Located about 40 miles south of San Antonio, Texas, the rural Pleasanton Independent School District (PISD) spans some 440 square miles and eight communities. About 68 percent of PISD students receive free or reduced-price lunches. Many don't have Internet access at home. But through a 1 to 1 program launched in the 2001–2002 school year, all of the 1000 Pleasanton High School students—and all of their teachers—have a wireless notebook. The school's wireless network reaches all corners of the school grounds—even the parking lot. Even more important than its physical reach, the 1 to 1 program is reaching students.

“We just feel that computers will prepare our kids for the 21st century skills that they're going to need,” said PISD Superintendent Alton Fields. “Some of these kids would never have access to this type of technology if they didn't get it in the schoolhouse.”

And the benefits of this access show, with the PISD staff reporting positive results. In a comparison of attendance rates, attendance was up a full 2 percent over the same period of the previous school year. In addition, student engagement has been extremely strong: Not a single discipline referral was reported for any of the 1000 high school students the day the notebooks were distributed, and enthusiasm for technology-based learning remains extremely high.

On the verge of becoming low performing just a few years ago, PISD is now regarded as exemplary. For example, on language arts standardized tests, the school's ninth graders scored 9.5 percent higher in the school year 2002–2003 than the average for all ninth graders in high schools in the same region; the school's tenth graders scored 16.5 percent higher; and eleventh graders scored 8.1 percent higher.

Results on standardized math tests were even better. For example, ninth graders scored 17.3, 33.3, and 38.4 percent higher on standardized math tests than other ninth graders in the region in 2002–2003, 2003–2004, and 2004–2005 respectively. Tenth and eleventh graders also scored well on these tests compared to other students in their grade levels during these school years.

School district test score data collected by Apple in 2006

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Challenge-Based Learning

An Approach for Our Time

A Research Report from The New Media Consortium

The New Media Consortium i

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Executive Summary

Public education in America is in trouble.

We've known about it for more than 25 years now, since the publication of *A Nation at Risk* in 1983, and

despite billions of dollars of investment and massive reform projects like No Child Left Behind (NCLB), we

still find that three of ten kids drop out of school without a diploma.¹ Each year the US sees its children do

worse in math and science than countries such as Kazakhstan, Latvia, and Lithuania.

The most recent study of global math and science performance² shows US students making some gains

in the last four years, with fourth graders moving from 12th to 11th place, and eighth graders in from 15th

to 9th place in math results, but what the rankings do not show is that that is largely due to erosions in

performance around the world, not in the US making great strides. In fact, there is no significant difference

in science performance among US students in the last four years at all.

At the same time, the world has never had a greater urgency in ensuring that our children are equipped to

tackle the serious challenges that lay before them. The world, to a teenager, is a place rife with serious issues

— a global financial meltdown, planetary warming, dependence on fossil fuels, wars on two continents.

When polled, dropouts report that they leave school because it has no relevance in their lives.

Employers

sponsor study after study documenting the skills the American workforce needs to stay competitive in a

global marketplace, yet increasingly employers are left looking overseas for those skills, as US schools are

by and large not cultivating them.

¹ See Barton (2005) *One Third of a Nation: Rising Dropout Rates and Declining Opportunities*. Educational Testing Service Policy Information Report

² *Trends in International Mathematics and Science Study, 2007 Results*. See the full study at <http://nces.ed.gov/timss/>

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It is not that we don't know we have a problem. It is not that plenty of good people are not working on

the challenges. And we are not alone. Most of the industrial world is experiencing many of the same issues.

We have seen some gains in the quarter century this problem has been in the public eye, but they have

not been nearly enough.

We need to think differently.

What if we focused our energy not on test scores and rankings but on engaging students in their work?

What if their work was more than facts and formulas as presented in books, but relevant to the world they

see? What if rather than trying to teach them problem solving, we actually encouraged them to take on

problems that needed solving? Rather than teaching them a science curriculum, what if we opened the

door for them to do science?

Imagine a class where that sort of thing was the central focus. A class organized on solving real-world issues,

in the spirit of the exhortation made famous by John Lennon to “think globally, act locally.” A class where

the goal was to reach out to any discipline that could provide a piece of the solution, where kids helped

steer other kids to useful resources and knowledge. A class where the outcomes would be absolutely

authentic. A class that would touch on all the essential 21st century skills listed recently by over 40 leading

companies.³ Imagine further that in this class, more than 95% of the kids would self-report that they were

deeply engaged, and that they routinely worked in groups, accessed the Internet for just-in-time tools and

resources, and used the web and digital media to richly communicate their solutions.

That is just what a group of 29 teachers did in December 2008, working with a visionary team of educators

from Apple, Inc. The concept they all embraced was called challenge-based learning,⁴ and by any measure

it was a fresh approach. It called for a new way of thinking about the role of the teacher, one in which

he or she had to be comfortable as the students struggled and wrestled with a meaningful challenge,

letting them choose their own path to understanding within a clearly global issue like sustainability, global

warming, or war, and ultimately allowing them to come up with both questions and answers as they directed the course of their own learning.

In a pilot of the approach that ran in a variety of formats in six schools across the US, fully 97% of the

321 students involved found the experience worthwhile. Students self-reported that they were learning

and refining skills that closely matched those identified by the Partnership for 21st Century Skills, even

though they were never shown that listing. Initially unsure their efforts would matter, by the end of their

respective projects 80% of participating students reported that they had made a difference in their schools

or communities by addressing their challenge. Students strongly endorsed challenge-based learning, with

four out of five saying they would definitely recommend the approach to other students.

3 Partnership for 21st Century Skills. (2009) <http://www.21stcenturyskills.org/>

4 Apple Education wrote a concept piece on the topic in 2008 that describes the method in considerable detail. See

[http://images.apple.com/](http://images.apple.com/education/docs/teachers/Apple-ChallengedBasedLearning.pdf)

[education/docs/teachers/Apple-ChallengedBasedLearning.pdf](http://images.apple.com/education/docs/teachers/Apple-ChallengedBasedLearning.pdf)

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Teachers were surprised by the time and energy expended by their students, and at how they found ways

to address group communication issues and work together, and at how they so enthusiastically embraced

their challenges.

This white paper tells the story of their efforts, and how the results of this pilot show that there is indeed

room in public education for fresh thinking. Kids are clearly engaged when they are allowed to craft creative solutions — and the evidence from this pilot shows that when given the room and flexibility to

tackle things they see as not only relevant, but critical to their lives, they are not only engaged, but they

bring the learning to themselves.

The story begins as it did in real life, with an assessment of the reality faced by our public schools, and an

acknowledgement both of the work that has been done to this point and the work that remains to be

done. Challenge-based learning builds on a longstanding stream of solid educational thinking, and it is

clear not only from this pilot, but also from the literature that it works, so the case for change is something

we will touch on, but not dwell upon. Most of this story begs to be told via the voices of the students and

teachers who participated, and it is in their excitement and their passion that the true success of this pilot can be felt.

The hope of everyone involved in the project is that these ideas will take root and generate more fresh thinking, and new ways of bringing kids to the knowledge and skills they will need in a dangerously challenging world. What we know will not work are short-sightedness, bolt-on marginal approaches, or strategies that put too much distance between the world kids see before them and the material they are asked to master.

Challenge-based learning puts that world in center focus, and surfaces the essential relevance of their core subjects at the same time, as the six remarkable case studies we present make powerfully clear.

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The Case for Challenge-Based Learning

Although the news about American public education is dire, it is not new. It has been evident for some time

that our schools are in trouble. In 1983, the National Commission on Excellence in Education published A

Nation at Risk,⁵ an open letter to the American people and a call to action. *A Nation at Risk* made it clear that the United States had lost the advantage it briefly held in the world in science, commerce, technology, and industry; that as custodians of the education of the young, we were failing; that without immediate, conscious, and focused effort, that failure would only compound itself; and that in countries all around the globe, students were being better prepared to take part in a rapidly flattening marketplace than our own students were.

No such immediate, conscious, and focused effort has taken place.

The reform efforts that have been implemented have not served to rectify the situation; some have arguably made it worse. The most recent and, possibly, infamous of these, No Child Left Behind (NCLB),⁶ has resulted in a severely restricted curriculum, greater use of test preparation drills in place of instruction, and channeling of services away from students at the top

and bottom of the achievement scale in favor of those who are closer to the “pass/fail” cutoff for highstakes

tests.⁷ To make matters worse, some feel that the harsh penalties for failing to meet the standards set forth in NCLB have drawn schools’ focus away from deeper, more endemic problems.⁸

If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war.

— *A Nation at Risk*

⁵ National Commission on Excellence in Education. (1983). *A Nation at Risk: The Imperative for Educational Reform*. Retrieved from <http://www.ed.gov/pubs/NatAtRisk/index.html>

⁶ 2002 reauthorization of the Elementary and Secondary Education Act (ESEA), known as No Child Left Behind (NCLB).

⁷ See Laitsch (2006).

⁸ Chapman (2007) makes this point, as well as pointing out that educational testing experts state that the 2014 standards goals set for schools

are utterly unattainable as set forth in NCLB.

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The reality remains that 25 years after *A Nation at Risk*, high school achievement for American students has

not improved.⁹ Even in the first five years under NCLB, American students showed no gains whatsoever in

reading, and very small ones in math.¹⁰ While students in other nations enjoy rising scores and better preparation for a global workforce, our students suffer under a system that is known not to support their needs, stifled by a crippling inertia that limits new ideas.

Further, American students have a lower graduation rate compared to students in other industrialized nations.¹¹ According to the National Center for Education Statistics (NCES), the proportion of American students who leave school before completing their degrees is increasing — and in recent years, researchers have reported that the figures may have been even higher than suspected due to inconsistent measurements. In his report, *One Third of*

a Nation: Rising Dropout Rates and Declining Opportunities (2005), Paul Barton describes the situation as an underreported problem and voices his suspicion that there is a tendency for schools to avoid classifying non-degreed high school students as dropouts in order to avoid penalization by national accountability standard requirements. This likely results in inflated graduation numbers as well as underreported dropout rates.

Barton's are not isolated observations.¹² Although the situation has drawn considerable attention and

political focus to public education in the United States, teachers are still frustrated and we are still losing

30% of our students; it was only recently that we could even agree how to count dropouts.

Students

are also leaving school earlier: in the past, students who left high school before graduation typically left

between their junior and senior year. More recently, the majority of dropouts leave high school between

grades 9 and 10.¹³

Legislative efforts, then, have not only failed to improve performance, but are also failing to keep kids

in school. The evidence shows that one of the main reasons students are leaving is because they are

9 Strong American Schools. (2008).

10 Sanchez, C. (2007). U.S. Test Results Show Growth in Math, Not Reading. *All Things Considered, National Public Radio*. See [http://www.npr.org/](http://www.npr.org/templates/story/story.php?storyId=14698611)

templates/story/story.php?storyId=14698611

11 See Strong American Schools (2008).

12 Studies conducted by four other independent researchers during roughly the same time period (1998-2000) reported similar findings. Each

study indicated that as many as a third of high school students do not complete high school (Barton, 2005). The most recent NCES findings

for the 48 states for which comparisons between 2002–03 and 2005–06 could be made found that dropout rates increased for 26 states and

decreased for the remaining 22 (NCES, 2008).

13 See Haney (2004). Haney and others interpret these findings to be an indication that more students are being flunked to repeat grade 9, possibly

in an effort to avoid passing students who are not likely to score well on 10th grade accountability tests and to keep reported passing numbers

higher.

...the stress on rewards and punishments based on test scores forces schools to consider the data generated as evaluative rather than as useful for informing instruction. The result is a system that appears coordinated, but results in a number of unintended—although not unpredictable—negative consequences.

—Laitsch, D. *Assessment, High Stakes, and Alternative Visions*

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disengaging from school.¹⁴ While some factors leading to disengagement are related to their home life

and family issues, it is becoming clear that an important factor is that students feel very strongly that what

they are learning in school is not relevant to their lives.¹⁵ Surveys of students who have left school have

revealed that a lack of perceived connection between the curriculum and their everyday life or future work was a key factor, and many former students felt that more could have been done to keep them engaged through the type of schoolwork they were asked to do.¹⁶ Clearly, something has to change. If the reason students are leaving school is disengagement and a feeling that the work is irrelevant, clearly the solution is not to mandate higher test scores. Rather, let us consider for a moment the implications of addressing the dilemma students are actually having. Young people are not blind to the world's problems. They are aware that the world economy is in a dangerous and delicate condition, and they have a clear sense of what a collapse would mean — to themselves, their families and friends, and to people across the country and around the globe. They realize that the planet's temperature is climbing, slowly but perceptibly, and that they may see the effects of that change in their lifetime. They understand that their lifestyle is built upon nonrenewable energy sources and they know some of what that implies. There are real problems that need solving, and young people understand that no less than adults do. They see these important issues taking the international stage and they know that school is not preparing them to address challenges of this level. And one in three makes the choice to leave. It is time to try a new approach. As the scope and potential causes of the nation's dropout problem are more fully realized, school reformers are attuned to innovative ways to help keep student engagement high. Connecting class work to the real world is one obvious way to attain this goal.¹⁷

14 See Alspaugh (1998); Hernandez Jozefowicz-Simbeni (2008); Neild et al. (2008).

15 United States General Accounting Office (2002).

16 See Bridgeland, et al. (2006), in which 71% of respondents reported losing interest in their freshman or sophomore year; 47% reported that they left school because the class work was uninteresting.

17 Varied opinions on what defines a problem-based learning project make it difficult to research its effectiveness beyond non-comparative, anecdotal recommendations, of which there are many (Thomas, 2000). Several comparative studies, however, have generally validated problem-based learning's impact on student achievement. See Boaler (2002), Vanderbilt University (1992), and Ward and Lee (2004), for example.

The time to begin is now. There is not one moment to waste.

— A Stagnant Nation

The educator by the very nature of his work is obliged to see his present work in terms of what it accomplishes, or fails to accomplish, for a future whose objects are linked to those of the present.

— Experience and Education

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The same theme has appeared over and over in educational literature for many, many years, but has never entered the mainstream. In 1938, John Dewey argued for teaching practice that brought students together to work on real problems using real resources.¹⁸ Through the years, similar approaches including projectbased learning and contextual teaching and learning have been attempted, evaluated, and enjoyed by

teachers and students alike; student learning in problem-based courses has been documented; yet the

norm continues to be lecture-based instruction focused on what will be on the test.¹⁹

None of these approaches have taken hold in K-12 education, partly because they are bolted on to the

curriculum in addition to everything else that must be done. Other drawbacks are that it can be difficult to identify appropriate candidates for projects, since not all topics lend themselves to being framed as problems; and teachers must become project managers as well as guiders of learning. Within a teaching environment that is heavily influenced by the demands of standardized testing, it can be very difficult for problem-based learning approaches to take root and flourish.

Instead, what is needed is a new teaching model that incorporates the best aspects of problem-based

learning, project-based learning, and contextual teaching and learning while focusing on real problems faced in the real world. This model must engage students' curiosity and desire to learn. It must make the solving of real problems the center of the curriculum, give students access to 21st century tools, and require them to work collaboratively and manage their own time. It must allow students to direct the course of their learning and engage teachers in a supportive, very necessary role as guides.

Challenge-based learning is such a model. As the teachers and students found who participated in this pilot project, challenge-based learning brings relevance to class work. By giving students the opportunity to focus on a challenge of global significance, yet apply themselves to developing local solutions, challenge-based learning creates a space where students can direct their own research into real-world matters and think critically about how to apply what they learn. The result, as this study shows, is increased engagement, extra time spent working on the

challenge, creative application of technology, and increased student satisfaction with schoolwork.

Not

incidentally, students also mastered the subject-area content and developed many of the skills identified

as vital for 21st century learners.

Challenge-based learning builds on the successes of problem-based learning models where students

engage in self-directed work scenarios (or "problems") based in real life. In challenge-based learning, as

18 Dewey (1938) held that it is the responsibility of the educator to present students with problems that have some bearing on their current

experience, and to make the problem sufficiently interesting to engage learners and arouse their curiosity and natural desire to learn.

19 See, for instance, Pearlman (2006); Saye and Brush (2004); Ward and Lee (2004); Maxwell et al. (2001); and Berns and Ericson (2001).

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in problem-based learning, the teacher's primary role shifts from dispensing information to guiding the

construction of knowledge by his or her students around an initially ill-defined problem. Students refine the

problem, develop research questions, investigate the topic using a wide variety of primary source material,

and work out a variety of possible solutions before identifying the most reasonable one.

Documentation

of the process and a high-quality production of findings further serve to give the process relevance to the

world of actual work.

Challenge-Based Learning – Framework

A unique feature of challenge-based learning is that problems are tied to an idea of global importance

(war, say, or the sustainability of water). Students are able to research the area of the challenge in terms of

events taking place in the world around them, strengthening the connection between what they learn in

school and what they perceive outside it. They then work in teams of co-learners, further increasing their

interest in the process and giving them valuable experience in team dynamics and collaborative work.

Teachers act as coaches to the student-centered communities of practice, addressing individual questions

and concerns and stepping in to help the students retain their focus if the problem seems too large.

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Because challenge-based learning takes its ideas from real-world issues that students then must translate

into solutions of local applicability, a very wide range of curricular areas can be addressed. When integrated

as a regular part of the curriculum, challenge-based learning practices naturally lead to discovery of

relevant subject matter in many areas. Because problems

do not need to be invented — the challenges are real —

students connect what they are learning with their own

experiences.

Access to technology, an integral part of challenge-based

learning, can help teachers overcome some of the other

constraints of problem-based learning. Ubiquitous Internet access in a one-to-one setting opens the door

for students to use online tools for collaboration and communication, often the same tools that are used

in the modern workplace. Students have access to a wider range of resources, including current news

articles, research, and even experts around the world.

A key feature of challenge-based learning is that it appropriates the networking tools and media production techniques already being used in daily life by many 21st century learners. In preparing the final

products of their research — presentations of their chosen solutions — students draw upon photography,

videography, audio recording, and writing skills that they may already be using as web content

producers.

If they are not already doing those things, challenge-based learning provides an engaging opportunity for

them to hone these kinds of high-level communication skills.

As will be seen from the research findings, challenge-based learning motivates students to come to class and do well. It leverages technology tools to put the daily experiences of students in the service of their education. It focuses learning on real-world issues, gives students a chance to work on important problems, gets their voices heard, and empowers them to influence their community for the better. Challenge-based learning has real potential to reverse the slipping trend of poor retention, low scores, and disengagement, turning learning into an exciting, meaningful experience — as it is meant to be.

I am looking forward to taking a break from the traditional learning and being able to try something new. I want to help to prove the idea of traditional learning being the only way wrong.

— 9th grader, O'Neill Junior Senior High School

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Challenge-Based Learning in Practice

Challenge-based learning builds on the practice of problem-based learning, in which students work on real-world problems in collaborative teams, but with key distinctions that add a great deal of relevancy for students. At the center of challenge-based learning is a call to action that inherently requires students to make something happen. They are compelled to research their topic, brainstorm strategies and solutions that are both credible and realistic in light of time and resources, and then develop and execute one of those solutions that addresses the challenge in ways both they themselves and others can see and

measure. The concept is detailed in a white paper produced by Apple, Inc.:

Challenge-based learning is a collaborative learning experience in which teachers and students work together to learn about compelling issues, propose solutions to real problems, and take action. The approach asks students to reflect on their learning and the impact of their actions, and publish their solutions to a worldwide audience.²⁰

While the potential benefits of challenge-based learning present a persuasive case for its use, the details of

implementation and the actual effects on student learning, teacher planning, and curriculum integration

had not been tested and thus were largely unknown. In the fall of 2008, Apple, Inc. decided to put challengebase

learning to the test, in a pilot study that could not only inform practice, but also be replicable across a wide variety of school settings. Six schools from across the country, all schools with one-to-one laptop

initiatives in place, were chosen to participate.

²⁰ <http://images.apple.com/education/docs/teachers/Apple-ChallengedBasedLearning.pdf>

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Located in Manor, Texas, Manor New Technology High is a public high school

that opened in fall 2007 with 160 ninth- and tenth-graders, expanding to 250 students in grades 9-12 in the 2008-09 school year. Manor is considered part of the Austin-Round Rock metropolitan area. The small community school focuses on collaborative, problem-based learning. The student body is primarily multi-ethnic, with 44% considered low socioeconomic. <http://www.manorisd.net/newtech/>

Big Idea Sustainability of Food

Question What are the effects of your food consumption?

Challenge Inspire positive change in food consumption choices

The 37 students and five teachers involved spent one week researching how food is produced, the impact of production and distribution on the environment, how different foods contribute to or detract from a person's health, and how to make appropriate food choices. They created a Mythbusters-like video to explain what they learned and to encourage healthy choices.

School Snapshots

Mooresville High School, located in Mooresville, North Carolina, enrolls 1,400 students in grades 9-12. The student body is fairly homogeneous, with about 78% identifying themselves as white, non-Hispanic. Located about 25 miles north of Charlotte, Mooresville has a population of about 20,000, and is the home to the corporate headquarters of Lowe's Home Improvement Warehouse. It is perhaps best known as the home of many NASCAR racing teams, which have earned the city the nickname "Race City USA." <http://www.mcsc.k12.in.us/mhs/>

Big Idea War

Question What is war and how does it affect society?

Challenge Using WWI as a reference point, tell the story of war and its impact on society.

The 49 students who participated in this project researched World War I and created a multimedia website, including movies and podcasts, to tell the story of war. The site includes a Webquest to help visitors learn more on their own as they complete activities designed by the students. The students also created a video to promote the website. The site can be found at <http://www5.mgsd.k12.nc.us/staffsites/worldwarone>

Moreau Catholic High School in Hayward, California is a Holy Cross college preparatory high school serving 1,030 students in grades 9-12. Located in Alameda County, the school is primarily multi-ethnic, with 52% of the student body identifying themselves as Asian or Pacific islander. <http://www.moreaucatholic.org>

Big Idea Sustainability of Resources

Question What is Moreau's paper footprint?

Challenge Reduce Moreau's paper footprint, reduce waste, and save paper

Each of the three participating classes (64 students total) researched the question and prepared presentations for administration and staff to propose ways to reduce the school's paper footprint. One group created a recycling awareness video, and another created a rap video to encourage the school community to use less paper.

O'Neill Junior-Senior High School in rural O'Neill, Nebraska enrolls 400 students in grades 7-12. The school serves a community of about 4,000 people, and is essentially homogenous in makeup, with 94% of students identifying themselves as white, Non-Hispanic. <http://www.oneillschools.org/>

Big Idea Apathy

Question What is apathy and how does it affect our school community?

Challenge Transform apathy into engagement in our school community

Students worked in small groups to identify issues in the school community that students, staff, or others were apathetic towards; developed a plan for increasing engagement in their chosen issue; and created a video to explain the issue and propose their plan. For example, one group chose to focus on student apathy towards grades. Other groups identified apathetic attitudes towards animal abuse, caring for

school-issued laptops, doing homework, school spirit, and other issues and created proposals to address those. The project website is at <http://oneillcbl.ning.com/>

Pratt High School, located in rural Pratt, Kansas (Pratt USD 382) serves 450 students in grades 9-12. The school serves a community of about 7,000 people, and is essentially homogenous in makeup, with 86% of students identifying themselves as white, Non-Hispanic.

<http://www.usd382.com/vnews/display.v>

Big Idea Sustainability of Energy / Group Identity

Question How would the use of alternative energy sources impact my life? / Who am I and what do I want to be?

Challenge Make Pratt High School more energy efficient / Design your Dream Team for success

Two teachers and 96 students participated in the pilot, with each teacher's students choosing a different big idea, essential question and challenge. Students in the English class created an introductory video describing the big idea and the challenge they took on; working in small groups, they researched the essential questions and proposed solutions.

Punahou School, located in Honolulu, Hawaii, is a private coeducational college preparatory day school serving 3,750 students in grades kindergarten through 12, divided into the Junior School (kindergarten through grade 8) and the Academy (grades 9 through 12). Known as the high school attended by President Obama, Punahou enjoys an excellent reputation.

<http://www.punahou.edu>

Big Idea Cultural Identity

Question What is cultural identity and how does it define me?

Challenge Create a way to increase cross-cultural connections at Punahou.

Five teachers and 52 students participated, and the students explored the ways that cultural is understood and projected. One group chose to share favorite ethnic foods in a video, describing why the food was important in the cultural tradition and even showing how to prepare it; another group's video included a cultural map of the school campus indicating where different groups of students spend their time. A third group examined the kinds of activities and behaviors that show cultural ties between people.

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Twenty-nine teachers and seven professional staff, and 321 students agreed to help conduct the first major test of challenge-based learning and for their experiences to be exhaustively chronicled and researched. The students, primarily 9th and 10th graders, were chosen based on the desire to represent not only a variety of urban, suburban, and rural settings, but also private, public, and magnet schools, richly diverse schools and relatively homogeneous schools, and both affluent and low socio-economic status schools.

Seventeen disciplines were represented among the teachers, who universally expressed excitement about the opportunity to put these new ideas into practice. Students were excited, as well, both for the chance to do something related to a genuine issue, but also to be part of educational innovation at work.

To prepare for the pilot, the teachers and staff attended a twoday workshop at Apple's headquarters in Cupertino, where working in school-based teams, they selected one or more "big ideas" as the focus of the projects that would take place on their campuses,²¹ identified a local challenge related to those "big ideas," and planned how the projects would play out at their schools.

Each teacher was interviewed individually at the meeting to record his or her initial feelings about the project. Teachers expressed apprehension, excitement,

and enthusiasm at the thought of working with their students on a project as open-ended as a challenge-based learning project is. They recognized that the projects would be challenging to lead, but felt that they would be effective and that the students would find both the challenges and the process engaging. Once the working groups returned to campus, the project moved very quickly. Two schools, Manor New Technology High and Punahou High School, elected to implement their challenges in just five days. Moreau Catholic spread their work over two weeks, allocating every other day to the effort. The remaining three schools chose a three-week window.

Comparative Race/Ethnicity

Category All US Project Schools

White 63.5% 54.8%

Black 15.7% 5.2%

Hispanic 14.9% 8%

Asian/Pacific Islander 4.7% 17.9%

American Indian/Alaska Native 1.2% 1%

Multi-Ethnic 11.4%

Unreported 1.7%

100% 100%

US categories and local and national data from National Center for Education Statistics (NCES) http://nces.ed.gov/programs/digest/d07/tables/dt07_097.asp

Numbers of Students, Teachers, and Professional Staff in Project, by School

School Students Teachers Professional Staff

Manor New Tech High 37 4 1

Mooresville Graded Schools 48 1 2

Moreau Catholic 51 4 1

O'Neill Public Schools 40 3 1

Pratt USD 382 93 2 1

Punahou High School 52 5 1

321 29 7

10th Grade

56 Students

Grade Breakdown of Participating Students

11th Grade

14 Students

12th Grade

1 Student

21 The big idea was meant to be a concept with far-reaching significance that impacts humanity. The essential questions created a more specific

focus for the big idea and guided the students toward one aspect of the larger concept. The challenge brought the big idea and essential question home with a local call to action. The big ideas, essential questions, and challenges tackled in the pilot projects were all identified by

the teachers during the December planning meeting

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The first task was for the teachers to explain the process to their students and present the big idea, the

essential question, and the challenge. The students' task was to define guiding questions — smaller pieces

of the essential question that could be researched to increase their understanding of the big idea — and

brainstorm solutions to the challenge, finally choosing one to plan and implement locally. Each group was

to create a video or a website describing the results of their research and promoting their solution to the

challenge. While not every group produced the same level of quality, it was clear that across the board, the

students gave much of themselves to the work, and some of the materials are extraordinary.²²

The journals — in both written and video form — describe the experience from the point of view of the teachers, students, administrators, and staff at points throughout the process as they were immersed in the project. All in all, students submitted more than 1200 written journal entries. Dozens of hours of teacher interviews were captured, along with pre- and post-data on the impressions of all participants in the project, and of course all the effort produced a rich treasure trove of student-produced content related to their projects.

Collectively, these materials richly describe the six unique approaches taken at each of the pilot schools, with frank clarity about using challenge-based learning, which participants found at times daunting, at

times puzzling, but always challenging and engaging.

These interviews, journal entries and other materials produced as part of the six implementations, comprised

the primary research materials used in this study.²³ Data was captured on virtually every aspect of the

process, with perspectives representing faculty, support staff, administration, and of course, students.

Subject Disciplines Represented

Asian History History

Biology Mathematics

Chemistry Multimedia

Computer Animation Physical Science

Graphic Design Social Studies

Earth Science Study Skills

Engineering Theatre

English World Studies

Health & Physical Ed

²² To see the student-produced materials, see the Challenge-Based Learning website, at <http://www.challengebasedlearning.org>

²³ The primary qualitative analysis techniques employed were cross-case analysis and clustering. For an excellent discussion of these and other

qualitative analysis techniques, see Miles and Huberman (1994).

I think this project will require a different kind of thinking than we normally do in school. It will

require everyone collaborating and coming up with ideas as a group, rather than individually...

No matter what, I will be able to make a difference and have an impact on the outcome.

—10th grade student, Punahou School

I think it's going to be scary, and I think it's going to take people out of their comfort zone. I think that's going to be important, because too often we get stuck in that rut. My brain keeps racing about all the different ways that I could use it in different classes. I'm ready to go back and do this in every one of my classes.

— Teacher, Pratt High School

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Overall Outcomes

By any measure, the data are clear. Both teachers and students found challenge-based learning effective

and engaging. Fully 97% of the 321 students involved found the experience worthwhile. More so, when

the data are disaggregated by teacher, 73% of the faculty were able to engage every single student in their

classes; the data for those classes shows student satisfaction rates of a remarkable 100%. Teachers unequivocally also rated the experience as positive, with every one of the 29 pilot faculty reporting that work of the students exceeded their expectations. All but one faculty member reported that the kids embraced the topic eagerly and worked well together and almost three-quarters noted positive changes in student attitude and behaviors.

Students self-reported that they were learning and refining skills that closely matched those identified by the Partnership for 21st Century Skills,²⁴ even though they were never shown that listing. All but three of the critical skills identified by that group were reported as part of their own learning by the students.

²⁴ For the complete list of these skills, see <http://www.21stcenturyskills.org/>

Major Outcomes of the Pilot

- Both teachers and students overwhelmingly found challengebased learning effective and engaging
- 100% of teachers reported that student work exceeded their expectations
- 97% of teachers felt students learned more than expected, and in some cases much more
- Students self reported learning skills that aligned remarkably with the 21st Century Skills
- 80% of students reported that they felt they and their project had made a difference
- There was no apparent relationship between the total time allotted to the project and the quality of or presence of final products.
- The number of students reporting the experience as poor dropped by more than half from the first week of the pilot to the end. Most of the poor ratings were isolated to just a handful of teachers, with half of the final 3.4% rating attributable to just two teachers.
- Projects which the students felt were highly relevant were most likely to have high quality final products. The two least relevant challenges were not completed by the students.

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Initially unsure their efforts would matter, by the end of their respective projects 80% of participating students reported that they had made a difference in their schools or communities by addressing their challenge. Students strongly endorsed challenge-based learning, with four out of five saying they would definitely recommend the approach to other students.

One of the key concerns of teachers in the pre-project interviews was how they would ensure that students mastered the required material for their classes. By the end of the projects, teachers (with just one exception) felt that by and large, students learned more than they expected — in some cases much more. Several commented that students really engaged with the content and worked very hard — harder, in fact, than expected, and showed good critical thinking and collaboration skills. Both teachers and students reported that the kids learned things that mattered to them. Global and community engagement was also broadly perceived to be an outcome, even when its presence was ostensibly unrelated to the content of

the class.

The end results of the seven challenge-based projects exhibited a range of quality and depth, and the

researchers spent some time analyzing why some projects went so much farther than others.

Given

the concerns expressed by teachers about time and scheduling, the expectation was that schools who

devoted less class time to the effort would see end products of lesser depth or quality, but that was not the

case. Schools used a variety of time frames in structuring their projects. Two chose a five-day model, one

an every-other-day model that ran two weeks, and three devoted an entire three-week period to the projects.

None of the difference in outcomes or quality of student work, however, could be attributed to time allotted or scheduling. One of the one-week schools had several of the most creative projects; one of the three-week schools was not able to complete their final projects.

Student-reported skill development mapped to 21st Century Skills

Skill development reported by CBL

21st Century Skills students in three or more projects

Core Subjects Yes

21st Century Content

Global awareness Yes

Financial, economic, and entrepreneurial literacy —

Civic literacy Yes

Health and wellness awareness Yes, in one project

Learning and Thinking Skills

Critical Thinking and Problem Solving Skills Yes

Communication Skills Yes

Creativity and Innovation Skills Yes

Collaboration Skills Yes

Information and Media Literacy Skills Yes

Contextual Learning Skills Yes

Life Skills

Leadership Yes

Ethics —

Accountability —

Adaptability Yes

Personal Productivity Yes

Personal Responsibility Yes

People Skills Yes

Self Direction Yes

Social Responsibility Yes

Source: Partnership for 21st Century Skills <http://www.21stcenturyskills.org/>

Personally, I got quite a bit out of this project.

I feel like our team's work really helped to get

kids thinking about their grades, and when

our solution is implemented, I believe it will

be very successful!

—9th grade student, O'Neill Junior-Senior High School

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Furthermore, no relationship could be found between concerns about time and the length of time allowed

for the project. Whatever the time allotted, it appears that challenge-based learning creates a wish that

more time could be spent on it. While time concerns were common among teachers, they were more

strongly expressed by students in classes where some students reported a poor experience.

Generally,

as would be expected, time concerns loomed larger in the earlier phases of the project and faded as the

project neared completion.

What appeared to be the most critical factors related to quality and depth of the final outcomes were first

the degree to which the students felt the work was meaningful and could actually make an impact on

the challenge. This dynamic appeared to energize the students to devote considerable extra effort to the

outcome. The second factor that emerged from the analysis was how the available time was used. Students

seemed to flounder when too much of the allotted time was devoted to “big picture” brainstorming, and

they then found themselves running out of whatever time they had, with the result either being a simply

“doable” solution that was not perceived as terribly worthwhile or impactful, or one so large it could not

be completed.

Because of the hope that challenge-based learning

could reliably engage highly at-risk students in

learning during the critical 9th grade transition

into high school, a good amount of time

was spent in understanding why

challenge-based learning did not

engage the 23 students who

initially rated the experience

as less than positive, and

the 11 that rated it poorly

upon completion. Upon

close inspection, it was clear that all of

the poor ratings were isolated to just one quarter of the teachers, with half

of the ratings attributable to just two teachers. A notable finding, attributed to the engaging

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25 That figure is equivalent to 3.4% of students. More than 75% of the teachers saw positive ratings of 100%.

nature of the approach, was that the group of disaffected

students was reduced by half over the course of the pilot

to just 3.4%.

When the specifics related to the two classes that accounted for most of the poor ratings were examined, it was found that

one of the teachers had had a bumpy start with her class,

but that by the middle of the second week, the class was

back on track. By the end of the project, all of that teacher’s

students had ranked the overall experience as positive. In

the other case, the students’ satisfaction ratings worsened

slightly over the course of the work, before improving

significantly by the end of the project.

In both cases, the conclusion drawn was that a greater degree

of prior understanding of the challenges and the process on

the part of prospective teachers would likely increase the

likelihood of things running more smoothly. There were no obvious patterns among the other poor ratings, and over all, just 11 students in seven classes ultimately ranked the experience as less than positive.²⁵

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The Student Experience

To capture the student experience, the students themselves were asked to submit journal entries in

response to specific questions at five points in the project, and more than 1200 entries were collected and

analyzed. Additionally, most schools also interviewed students about their projects. A video team was sent

to four schools to capture on-the-ground video as the project unfolded, and of course, the final projects

detail quite a bit of the student experience as well.

From the very start, students were excited about being involved in a national pilot of this scope.

Because

they knew they were being studied, the Hawthorne Effect²⁶ cannot be discounted. The allure of being

videotaped, with their activities regularly chronicled and knowing that there was an audience beyond the

classroom and even their community cannot be discounted as a motivator. Many spoke explicitly about

their hopes that the pilot project itself would lead to changes in schools.

I think that schools today need to change ... if teachers would focus on more than one teaching styles then less people would drop out and everyone would get better grades. And I think that it will help us prepare for the real world. In school things are different, they give us papers and we fill in the blanks. We never problem solve. I also hope that we can maybe change the way the rooms set up, because as small of a thing as it is, it affects us. A lot of people give up just walking in the door and seeing the rows of desks.

9th grade student, Pratt High School

²⁶ The Hawthorne Effect is a term coined by Henry Landsberger in his 1958 book that looked at the results of several landmark studies of

industrial management at the Hawthorne Works factory between 1928-34. The term refers to a measureable effect caused by the act of observation that in and of itself has been shown to cause statistically significant improvements in outcomes. See Landsberger, H. (1958).

Hawthorne Revisited, Ithaca, New York: Cornell University Press.

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Whenever possible, both teachers and researchers

worked to minimize the impact of observation

and to keep students focused on their own

outcomes.

When asked to speak specifically about their

own parts of the effort, students mentioned the

prospect of doing something new, including

working in teams, collaborating with other

students, working with their computers, and

learning on their own. Similar number of students

felt that the idea of working on a challengebased

project, learning about their topic, doing

research, and coming up with a solution was stimulating.

A significant number anticipated enjoying the realworld aspects of problem solving, making a difference, thinking creatively, and teaching their peers.

Student Outcomes. One of the key attributes of a successful challenge-based learning project is the sense that the work is real, that it will make a difference. As the pilot projects got underway, nearly 86% of students felt they would be able to or possibly could make a difference in their community as a result of working on this project; by the end of the effort, 80% were certain it did, and another 10% thought it could. In the analysis, a clear relationship was found between those classes in which students felt that their ideas could make an impact and the successful completion of their final deliverables.

As noted in the overall outcomes, a two-thirds majority looked forward to learning new skills or information, citing technical, critical thinking, communication, research, leadership, and presentation skills among those they expected to improve, all skills noted as critical by the Partnership for 21st Century Skills.²⁷ Nearly a third anticipated personal growth in areas like confidence, personal fulfillment from making a difference, learning about themselves, and cultivating a sense of accomplishment.

27 Partnership for 21st Century Skills. (2009) <http://www.21stcenturyskills.org/>

The Student Experience: Pre and post impressions

Learning about the topic
Tackling big ideas/goals
Worries/negatives
Not looking forward to it
Other positives

Looking forward to doing ...

Completing the project
Learning new skills

Nothing Personal growth

Key things accomplished ...

Figures sum to more than 100 due to multiple responses. Students were very positive both going into the effort and after, with only 3.7% reporting a less than positive experience.

**The Student Experience:
Do you think you can/did
make a difference?**

Pre-Project Post-Project

No
No
Maybe/
Possibly
Maybe/
Possibly

Students were strongly optimistic that they could make a difference through their projects, and that feeling increased somewhat after the projects were completed.

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I am looking forward to doing research on this subject. I am really interested in how much paper is used per year and how many trees are being used up. I also am really interested in learning what else we can do to help conserve trees. I am also looking forward to being documented along the way because then we will be able to see the progress we are making.

9th grade student, Moreau Catholic High School

As the projects unfolded, the students' first task was to identify the guiding questions that would direct their research, brainstorming ideas, and planning their teamwork. Asked what they felt they had accomplished, a majority noted that their teams had made progress narrowing down and researching their topics; most of these reported learning something new. Well over a third named specific actions related to the process of challenge-based learning, such as framing their guiding questions, brainstorming ideas, planning, or completing a project task. Nearly one-fifth felt they had improved corollary skills such as teamwork and facility with technology. At the mid-point of each project, students were clearly engaged and excited. Journal entries and videos both document that kids were busily researching topics, refining solutions, and beginning to prepare media projects and final presentations.

I love this project. I am learning more than I could have ever expected. Gathering information is going very well. I never knew how big of an event World War I was, and I have never heard about it.

9th grade student, Mooresville Graded Schools

This week we made a survey and had people answer some of our questions about grade apathy. We also did many interviews of teachers and students, to see if [what] we thought really was apathy actually was. Right now we are tying our information together and trying to figure out a solution. I think we are going to interview a principal from another Nebraska school where they have teams and get "points" for getting good grades and going out for activities. We think this could be a good idea in our school.

9th grade student, O'Neill Junior-Senior-High School

Personal

growth

Personal

growth

Other

outcomes*

Other

outcomes*

The Student Experience: What you think you would/did you get out of the project?

Pre-Project

Post-Project

*eg life lessons, new friends, satisfaction, chance to play a leadership role
Overall, student reported outcomes aligned very closely with 21st Century Skills.

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Students found group dynamics to be a hurdle; almost a quarter cited group issues as among the problems they encountered. The self-directed nature of the project was problematic for some, and about

a fifth encountered difficulties with researching or preparing the final product. Lack of time and technical

problems accounted for a few more issues.

When asked how they managed these challenges, it was clear that students were solution-oriented, and

overcame challenges by applying extra effort or time, working through things in their groups, being persistent, and maintaining a positive attitude.

It was very hard at first because this project was self-directed. My group and I had never experienced a self-learning project so it was difficult to know how and where to begin. I didn't like how you weren't able to ask the teacher for an answer, or how you weren't able to answer the teacher. Instead you had to do both the asking and the answering which was very difficult ... [but] as we worked through it, it became easier and started to come more naturally. We divided up the work so that we could compile everyone's ideas into one. We also documented our work, which helped us to understand what to do next ...

10th grade student, Punahou School

By the final third of their projects, students were deeply involved in the multimedia presentations describing their solutions.

When their projects were completed, students were asked to complete post-project surveys. The vast

majority of students (96.7%) felt the project turned out positively overall; only eleven students (3.3%) felt it

went fairly poorly or poorly. Students took away improved skills in teamwork, technology, critical thinking,

research, communication, and presentation (a third cited these) as well as personal growth and impact on

their peers and community (a quarter noted gains in these areas). Topic area learning was noted by one in

five as a positive gain.

The main accomplishment in the eyes of many students was the presentation they created. A similar

number noted the learning that occurred as they researched their topics. Improved skills were cited here

again; a quarter felt a sense of accomplishment in technology, teamwork, communication, and other

skills that correlated highly with the listing compiled by the Partnership for 21st Century Skills.

Significant

numbers commented that they felt that they had an impact on their peers, school or community.

A key global indicator about the quality of the student experience is the degree to which students would

recommend the approach to their peers who might be considering such a class. Significantly, four of five

students said they would definitely recommend a challenge-based learning project to their peers; another

almost 10% reported that they might, depending on circumstances.²⁸

The Teacher Experience

Capturing the experience for teachers was an explicit outcome of the pilot, as it was felt that precisely understanding the realities of how challenge-based learning might work in actual schools would be critical in helping others decide if the approach was right for them. In terms of background, the teachers involved in the project were very typical of the field. The group included first year teachers and some with a great depth of experience; the average was 10.1 years in the classroom, and seventeen subject areas were represented. While a technically savvy group overall, with over two years experience working in a one-to-one laptop environment, there was also a range of capability in technical background among the teachers involved. The teachers were formally interviewed on video at five points during the project, but informal interactions also were captured, and researchers spent a good deal of time simply listening as teachers worked through the initial planning and throughout the project. All of the teachers were interviewed during the kickoff meeting; as the project was underway, each teacher was interviewed at least once. Teachers were asked what students were learning and how they were doing; how the project was unfolding; what surprises they had encountered so far; and what was working well, and what was not.

One of the things that really struck me ... was the challenge-based approach of having a topic, asking a question, then asking further questions, refining... the whole process [is reflective of] the scientific method, exactly how you would go about doing the research and writing for a paper traditionally ... this is a great way to go about doing that. I think it's going to really affect who I am as a teacher.

Teacher, Punahou School

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Early Impressions. At the project kickoff meeting, every one of the teachers reported a palpable excitement about embarking into challenge-based learning, expressing feelings such as hope, a feeling that it would be interesting, rewarding, and engaging, and a sense that the project could very well make a difference. The teachers also acknowledged that it would be a new experience for them and for the students. Some indicated that they were feeling scared, uneasy, or skeptical about how the project would work. A few expressed reservations about whether the students would be comfortable with the open-ended method and the lack of directed activity.

In terms of student reward, I think the project is going to be fantastic. If student engagement is the problem ... then getting them projects where they get to be active in class is definitely the key to the solution. I mean, think about how many hours students spend in a classroom in a week, and how many of those hours are spent sitting, physically sitting, just listening? I couldn't sit still and listen for that long. ... I think [it's] going to be great.

Teacher, Punahou School

The teachers anticipated a variety of obstacles to overcome and the need to work around important constraints in order for the project to be successful. Chief among these were a variety of concerns about the process of challenge-based learning, which was understood post-project to be part of their own learning and preparations. The most often mentioned constraint was the tight time schedule (noted in 34.6% of the responses). Motivating students and getting them interested in the project was seen as another potential challenge, as was the need to align the project with the required curriculum so that they could ensure that the required material was covered.

Kids worked well together
99.3%
Positive changes in students
72.8%
Challenging/hard
15.4%
Reservations/concerns
30.8%
Time or technical issues
17%

The Teacher Experience: Pre and post impressions

How do you think this project will turn out?

How did the project turn out?

While teachers expressed strong reservations about whether the students were up to CBL, citing concerns about process, group dynamics, technical skills, and mastering the content, every single teacher reported that the results exceeded their expectations. In the end, only time and technical issues remained significant concerns. Figures sum to more than 100 due to multiple responses.

Time/school schedules
34.6%

The Teacher Experience: Perceived hurdles, pre vs post project

Biggest hurdles would be ...

Biggest hurdles were ...

Figures sum to more than 100 due to multiple responses.

Process concerns related to completing components of the study (journals, video interviews, etc), reporting requirements, and understanding the key components of the CBL process.

Motivating the kids
26.9%
Getting thru the required material
23.1%

Technology issues

6.7%

Group

issues

6.7%

Various

process

concerns

13.8%

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You want that creativity... but at the same time, you're held to the content requirements... that's going to be on your statewide test, by which your school is going to be measured. ...

Teacher, Mooresville Graded Schools

Interim Observations. Fourteen teachers completed interviews during the first phase of their projects,

another dozen at the midpoints, and the remainder as their projects wound down. Their comments and

observations reflect the actual experiences they were having in real time as the projects unfolded. From the moment the projects began, the teacher comments reflected surprise on a number of levels.

Teachers noted that students that typically did not engage were diving into project work; students were

eagerly researching and collecting data, working on their guiding questions, sorting out their teams, and

getting their arms around the challenge. Most of the teachers observed new forms of thinking in their students, including learning about themselves, learning to ask good questions, becoming more aware of their environment, and struggling not to jump directly to solutions. While some occasionally referred to the process as chaotic at times, they also all observed that something new was happening.

It is the questions that they ask. When they ask a question that I didn't even think of myself. Or when they find a resource or figure out to use a resource that I didn't even think of. I am having these moments where I am like, "man, what a good idea!"

Teacher, Mooresville Graded Schools

I have been amazed at how engaged they are in what they are doing. You don't very often walk into a classroom and see the whole class totally engaged in what they are doing and these kids are. Everyone is working on their computer and doing what they are supposed to.

Teacher, Pratt High School

The Teacher Experience: Typical surprises expressed

Students who typically did not participate were engaged and involved

Attendance was higher than usual during the project

Students and teachers alike learned a lot of new technology

Students showed noticeably positive changes in attitude and skills

Student changes occurred on dimensions such as taking on leadership roles, pride in work, and showing positive feedback and support for other students.

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Once we started talking about the activities aspect of it... once I said, "Looking at the questions you came up with, what are some activities you could do that could address some of those questions?" that's when they started really getting into it, and the energy in the room went from just like "blllleh" [deflates] to like "wooooo" [sits up very straight and excited] because they started thinking about "Okay, what could we do [snaps fingers] to get people out of their cliques on the campus? How can we get them interacting in a more direct way outside of their normal social, cultural boxes?" And their ideas are really things I never would have thought of, and I'm really curious to see if they can pull it off [laughs]!

Teacher, Punahou School

Asked to comment on what was not working early on, one-fifth said everything was working well. Another fifth encountered process issues, such as students trying to jump right to the solution or failing to understand the challenge, and the difficulty of guiding students without giving out answers. Time constraints were causing some strain to others, while a few cited the formation of teams as a trouble spot. Other issues were more local, such as a difficult trip to the library or student absences, but with very few exceptions, all more at the group than the class level, these sorts of concerns disappeared as the projects unfolded.

By the end of the second class, I'm feeling pretty optimistic.

Teacher, Punahou School

In the middle of the program, twelve more interviews were collected. Teachers reported that as students continued to work on their projects, they were focusing on refining their guiding questions, conducting research and collecting data, designing solutions, and developing their multimedia pieces.

When a student came back from Thanksgiving, and I had said, "See who you can contact," and [this] kid comes back with contact information from a professor who teaches in London... Talk about taking this to an international level, this girl. I can't believe she had the guts to do that as a 14-year-old kid. She just wanted a good resource, even if it was across the ocean.

Teacher, Mooresville Graded Schools

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Asked about how the program itself was unfolding, the majority (74.9%) were very positive, noting that the

project was going "extremely well," student engagement was high, and things were "taking off."

The level of engagement is so much higher. Think of it as an s-curve and there was a lull and everyone was confused and not sure what was going on. The it just spiked in terms of what was going on, activity levels. Now we are still at the top of that curve and everyone is working hard.

Teacher, Mooresville Graded Schools

Many teachers (83.3%) expressed surprise at the high levels of student enthusiasm they were seeing; one

teacher noted that a student who was out sick connected through video chat to take part in class from home.

One of the biggest surprises for me was the enthusiasm from one of the particular classes of students. They are the ones that have the most trouble academically. They are a class specifically for learning study skills. But this particular research, and topic, and brainstorming they seem to really be enjoying. So it is bringing out a creative side of them that they might not have been aware of.

Teacher, Moreau Catholic

...[the] kids have made connections with resources in the community, human resources, experts, local people that know more about the subject area than us ... People in our community are seeing what kids care about and what they are doing in the school. I think that is going to be a huge byproduct of challenge-based learning.

Teacher, O'Neill High School

The amount and quality of work being done, and the skills students were developing also came as a

surprise; many teachers commented on this. In particular, teachers noted that students were mastering

the technology quickly and rapidly becoming creative with it. By mid-project, over ninety percent of

the teachers felt that one of the aspects of the project that was going especially well was the students' attitudes and their involvement in the work. The use of technology and community resources was cited

as a positive factor by a third.

Eleven teachers recorded interviews toward the end of the projects, when students were primarily working on their media presentations. Teachers observed that students were still very enthusiastic and

their solutions looked promising. Students were developing practical skills such as teamwork and time

management. By this point, the great majority of the teachers (81.9%) felt the projects were unfolding well,

but time remained an issue throughout the program.

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By the last class, when I was looking around the room, I was thrilled, actually, because the students were really engrossed, engaged. They were doing the project for the sake of doing the project, not because of all of the different external motivators that we have in the school. I saw the potential of this curriculum model and I saw the potential of technology in the classroom. I felt like this was the best use of technology I had seen in my classroom.

Teacher, Punahou School

Teacher Outcomes. Clearly the teachers felt that challenged-based learning was an effective strategy. Fully 100% of the

teachers said that their students exceeded their expectations in terms of quality and quantity of work.

Nearly all (99.3%) of the teachers noted that the student teams worked well and that students were collaborating and learning from each other. A majority (72.8%) also observed positive attitudes and growth

in the students over the course of the project.

After the projects were completed, respondents felt the project turned out well and was a valuable experience that students will remember; they were pleased with the content that was created and excited to see what the students came up with. Teachers were stuck as much as the students were with

the engaging nature of the challenge-based learning process; fully half of the teachers expressed a wish

for more time to implement the ideas that their students developed. Many singled out the benefits for

students, including increased motivation, taking ownership of their learning, and directing their own activities.

... there was a day when the kids had been out and about in the campus and had interviewed some students. They came back and they were all excited and interested, and clearly their interest in the project had increased. Then I read some of the journals they had done, and it was clear to me that there was some thinking going on in the students that I hadn't realized.

Teacher, Punahou School

Serendipitous opportunities were plentiful, although they varied from teacher to teacher, as might be

expected. One teacher found that the work merged well with her curriculum standards; another picked

up ideas for future practice from the work her students did. Another appreciated the opportunity to see

students working in a new environment.

Challenges, too, varied; while two teachers reported the time crunch as a significant challenge, others

struggled with managing groups of students working in different directions, or with accepting student

solutions that took a different tack than expected.

The Teacher Experience:

Common meaningful outcomes mentioned

Having the chance to work with other teachers

Allowing and encouraging cross-grade-level interactions

Seeing the kids get so excited

Giving students the freedom to come up with their own ideas

Seeing students naturally use math skills from the normal parts of the class

Emulating real world problem solving

Seeing kids learn things they can then teach adults

Seeing kids create a meaningful product about people in their community

Having the chance to be creative

Forming new bonds with kids and other faculty

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... A lot of students struggled to define the challenge... students also, at times, wanted more guidance from me... so seeing their frustration, seeing them trying to figure out what they ought to be doing at any given point, and then knowing myself that I really had to let them work their way through that frustration... it was not easy.

Teacher, Punahou School

Ultimately for teachers, however, the true measure of success cannot be assessed without considering if the learning that occurred met the requirements of the required curriculum.

When asked about students' mastery of the content, all the teachers (100%) felt that students had either mastered the content or gained other valuable skills, such as critical thinking, collaboration, or global and community engagement. In general, students learned more than was expected, and most students mastered the content.

The biggest hurdle we ran into was the actual tech skills of our kids. Their skills I thought were a little stronger than they were. They use it for a lot of different things but all of the sudden, they fell back into their comfort zones [of] writing a paper or doing a PowerPoint or keynote presentation... It was a challenge to push them past their comfort zone.

Teacher, Pratt High School

Some teachers had difficulty adjusting their teaching practice to the challenge-based learning model;

50% felt that planning and structuring class time, remaining hands-off, and not pushing the students one

way or another were very challenging.

The teachers were united in feeling that the most meaningful outcomes related to the student experience.

All of the respondents noted benefits such as cross-grade interactions, real world problem solving, student

freedom and excitement, creativity, community involvement, and students teaching their peers and adults what they had learned. Additionally, many teachers identified benefits to themselves, in the form of

opportunities to work with their colleagues and to form new bonds with both students and faculty.

The Teacher Experience: Top comments related to student

mastery of content

Students learned more than was expected; most mastered the content
Students really engaged with the content and worked very hard
Students learned things that mattered to them
Students showed good critical thinking and collaboration skills
Global and community engagement was a focus, even when not content-specific

Two teachers commented on the need for formal assessment, but generally teachers could see the learning taking place.

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The most meaningful outcome was a group of students put together a podcast of the people that they looked up to. They used key figures in history, or from a particular sport and then they used people who were actually in their everyday lives. And it was really neat to see them speak highly of people that you sometimes don't hear them speaking highly of or that you didn't even know that they thought that way about someone and that they actually look up to this person as a role model was just awesome.

Teacher, Pratt High School

In the final analysis, most teachers had similar responses to the approach as their students. They found it

fresh, exciting, and new. The learning felt real, meaningful, and authentic to everyone involved.

The opened

process was challenging at times, because it required critical thinking and action to move forward, and there were moments when both teachers and students felt the stress of evaporating time.

The aspects of the approach that offer the most promise also require careful planning. Teachers found

that engaging students in learning and asking them to set their own directions within a larger framework

meant shifting the locus of control, placing everyone in a new context. Understanding and planning for

that was thought to be key.

As the pilot was finished, the projects put away, and the analysis of the data completed, the overarching

feeling of everyone involved was that this was by any measure a most successful pilot. Not only was

challenge-based learning shown to work, and work effectively in populations of some of the most at-risk

kids in American schools, it was also clear that it can be done more effectively. That is the point upon

which this report will end — with a look to next steps and continuing efforts.

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Recommendations for Practice

The project team believes very strongly in the efficacy of challenge-based learning and anticipates that other

schools will want to include it in their curriculum planning. To that end, the following recommendations

have been drawn from our experiences — and those of the teachers and students who participated in the

pilot — and are presented here to assist in the planning process.

Prepare teachers by introducing them to challenge-based learning in a retreat or workshop setting. Use this time to answer questions about the process, share examples from this pilot and similar

projects, and help teachers understand their role, which may be very different from what they are used

to doing. Set expectations about what teachers will do and what students will be asked to do so that

students hear a clear, consistent message throughout the project from everyone involved. A full-scale offsite retreat is not necessary; the key components are a dedicated time and place, someone to explain the process and answer questions, a chance for teachers to express their concerns and be heard, and an opportunity for them to collaborate on designing the challenges.

Bring teachers together in multidisciplinary teams to plan and carry out the project.

Participating

teachers were enthusiastic about the opportunity to work directly with their peers at their own schools,

not only in conceiving the challenge, but also all throughout the project. They found the connection with other teaching professionals to be very valuable in terms of sharing ideas and resources, helping

one another through tricky or uncomfortable spots, and helping students make connections between

It's going to be exciting to be able to work with other teachers on a project that we haven't really taken the time or effort to do before. We should have been doing this all along. This is just sort of the added boost that we need to do it, to get started.

— *Teacher, O'Neill Junior-Senior High School*

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different subject areas.²⁹ Extending the challenge across disciplines opens the door for students to look for

solutions that touch on more than one area, and both teachers and students commented on how much

they appreciated working in teams.

Select the challenge carefully, and make it a real one. It is crucial for the challenge to actually relate to the real world and for it to have an impact on the students' families, local communities or school.

Student comments indicate excitement and engagement around the idea of being able to personally

have an impact, and a majority of students both anticipated that they would be able to make a difference

and felt that they had afterward.³⁰ It is also important that the size of the challenge be in line with the time

and resources available for the project; if the challenge is too big, kids do not know where to start and

will feel stressed and pressured for time at the outset. The teacher's guidance is extremely important both

in selecting appropriate challenges and in framing them in such a way that students can get their arms

around what is being asked of them.

Build 21st century skills into the project right from the start. While nearly every skill identified by

the Partnership for 21st Century Skills emerged naturally from the types of activities students engaged

in as they worked on the challenges, it would be very easy to hit them all. Teachers who are aware of the list of skills can incorporate specific project components to build on them, such as the health awareness component of the project on food sustainability at Manor New Technology High. Skills like financial and economic literacy are a natural fit for challenges related to the economy, but almost any topic could have a financial component. Teachers can plan final project requirements that incorporate subsets of the 21st century skills, or encourage exploration and research that helps students develop certain skills. **Whatever the timeframe, teachers need to budget project time wisely.** The pilot demonstrates that outcomes are independent of the length of the project; challenge-based learning projects can be designed to take place in a single day or last an entire school year. The critical issues around time are to allocate it in proportion to the scope of the challenge, and to help students break down the overall project length into reasonable segments. Enough time must be allowed for students to work through the big idea and brainstorm research questions, but there is a point of diminishing returns when brainstorming must end and research must begin. Likewise, students need plenty of time to do the research and brainstorm solutions, but then they must stop brainstorming and select one solution to develop. These points in the project are difficult for students to recognize, particularly if they are new to challenge-based learning. Teachers must design the experience to create a feeling of pressure such that students understand how to move on at the right points.

29 With regard to outcomes of the project, 38.4% of the teacher comments in the pre-project survey indicated an expectation that challengebased learning would have a positive impact their teaching practice; of those, a third mentioned the beneficial effects of working with other teachers. In the post-project teacher survey, 37.5% of the comments about outcomes dealt with professional development and new connections with other teachers and students.

30 See page 22, *The Student Experience: Do you think you can make a difference?*

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Schedule the project at a time when it does not conflict with other demands on student time.

If the challenge-based learning project is shoehorned in among other activities like mid-term exams, students will not be able to give it the focus that is required for deep learning. Instead, plan a time when the challenge can take center stage, which also reinforces the idea of its importance. Students in the pilot found that sources outside school provided opportunities for research, including news stories, community members, and experts around the world.³¹ Scheduling the project to allow time to explore resources like these gives students a chance to look for solutions and research material in unexpected places. **Allow dedicated work time during the school day.** Teachers reported that once the project got

going, students were very engaged in their work. Some teachers reported increased attendance during the project; one teacher even remarked that a student who was home sick arranged to be present via videoconference so as not to miss out. Students worked on their projects outside school hours, as well.

Clearly, the challenges were important and engaging to the students. Emphasize their significance by scheduling daily time for project work.

Give students access to technology, and provide adequate technology support.

Each of the schools in the pilot is a one-to-one school (every student has his or her own laptop with Internet capability). Students and teachers alike noted that having access to the computers and to the Internet 24/7 was a critical component of the project.³² Students preferred to be able to do research wherever and whenever they needed to, and easily accessed information on the fly as a normal part of their working strategies. Media literacy and presentation skills are important parts of the 21st Century Skills set, and fit naturally within the challenge-based learning framework. Students clearly felt that preparing the multimedia presentations of their proposed solutions was a source of great satisfaction. Naturally, problems occasionally arose, particularly with video formats, and it is critical to have someone on hand who can troubleshoot, give guidance, and make any needed repairs or updates to the technology so that students can continue working. In the planning stages, spend some

time discussing the media needs of the project. Consider setting out clear recommendations for media

size and format, perhaps including software settings for rendering or exporting video, so that students

clearly understand how to prepare their final work.

I think that this project is going really well. I like having the option to use the Internet to gather information as well as using books. This allows me to be able to get a lot more information pertaining to my specific topic as opposed to having to scour a lot of books to get the same information. Also, I like being able to make the multimedia presentations a lot because they are so much better than making a project with the traditional materials. I can convey the same information in a more timely and interesting manner. I can't really think of anything that isn't going well with this project.

— 9th grade student, Mooresville Graded Schools

³¹ In open-ended responses, research was consistently cited by students as one of the aspects of the project that was going well throughout.

³² In pre-project surveys, 12.1% of students mentioned technology skills as something they expected to acquire during the project. In weekly

surveys, technology skills were reported as a key learning each week.

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Give students the opportunity to act on their solutions. The kind of learning that takes place in challenge-based projects

is reinforced by action, and students will learn much from the implementation of their own ideas. Part of the attraction of the projects to the students was the opportunity to persuade their peers and the adults in their life to take part in activities they designed. In order for students to see that they can make a difference, they must be allowed to carry their solutions through to action. Implementation is accompanied by major outcomes in terms of acquisition of 21st century skills such as communication, leadership, civic literacy, and social responsibility, among many others.

Practice, iterate, and improve the process. At the outset, teachers were very concerned with how the process would unfold. They were apprehensive about giving up control and worried that students would not pick up the reins and do the work. By the end of the project, however, those concerns had virtually evaporated.³³ Students, too, were nervous at the start; they were not sure how to act in a situation where they directed their own learning. When it was all over, the majority of students said they would recommend a similar project to other students, and overall they felt the project went fairly well or very well.³⁴



We began this report with the observation that the children in our schools today will

inherit

unprecedented problems that will need to be addressed in their lifetimes. We know that decades of reform have not given us hope that the erosion of skills in our youth will subside. We know new ideas are needed.

Challenge-based learning is one of those ideas. Fresh, new, relevant to today's issues, it is an approach

uniquely suited to our time. The findings of the Challenge-Based Learning pilot are encouraging, and clear.

They solidly support further experimentation, further research, and further work in the field.

More than that, they show it works. We know we need to make learning relevant to the challenges youth

will face in their lifetimes—and we can.

The time to begin is now.

The project is going well, but it is unusual to have this many options. There are almost no limitations. Since we are just trying this out there is not enough time to really follow through with this project. But if this style of learning does start being used all over I think that it is important that we implement our ideas and not just write them down.

—10th grade student, Manor New Technology High

Yes, I would [recommend this kind of project to other students].

Not only that, I think that the work that people accomplish

should, some way, be published, so people would know about the changes that need to be made, and soon.

—10th grade student, Manor New Technology High

33 See page 25, *The Teacher Experience: Perceived Hurdles, Pre vs Post Project*.

34 Of the students who responded to the post-project survey question, *Would you recommend a project like this to other students?*, 88.1% said they

would or they might, while only 11.9% said they would not. Also see page 19, *The Student Experience: Pre and Post Impressions*.

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Challenge Based Learning

Take action and make a difference

Introduction

Traditional teaching and learning strategies are becoming increasingly ineffective with a generation of secondary students that have instant access to information, are accustomed to managing their own acquisition of knowledge, and embrace the roles of content producer and publisher.

Today's high school curriculum presents students with assignments that lack a real-world context and activities that lead to uninspired projects and end in a letter grade. Many students either learn to do just enough to get by or they lose interest and drop out. In this interconnected world, with ubiquitous access to powerful technology and access to a worldwide community, new models of teaching and learning are possible.

Students embrace media that presents participants with a challenge and requires them to draw on prior learning, acquire new knowledge, and tap their creativity to fashion solutions. The entertainment networks have capitalized on this formula with shows like *The Amazing Race*, *Top Chef*, *Trading Spaces*, and *Project Runway* in which participants creatively draw on their knowledge and resources to create appropriate solutions to challenges.

To address the need to create new ways of engaging students to achieve, Apple worked with educators across the country to develop the concept of Challenge Based Learning. Challenge Based Learning applies what is known about the emerging learning styles of high school students and leverages the powerful new technologies that provide new opportunities to learn to provide an authentic learning process that challenges students to make a difference.

The Challenge Based Learning effort is part of a larger collaborative project initiated in 2008 called *Apple Classrooms of Tomorrow—Today (ACOT₂)* to identify the essential design principles of the 21st century learning environment with a focus on high school. *ACOT₂* follows in the tradition of *Apple Classrooms of Tomorrow (ACOT)*, a research and development collaboration among public schools, universities, and research agencies that Apple initiated in 1985 and sustained through 1995 with outstanding results.

Challenge Based Learning is an engaging multidisciplinary approach to teaching and learning that encourages students to leverage the technology they use in their daily lives to solve real-world problems. Challenge Based Learning is collaborative and hands-on, asking students to work with other students, their teachers, and experts in their communities and around the world to develop deeper knowledge of the subjects students are studying, accept and solve challenges, take action, share their experience, and enter into a global discussion about important issues.

Challenge Based Learning

Take action and make a difference

Challenge Based Learning includes these attributes:

- Multiple points of entry and varied and multiple possible solutions•
- Authentic connection with multiple disciplines•
- Focus on the development of 21st century skills•
- Leveraging of 24/7 access to up-to-date technology tools and resources•
- Use of Web 2.0 tools for organizing, collaborating, and sharing•
- Focus on universal challenges with local solutions•
- Requirement that students do something rather than just learn about something•
- Documentation of the learning experience from challenge to solution•

These attributes ensure that Challenge Based Learning engages learners, provides them with valuable skills, spans the divide between formal and informal learning, and embraces a student's digital life.

To support Challenge Based Learning, Apple is creating an online environment that provides teachers with access to challenges along with guiding questions, activities and resources, and solutions to the challenges designed and published by other students.

Key Components

The Challenge Based Learning process begins with a big idea and cascades to the following: an essential question, a challenge, guiding questions, activities, resources, determining and articulating the solution, taking action by implementing the solution, reflection, assessment, and publishing.

The Big Idea: The big idea is a broad concept that can be explored in multiple ways, is engaging, and has importance to high school students and the larger society. Examples of big ideas are Identity, Sustainability, Creativity, Violence, Peace, and Power.

Essential Question: By design, the big idea allows for the generation of a wide variety of essential questions that should reflect the interests of the students and the needs of their community. Essential questions identify what is important to know about the big idea and refine and contextualize that idea.

The Challenge: From each essential question a challenge is articulated that asks students to create a specific answer or solution that can result in concrete, meaningful action.

Guiding Questions: Generated by the students, these questions represent the knowledge students need to discover to successfully meet the challenge.

Guiding Activities: These lessons, simulations, games, and other types of activities help students answer the guiding questions and set the foundation for them to develop innovative, insightful, and realistic solutions.

Guiding Resources: This focused set of resources can include podcasts, websites, videos, databases, experts, and so on that support the activities and assist students with developing a solution.

Solutions: Each challenge is stated broadly enough to allow for a variety of solutions. Each solution should be thoughtful, concrete, actionable, clearly articulated, and presented in a publishable multimedia format such as an enhanced podcast or short video.³

Challenge Based Learning Take action and make a difference

Assessment: The solution can be assessed for its connection to the challenge, accuracy of the content, clarity of communication, applicability for implementation, and efficacy of the idea, among other things. In addition to the solution, the process that the individuals as well as teams went through in getting to a solution can also be assessed, capturing the development of key 21st century skills.

Publishing: The challenge process allows for multiple opportunities to document the experience and publish to a larger audience. Students are encouraged to publish their results online, soliciting feedback. The idea is to broaden the learning community and foster discussion about solutions to the challenges important to students.

The Process

Challenge Based Learning follows a workflow that mirrors the 21st century workplace. Students are given enough space to be creative and self-directed and at the same time are provided with support, boundaries, and checkpoints to avoid frustration. The workflow can be structured and modified in a variety of ways. The following process is provided as a starting point but is not meant to be prescriptive.

Setting Up a Collaborative Environment

A shared working space is helpful for a successful challenge. The workspace should be available to students 24/7, include needed resources, access to activities, a calendar, and serve as a communication channel with the teacher and between team members.

A variety of resources can be used to create a collaborative environment, including:

Apple Tools: iWeb and the resources included with MobileMe provide a set of tools for building a collaborative environment to support a challenge.

Google Tools: Google Sites, Calendars, Gmail, and Docs also can be used to create a collaborative space. A Google Site can be used for distributing information and content as well as serving as a collaborative space for each of the student groups.

Introduction

Once the big idea is selected, the first step is to develop with the class an overview of the big idea and the related essential question. This sets the broader context and foundation for the work that will follow. The class then identifies a suitable challenge or is introduced to one of the existing challenges.

Team Formation

In today's workforce, individuals with various skill sets typically work together in teams on specific projects or challenges. During this team formation stage, it is important to consider roles and responsibilities and discuss the developmental nature of teams.

Assessment

The teacher and the teams discuss what they will use as a measure of their success and adopt, adapt, or develop a project rubric to gauge the success of their solution. **4 Challenge Based Learning** Take action and make a difference

Guiding Questions

After the teams are formed and briefed, the students begin the process of identifying the questions that will guide their analysis of the challenge topic. These questions outline what the students think they need to know to formulate a viable solution. Questions will be answered, reframed, or new questions will be formulated along the way as information is gathered and concepts explored.

Guiding Activities and Guiding Resources

During this stage, the teams seek to find answers to the guiding questions by participating in a variety of learning activities, conducting research, experimentation, interviewing, and exploring various venues to assist in crafting the best solution. The activities can be teacher directed or student directed, whole group, small group, or individual, depending on the topic and the need. The goal of this stage is for students to gain a solid foundation on which to develop their solution.

Prototype/Testing

Once the students have identified possible solutions, they can build them out, try them with small user groups, or present them to a focus group. This process allows the teams to polish their solution.

Implement

The next step is to develop the implementation plan for the solution and put it into action. The scope of implementation will vary greatly depending on time and resources, but even the smallest effort to put the plan into action in a real-life setting is important.

Assess

The teams can use the project rubric developed at the beginning of the process to gauge the success of their implementation.

Reflection/Documentation

Throughout the process, the students should document their work and reflect on the process. Much of the deepest learning takes place by considering the process, thinking about one's own learning, analyzing ongoing relationships with the content and between concepts, interacting with other people, and developing a solution. Blogs, video, podcasts, digital storytelling, and photographs are all great ways to document and reflect on the process.

Publish

Students should be encouraged to publish their work in a variety of locations. One way for students to publish is to create a two-to-three minute video about their solution and share it locally or post it online for broader visibility.

Challenge Based Learning Take action and make a difference

Ongoing Informative Assessment

Informal assessment that helps students move toward a viable solution should take place throughout the project. Formal assessment can take place at specific points within the project. Three obvious points of assessment involve the development of an articulation of what makes a compelling solution, assessment of their documentation of the process, and the results of the action taken. This type of practical evaluation is much closer to how work done in the world outside of school is evaluated.

Example Challenges

To illustrate the Challenge Based Learning process, Apple has engaged with educators across the country to develop a series of challenges that can be used or modified by other teachers. These initial example challenges (more to come in January) fall under the big idea of Sustainability. A summary of these initial challenges is included here. See the Appendix for details of each.

Sustainability is a defining issue for this generation. In this instance, the term is defined broadly as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (www.epa.gov/Sustainability).

A wide variety of challenges can be presented under the Sustainability umbrella such as the four challenges presented here on the issues of water, food, energy, and air.

These are meant to be examples and to serve as discussion points. Teachers and students can work with these challenges or determine new themes and challenges that are important and meaningful to their specific context.

Big Idea—Sustainability: Water, Food, Energy, Air

Water

Essential Question: How does my water consumption impact my world?

It is a simple fact of life: we need water. Water is essential to life on earth. We need it to drink, keep clean, generate power, and grow the food we eat. We are using up our planet’s fresh water faster than it can be replenished naturally. You can make a difference by improving the use of water in your home, school, and community.

Challenge: Improve your home, school, or community use of water.

Food

Essential Question: How does my food consumption impact my world?

You are what you eat. So what are you? Maybe it’s time to consider food and how it affects our bodies and the world around us. The decisions we make when deciding what to eat have a significant impact on our personal health and wellbeing, our ability to perform the activities we engage in, and our environment.

Challenge: Improve what and how you eat. **6 Challenge Based Learning** Take action and make a difference

Energy

Essential Question: What is the impact of my fossil fuel consumption?

Eighty five percent of U.S. energy consumption is of fossil fuels. They also play a part in a wide variety of other products we use daily. Any way you look at it, dependence on fossil fuels is problematic. They are a finite resource, the source of considerable pollution, and supply cannot meet worldwide demand. So what can you do to reduce your family's consumption? You first need to discover all of the ways that you use fossil fuels in your everyday life—not just the car trip to the mall or school but all of their more hidden uses. Then you need to act.

Challenge: Reduce your family's use of fossil fuels.

Air

Essential Question: How do my actions impact the air we breathe?

The air we breathe has no boundaries. What we put in the air ends up in someone else's lungs. According to the American Lung Association, in 2001, over 6 million American children and close to 14 million American adults suffered from asthma. We also know that the quality of the air has a negative impact on the ozone layers and that many cities issue ozone warnings. Not only is the quality of our outside air a concern, but we also are learning that the air we breathe in schools and our homes may be hazardous.

Challenge: Improve the air you breathe.

Opportunities to Participate

Challenge Based Learning is built with participation in mind, and there are multiple opportunities for participants to share. By promoting participation and sharing, Challenge Based Learning can develop organically and leverage the interests of students and teachers across the globe. As the world changes, new big ideas, essential questions, and challenges can be posed. The level of participation will vary based on time constraints, interest, and so on. Within the Challenge Based Learning process, teachers and students can participate at many different levels.

Engage in conversation. The overall Challenge Based Learning process and each challenge will have a group discussion component. You will be able to join the group—enter into the discussion, ask questions, make recommendations, and suggest new big ideas.

Engage your students in a challenge. Implement one of the challenges with your students.

Publish. Once you have taken on a challenge, have your students document their solutions through video and publish them alongside other solutions in the challenge gallery (coming in January) or within other online repositories.

Expand on the sample challenges. As you identify new guiding questions, activities, and resources, you will be able to recommend them for addition to the challenges by posting them in the appropriate strand within the discussions.

Create new challenges. Students and teachers will be invited to create a new challenge using the standard template. Perhaps you have a different sustainability issue that impacts your community or an entirely new big idea, essential questions, and challenge. As you publish new challenges, others can engage with you.⁷

Challenge Based Learning Take action and make a difference

Moving Forward

Today's challenges call for bold action. No longer can school be a time where the curriculum is devoid of reality and opportunities for immediate application. Students are looking to be challenged in an authentic manner. They need to learn how to confidently ask questions and identify, research, analyze, and solve problems. Challenge Based Learning is designed to equip a new generation of students to solve real problems, develop 21st century skills, and make a difference in their community and the world. When provided with guidance, students can approach today's critical challenges and make a difference.

The Challenge Based Learning Community will provide a space for teachers, students, and experts to address local challenges that are impacting neighborhoods, communities, and the world. It will encourage participation at many different levels, allowing for the organic development of a rich and engaging body of knowledge and community freely available to all educators. Learning communities can share different perspectives on issues and consider the variety of challenges faced around the globe and the solutions to these challenges designed by students. Powerful ideas combined with youthful creativity and cutting edge technology will address the myriad challenges facing our world, country, and communities.

Laptop Programs and Learning in Higher Education: What the Research Shows

Carol Philips, Ed.D.

One in a series of Laptops in Education White Papers

Sponsored by Apple Inc.

Laptop Programs and Learning in Higher Education: What the Research Shows

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Laptop Programs and Learning in Higher Education: What the Research Shows

Introduction

Laptop programs, the original ubiquitous education initiatives, provide every student and faculty member in a given department, faculty, or institution, full access to a wireless laptop computer. As of May 2006, over 200 laptop programs had been implemented in institutions of higher education around the globe (Brown, 2006). They are found in community colleges, Ivy League universities, small liberal arts colleges, military academies, and polytechnical schools. The programs serve undergraduate, graduate, and professional students in fields ranging from the fine arts through the hard sciences.¹ There is consensus

among educational researchers that laptop, and other mobile learning programs, are a permanent feature of the higher education landscape (Brown, 2005; Dede, 2005). The primary driver for implementing laptop programs in higher education is the belief that they will result in higher student achievement—whether student achievement is defined as deeper understanding, sharper critical thinking, enhanced creativity, or in other terms appropriate to the institutional mission. Given that laptop programs are implemented with the goal of improving student learning outcomes, it is essential to ask whether they are actually linked with these desired outcomes. A body of educational research addresses that important question.

In 2003, a review on research about laptop programs claimed that the programs were “*beginning* to be justified by learning outcomes” (Brown & Petitto, 2003, p. 26, italics mine). More recently, one author of that review emphatically asserted that “the jury is in!” (Brown, 2005, p. 91): laptop programs provide pedagogical advantages that, along with transformations in teaching, produce improved learning outcomes. In order to make well-informed decisions about whether to adopt laptop programs, academics and administrators across the disciplines need some degree of familiarity with the theory and research about laptop programs that informs these pronouncements.

The wide range of disciplines includes: accounting, animal science, aviation, business, architecture, art and design, chemistry, communications, composition, computer science, criminal justice, education, engineering, health professions (dental, medical, nursing, pharmacy), information technology, journalism, law, literature, mathematics, marine science, music, psychology, physics, public speaking, sociology, statistics (Brown, 2006.; Weaver, B.E. & Nilson, L.B., 2005).

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Theoretical Affordances of Laptop Programs

From a theoretical perspective, two affordances of the computers and two affordances of the programs suggest that laptop programs should enhance learning.

- The computers provide mobility and wireless connectivity. These factors taken together allow for anytime anywhere learning, from writing papers and creating presentations to collaborating with classmates and accessing resources.
- The programs ensure technological equity amongst students since they all have the same technological capabilities—including wireless connectivity and multimedia presentation software—regardless of their socioeconomic status. Furthermore, laptop programs permit easy delivery of custom-designed program-specific learning materials.

In short, there is considerable reason, in theory, to believe that laptop programs would be associated with improved learning outcomes.

Laptop Programs and Learning in Higher Education: What the Research Shows

The Educational Research Context

Two constructs underlie research about the efficacy of laptop programs in higher education. The first construct is the cognitive paradigm, the currently accepted theory that explains how people learn. The second is the idea that “transformed teaching”, teaching aligned with the cognitive paradigm, contributes to improved student learning outcomes. To explicate these constructs:

1. The cognitive paradigm.

The cognitive paradigm for learning has developed through countless research projects conducted over the last half century. Taken comprehensively, these studies indicate that:

- Learning involves the construction of meaning by the learner
- Knowledge construction is social
- Individuals learn differently
- Learner engagement correlates positively with increased learning

(Bransford, Brown & Cocking, 2000).

2. Transformed teaching.

Numerous teaching methods have developed in response to the cognitive paradigm. These methods are broadly labeled constructivist, reflecting the cognitive principle that learners construct meaning. Research has found that effective constructivist teaching methods include learning that is active, individualized/self-directed, and collaborative (Bransford, Brown & Cocking, 2000).

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Research on Laptop Programs in Higher Education

Research about the effects of laptop programs in higher education has grown concomitantly with the increasing number of programs, their increased longevity, and

the likelihood of their continuing presence on campuses. Although the research base has expanded, it continues to be limited by restrictions that typify research in education, including ethical dilemmas and practical difficulties associated with carrying out experimentation within the educational context (Lagemann, 2000). Nonetheless, a number of recent studies and evaluations have greatly extended the knowledge base about relationships between laptop programs and learning in higher education. In short, research suggests, as theory predicted, that laptop programs do enhance student learning. How do laptop programs achieve these positive effects?²

Student perceptions about laptop programs and learning.

Through surveys, interviews, and focus groups, students report that laptop programs promote behaviours and attitudes associated with positive learning outcomes. These include:

- greater engagement with coursework and stronger motivation to learn (Efaw, Hampton, Martinez, & Smith, 2004);
- more frequent and more meaningful communication with faculty members (Arend, 2004; Barak, Diaz & Aker, 2005; Lipson, & Lerman, 2006),
- increased and improved interaction with peers through cooperative learning opportunities (Levin, Pargas & Austin, 2006).

Students report that laptop programs support their learning both within and outside of the classroom (Barak et al., 2006; Spurlin & Mayberry, 2005). Most critically, students report that the programs contribute to their understanding of their courses (Arend, 2004; Barak et al, 2006; Diaz & Aker, 2005; Levin, Pargas & Austin, 2006; Spurlin. & Mayberry, 2005).

Faculty perceptions about laptop programs and learning.

Faculty perceptions about laptop programs are congruent with those of students.

Faculty also report associating these student behaviours and attitudes with laptop programs: greater engagement with and motivation to learn (Levin et al., 2006; Stephens, 2005; Weaver, 2005), increased interaction with peers (Granberg & White, 2005, Arizona), and improved communication with faculty (Diaz & Aker, 2005; Granberg & White, 2005; Stephens, 2005). Faculty perceive that laptop programs enhance students' learning in ways that include deeper understanding, improved critical thinking and heightened creativity (Birrenkott, Bertrand & Bolt, 2005; Granberg & White, 2005; Ohland & Stephan, 2005; Spurlin & Mayberry, 2005; Stephens, 2005; Weaver, 2005). They often associate these improved learning outcomes with three of the central constructivist teaching practices that laptop programs readily afford: 1) active learning (Barak et al., 2006; Pargas & Weaver, 2005; Stephens, 2005, Weaver, 2005); 2) student-centred learning (Granberg & White, 2005; Pargas & Weaver, 2005); and 3) collaborative learning (Diaz & Aker, 2005; Granberg & White, 2005).

In addition, to the constructivist practices enabled by laptop programs, faculty attribute improved learning outcomes to ways that programs facilitate:

- using internet and software resources within classes (Barak et al., 2006; Efaw et al, 2004; Granberg & White, 2005; Stephens, 2005);
- greater flexibility in teaching (Pargas & Weaver, 2005; Spurlin & Mayberry, 2005; Stephens, 2005);

Research suggests that laptop programs do enhance student learning

Students report that laptop programs promote behaviours and attitudes associated with positive learning outcomes

Faculty attribute improved learning to six practices enabled by laptop programs

² This review is strictly limited to the most recent (2004-2006) and robust findings about laptop programs in higher education. It includes eight chapters from the first major edited volume dedicated to laptop programs in higher education (i.e., Nilson & Weaver, 2005), three articles from peer-reviewed journals, and two multiple year evaluations undertaken by university technology centres. It is important to note that the many studies that did not meet the criterion for inclusion, due to either the time parameter and/or review requirement reported consonant findings.

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- integrating lectures, labs, and homework into a seamless learning experience (Barak et al. 2006; Birrenkott et al, 2005; Ohland & Stephan, 2005; Stephens, 2005);
- extending the "classroom" experience itself to venues beyond classroom walls, from

parks (Weaver, 2005) to farms (Birrenkott et al., 2005);

- more immediate and regular assessments of student learning (Barak et al, 2006, Pargas & Weaver, 2005);
- more time on learning (Arend, 2006).

These additional factors identified by faculty tend to amplify the power of constructivist learning practices that laptop programs afford. For instance, in-class and homework assignments using internet resources or course-specific software are described as providing opportunities for active, self-directed and collaborative learning, as well as for providing more immediate feedback to students (Pargas & Weaver, 2005).

Beyond Perceptions: Measuring Differences in Student Learning

Many of the themes that emerged from studies of student and faculty perceptions about learning and laptop programs are affirmed by a mixed method study conducted at the United States Military Academy at West Point (Efaw et al., 2004). Researchers collected students' perceptions via survey and measured differences in learning outcomes between students assigned to laptop program sections vs. a control group of non-laptop program students. Five hundred and twenty-seven first year students were randomly assigned to 30 sections of General Psychology. Students in the six experimental sections received laptops and faculty instructing those sections integrated laptops into their teaching. Other critical factors—textbooks, curriculum, learning objectives, and exams—remained constant in laptop program and non-laptop program sections.

Attitudinal data collected from participating students align with other findings about student perceptions regarding relationships between laptop programs and motivation/interest and learning. Sixty percent of the questions about motivation/interest were rated more highly on a Likert-scale ($p < .05$) in the laptop sections; 39% of the laptop students responded more favourably to questions about the extent of their learning. Responses to open-ended survey questions showed similar trends. Students reported liking access to relevant websites and to experiments and simulations on program software. They also felt positively about using laptops for group work.

In addition to these phenomenological data, the study collected data about the semester's grades in the laptop and non-laptop sections as to measure student learning. Researchers found that laptop program students in all sections scored significantly higher ($p < .05$) on all six exams and on the final than did students in the control group.

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Conclusions

As has been seen, recent research confirms the theoretical proposition that laptop programs improve student learning outcomes. This research also indicates that the power of laptop programs lies in the unique affordances they provide, affordances that support constructivist teaching practices. Numerous scholars argue that the value of laptop programs lies in the kind of teaching they enable—not within the tools and programs (e.g., Bates & Toole, 2003; Efaw et al, 2004; Epper, 2001; Nilson & Weaver, 2005; Oblinger & Oblinger, 2005; Wiske, 2005). Therefore, laptop programs alone are insufficient to achieve improved student learning outcomes. For these programs to positively affect student learning, faculty members must transform their teaching. The jury is in on this matter: faculty professional development is critical to that process (e.g., Bates & Toole, 2003; Brown, 2005; Dede, 2005; Nilson & Weaver, 2005; Wiske, 2005).

Additional research is required to investigate further complex relationships among laptop programs, student learning, and the role of faculty professional development. In particular, studies are needed that use quantitative as well as qualitative methods to investigate the effects of laptop programs in differing circumstances (e.g., different kinds of institutions, different disciplines, and on learners from different backgrounds). There is reason to be cautiously optimistic that more research will affirm the potential of laptop programs to improve teaching practices and learning outcomes in higher education.

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Principal Criteria

Michigan will use these specific criteria to determine if progress has been made. Michigan will use the state assessments (Michigan Educational Assessment Program, Michigan Merit Exam, and MI-Access) as one measure of determining progress. In addition to achievement data in reading, mathematics, science, social studies, and writing, the leading indicators for success, such as, growth data, achievement gap data, graduation rate data (for high schools), teacher attendance, student attendance, student dropout rate, student participation rate on State assessments, and discipline incidents, truancy rates, and distribution of teachers by performance level on an LEA's teacher evaluation system will also be included as measures of progress. In order for the LEA to make a formal appeal to the MDE, the school must have made some progress in the previous year on the State's assessments and leading indicators of success.

The LEA must demonstrate to the MDE that the principal possess the following:

Background

- Prior experience (successful experience leading a school)
- Preparation / source (e.g., traditional v. alt routes)
- Degrees / certification (administrator certificate)

Skills and Knowledge

- Instructional knowledge and leadership
- Operational leadership
- Resource management

Competencies

- Driving for results
- Influencing for results
- Problem solving
- Showing confidence to lead

Critical Beliefs

There are a number of critical beliefs which underlie a principal's effectiveness in leading the process of improving student achievement. The principal must believe in, value, and be committed to:

- Student learning as the fundamental purpose of schooling
- The proposition that all students can achieve high standards of learning
- Collaborative problem solving with staff and stakeholders
- Ongoing collection and analysis of data
- Data-driven decision making
- Lifelong learning for self and others
- Focus and alignment to achieve goals
- Doing the work required for high levels of personal and organizational performance

Year One Criteria

LEA is able to demonstrate to the MDE that the principal possess the criteria in the above section meet the following criteria for year one.

The school must have made a significant gain on the State's assessments. The school must have implemented, with fidelity, their school improvement plan and all the elements of the selected reform model. The MDE will monitor the school to ensure the school improvement plan and the reform model is implemented with fidelity. The MDE will also monitor the leading indicators of success that have been previously mentioned.

Year Two Criteria

The school must have made gains greater than a year's growth and significantly higher than the first year on the State's assessments. The school must continue to implement, with fidelity, their school improvement plan and all of the elements of the selected reform model. The MDE will monitor the school to ensure the school improvement plan and the reform model is implemented with fidelity. The MDE will also monitor the leading indicators of success that have been previously mentioned. The school must increase student outcomes as measured by the leading outcomes.