

USING ASSESSMENT TO HELP HIGH SCHOOL STUDENTS TRANSITION SUCCESSFULLY TO SCHOOL AND WORK

Michigan High School Assessment Action Team

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May 23, 2006

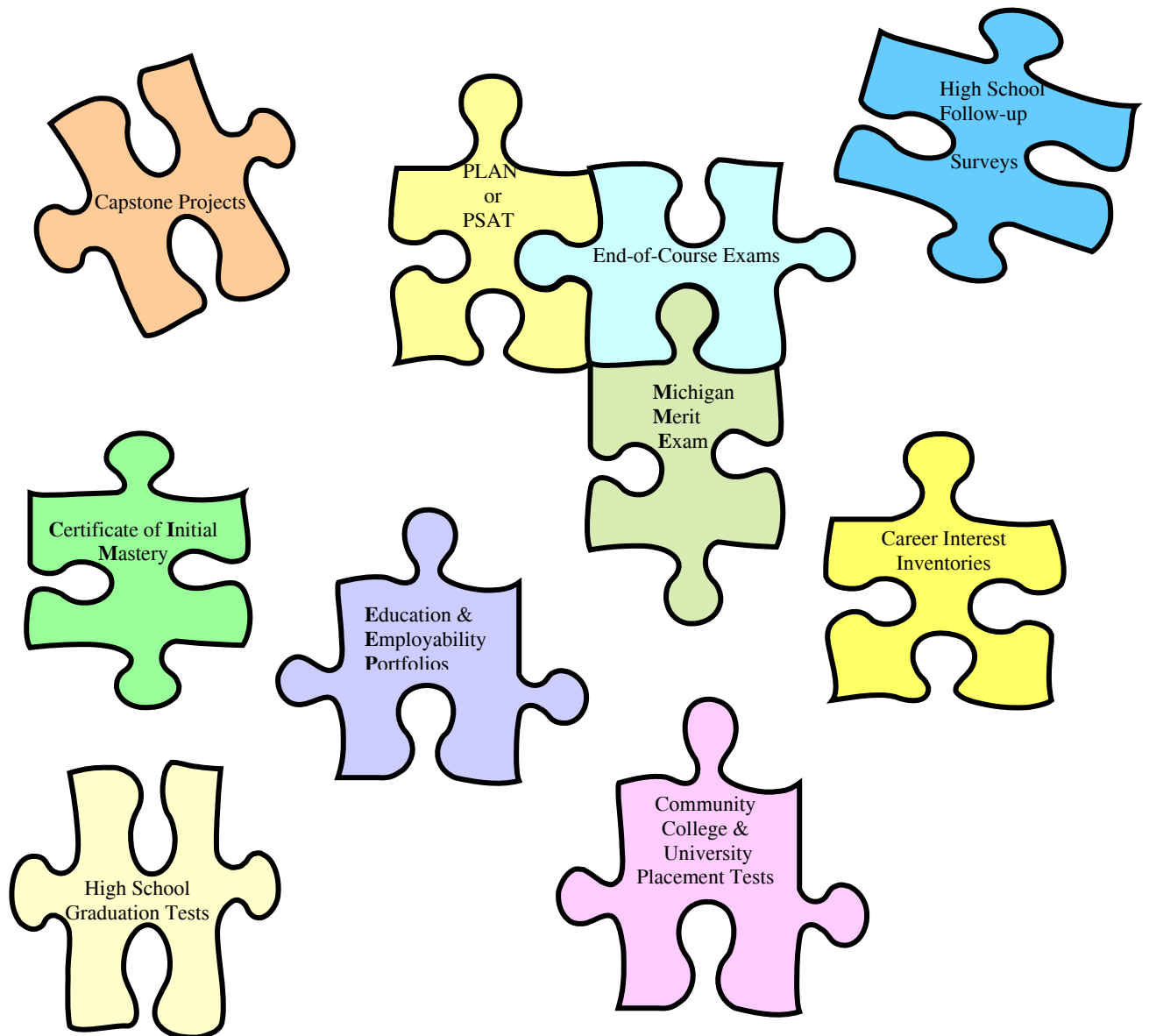


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Introduction

As Michigan high schools implement high school reform, several assessment strategies are available to help in these reform efforts, since the goal of high school reform is to help students better prepare for their future – in school, in work, and elsewhere.

The Michigan high school assessment action team, a group of individuals representing a number of organizations met over the past school year to consider what assessment strategies would be useful for students and how the high schools could deploy these. The result of these deliberations is this paper, which describes eight assessment strategies, indicates how each could provide richer information on students as well as advantages and challenges of each strategy. The group also developed an assessment model for the elementary, middle, and high school levels.

It is the hope that this paper will inform discussion about the role of student assessment in Michigan school districts. The group realized that there are a number of useful strategies but that the ones chosen by any given local school district need to fit well with the local context in the community.

Chapter I: A New Vision

What Shall Michigan's High Schools Be?

The new 3-Rs, as first espoused by the Bill & Melinda Gates Foundation -- Rigor, Relevance and Relationships -- are now widely prescribed as the means of remedying what ails America's high schools. While relationships are fostered and maintained within each local building, rigor and relevance can and must be the rallying call first of each state's department of education.

Addressing rigor, during the 2005-2006 school year the Michigan State Board of Education adopted new requirements for student graduation from Michigan's high schools. The adopted requirements for future high school students included specific expectations in English, mathematics, science, and social studies typically found in rigorous high school courses. After much discussion, debate, and public input, the Michigan Legislature concurred with most of the recommendations of the State Board of Education as they formally adopted legislation with specific requirements for high school graduation.

At the heart of these discussions and policy debates is a concern that current high school graduates are not prepared for life after high school -- whether students are pursuing higher education (at a community college or four-year college), technical education, job training, employment, or the military. The goal of more rigorous graduation requirements is thus not rigor for its own sake but rigor in relevance to what is going to be needed, that is to assure that students are better prepared for their future. While many graduates aspire to attend college, only about half of the high school graduates actually do so, and only about half of that number graduate from college. About one-third of the students who do attend college start college in remedial mathematics and composition, courses that do not count towards graduation and thus exact a high price in both time and money. Many of these students fail to complete their college education, even in six years. The same is true for students who attend community college: as many as half of these students need remedial assistance in courses that they should have taken in high school.

It is clear that students should have taken, and done well in, rigorous academic courses in high school. Remedying the current situation involves several actions that both high schools and students should take:

1. Schools should offer to all students rigorous courses in content areas such as English, mathematics, science and social studies. These courses might be offered in traditional or integrated courses, or they might be embedded in applied programs such as career-tech programs.
2. The courses that high schools offer should actually cover the content of the course titles. That is, Algebra I should cover algebra and not be a course for remedial mathematics. Integrated mathematics should cover the same total sets of skills, but in a different manner and perhaps a different order. Career-tech programs must also provide the same educational experiences, albeit in a different manner.
3. Course content should further be developed in such a way that it will be seen as relevant to young people's future. Employers in Michigan have defined a set of Academic Skills, Personal Management Skills and Teamwork Skills that together constitute the proficiency necessary for success in a global economy. None must be taught in isolation: rather, they are the "frame" around course content giving it relevance.

4. Within the Merit Core content, high schools should offer only classes that deliver all of the content expectations by one method or another. Where other choices are offered, they must supplement, not supplant, the required core. Research confirms that a narrowed curriculum is one way to assure high expectations and achievement for all students. However, the core content area classes must still utilize differentiated instruction, allowing students to learn in the ways that are most helpful to them. Extra assistance and time should be provided to students struggling to master the content of the Merit Core.
5. Counselors, parents and others should emphasize to students the importance of enrolling in these rigorous courses, not “taking the easy way out,” especially in an effort to maintain a high grade point average.
6. Students should enroll in these courses, even though they may be more challenging than other options available to the students.
7. Students should apply themselves to learning the course content. It is not sufficient to just enroll; students need to do well in these classes.

The academic transformation of Michigan’s high schools will involve these sorts of activities occurring on a daily basis. It is a process that needs support and collaboration over an extended period of time and requires considerable change at all levels. K-8 educators must hold high expectations for all students and prepare them for rigor in high school. High school educators must revamp the course offerings, train or hire educators qualified to teach these courses, help students to see the need to take these courses and to do well in them, and assist students who are struggling to achieve these new, higher standards.

Michigan's high schools will need to undergo another transformation centered on fostering the career development of their students. Career development theory and research argue that young people need to acquire ever increasing self-awareness, career awareness and skills in decision-making and planning as they pass through childhood, emerge into adolescence and prepare to confront the life decisions that lie ahead. To make good decisions for themselves, they require perception of their unique aptitudes, skills, interests and work values; knowledge of what the current and future work world will offer; understanding of how these intersect to suggest possible career paths for themselves; and development of the skills in decision-making and planning that will launch them successfully onto such a path. School counselors, parents, coaches, mentors and teachers of career and technical education and every other subject in the school all have significant roles to play in awakening and nurturing the career development of Michigan's young people.

How Can Assessments Help?

A major part of the transformation of high schools, both academic and career-focused, could be the manner in which students are assessed (Wall & Walz, 2004). Student assessment can play a key role in helping schools to evaluate their success in meeting these new challenges. Assessments can play several roles in *school transformation*:

- Help to determine levels of student achievement and grading
- Provide data to drive decisions about course offerings, curriculum and instruction
- Provide documentation of student achievement and accomplishments
- Support efforts toward equity in educational opportunity and monitor the success of those efforts

- Provide data that can be used to hold schools accountable for the performance of students

In addition, assessments can play several roles in *shaping students' futures*:

- Help students monitor their achievement in the classes in which they are enrolled
- Point out to students where they need to focus additional effort
- Encourage and reward such effort
- Help students identify careers and careers paths they may wish to explore
- Help students gauge their readiness for post-secondary education and work
- Help students formulate a preliminary plan for their future and develop a realistic blueprint for how they might get there

Large-scale assessments can never address all of the information needs of schools and students. The Michigan Merit Exam (MME), even when its promise and purpose are fully realized, will leave significant information gaps. Classroom-level assessments that inform teachers' instructional decisions remain vital components of the assessment system. Between these two, however, are a variety of other tools and strategies. At a time when educators feel that too much "testing" is already in place, some of these often inter-related alternative assessments offer motivating, engaging and expanded opportunities for students to showcase their learning.

The Michigan High School Assessment Action Team was convened by the Department of Education to examine these alternative assessments in the hope that some of them might assist Michigan's transformed high schools to help students transition successfully to further education and work. The Assessment Action Team, comprised of educators representing a number of constituencies concerned with the performance of high schools and high school students, identified and carefully examined a number of assessment approaches. The result of the team's work is this paper, whose purpose is to suggest some different ways in which student assessment can facilitate student learning and school instructional improvement activities.

The Assessment Action Team looked at several assessment strategies, including:

- End of Course Exams/Secondary Credit Assessments Program
- Education and Employability Portfolios
- Career Interest Inventories
- Community College and University Placement Tests
- Certificate of Initial Mastery Assessments
- Capstone Projects
- High School Graduation Tests
- High School Follow-up Surveys

For each type of assessment strategy, members of the Assessment Action Team conducted reviews of the relevant research literature, interviewed key participants, and developed a briefing paper for the Action Team. The Action Team discussed each strategy in some detail, developing a list of advantages and challenges to each strategy. Finally, the Action Team evaluated each of the strategies in two ways:

1. How important is it that the assessment strategy be implemented by high schools? That is, the Action Team asked itself how essential each assessment strategy is for Michigan's high schools. Should the assessment strategy be used in each school, in schools that are interested only, or in no high schools?

2. What role, if any, should the Michigan Department of Education take in implementing each assessment strategy? Should the state implement the strategy itself, develop models for use by school districts on a voluntary basis, facilitate the work of school districts, or take no action?

A summary of the assessments discussed follows in Chapter II. The goal of this paper is to inform the discussion that must occur about how assessment can facilitate the student learning that the proponents of high school reform hope will occur. Ultimately, the goal of the High School Assessment Action Team is to identify assessment options that will help enrich the information available to students as they successfully transition from high school to post-secondary life – in school, work, or elsewhere.

A Model for Implementation

Both rigorous academic development and age-appropriate career development begin with essential steps in the elementary and middle school years.

Early Grades

The foundation for later academic excellence must be laid in the early years. Michigan's grade-level expectations in the content areas will, over time, move students through a continuous, developmental learning process in preparation for each next stage. It is this fact that underlies the expectation that simply transforming the high schools will not show immediate results to the degree desired until the students arriving there have experienced this curriculum. Further, acquisition of foundational skills and prerequisites in the content areas must be supplemented by high expectations, study habits, attendance, perseverance, and good decisions in order for the student to be prepared for the demands of a transformed high school education and for a lifetime of continued learning. The work has begun in this academic revolution of Michigan's public schools.

Another revolution is also required. At one time, Michigan adopted - and assessed statewide - a series of objectives for the career development of students. Using the universal model of Self Awareness (SA), Career Awareness (CA), Decision Making (DM), and Planning and Placement (PP), the career development objectives and assessments included age-appropriate examples of what students should know and be able to do at the key grades of 4, 7 and 10. Fourth graders, for example, were expected to name some things they were good at (SA), name as many job titles as they could (CA), describe how they would decide between two choices (DM), and outline the steps needed to plan a simple activity (PP). Expectations of 7th graders were similarly viewed as age-appropriate prerequisites for the big decisions that would lie ahead. Seventh graders were expected to name some personal strengths and some areas where they needed to gain greater skill (SA), describe the work and training of people employed in a number of jobs (CA), outline a decision-making method they could follow in choosing among several attractive options (DM), and provide initial thoughts about what they would be doing after high school and how they might get there (PP).

Clearly, Michigan educators viewed both the academic success and the career development of their students as developmental tasks with essential early roots. While benchmark skills and state assessments of the career development component no longer exist, this understanding of the dual nature of preparing students for their future remains.

Assessment in the early grades is typically focused on student mastery of the content expectations embodied in the state's benchmarks, along with content expectations set by the classroom teacher and the local district. It is in the latter, local assessments,

that creative alternative means of assessing student learning can and should be found. Projects, student-led conferences, exhibitions, writing portfolios, and the like offer a richer means of demonstrating what the student knows and can do. In an environment where state-level activity is unlikely, these alternative assessments can and should offer a means of monitoring the early career development steps of the students as well as their academic progress.

Middle Years

Building on the foundations laid earlier, students in the middle grades should be moving with seriousness of purpose and hard work to master the content expectations in key subject areas. In addition, however, they should be exploring widely among the various options available to them, in school and outside of school, as they work to discover their particular interests and talents.

Assessment in the middle school years will continue to be largely focused on academic content. Statewide assessments will be supplemented by numerous local and classroom assessments to assure progress in the students' learning, to motivate further learning and to award grades to reflect that learning. Toward the end of middle school, however, there emerge some assessments that are future-focused. Successful MEAP test scores, for example, promise supplemental funds for higher education; some students participate in the Midwest Talent Search, taking SAT tests alongside high schoolers to be identified for special learning opportunities; the development of four-year educational plans begins, with discussion of the individual student's future educational and career plans; and career interest inventories may first be offered as a means of helping students understand the link between their personal qualities and potential career paths.

Although it is known that career development begins early, (Trice & McClellan, 1993 as cited in Watson & McMahon, 2005), it is still unclear how stable children's occupational aspirations are over time (Watson & McMahon, 2005). The degree to which students' occupational interests and aspirations change over time and the pace at which they change may vary according to the age of the student. Understanding this variation should be considered when developing an assessment program, so that students are assessed early enough to guide appropriate course selection, but frequently enough to identify changes in interests.

Thus middle school classes, activities and assessments are viewed not as ends in themselves but as essential means of establishing, discovering and nurturing talent and expectations for the future.

The High School Years

It is during the high school years that the results of the preparation begin to be seen. Students arriving at a transformed high school will have the necessary academic content knowledge, study habits and skills to tackle the rigorous curriculum successfully and will move forward with confidence on a path that will lead to a meaningful future.

At this stage, exploration will be future-focused. Career exploration will include part-time jobs, volunteering, job shadowing, actively researching career possibilities and working with mentors. Exploration into further education will include college visitations, dual enrollment in college courses, actively researching course requirements and available majors at institutions of interest and beginning to look into scholarships and other funding possibilities. In other words, the transition of high school students into their future will be at the forefront of their attention. They will want to be getting ready.

They will be working hard to do so. And they will require a high school that has, in accepting its central role, revised its course offerings, raised its academic expectations for all students, provided excellent career counseling and broadened its assessments to meet the challenge.

A balanced high school assessment program combining a variety of academic and career assessments will be central to the ability of students, with their parents and educators, to address key questions such as:

- Where are these students heading?
- Are they setting their aspirations high, or are they selling themselves short?
- What information do we need to help these students formulate plans and then get there?
- What assessments will help to provide that information?

Some assessments in this balanced program will be informal and often spontaneous -- excellent work done on a class project out of fascination with the topic, new-found passion for a subject area after an exciting class, delight in working with children or senior citizens in a volunteer assignment -- and students will be coached to honor this information about themselves and take it into their planning. But the high school cannot and must not be content to let students discover their talents and interests on their own. Other assessments, formal and intentional, must be offered. Students' mastery of benchmark and course expectations will be demonstrated on both statewide assessments and innovative local assessments. End-of-course tests or testlets will document credit for their learning; performances, portfolios and projects will demonstrate their capabilities to the wider community; college entrance tests will track their readiness to succeed in post-secondary education; and career assessments will be available to assist them in identifying a path into their future. Trained professionals in the school -- counselors and teachers both -- will step up to their respective roles in helping students use the results of their academic and career assessments wisely as they build plans for their future.

Some of the assessments described in this paper will be state-generated, state-supported and sometimes state-mandated. Others will remain for the local high school to implement, but active encouragement can and should be built into the system. The local high school will be most likely to be successful in implementing some of the numerous alternative assessments if the state has taken responsibility to disseminate models, conduct training, provide incentive funds, and by other means encourage their use. These local assessments, together with the Michigan Merit Examination, will comprise the balanced assessment program needed for transforming Michigan's high schools and delivering on the promises made to the state's young people, their parents, their post-secondary institutions, and their future employers.

Getting Started

Any significant ramping up of the assessment program in Michigan's high schools will require a true timeline for implementation. In the absence of information about funding, potential legislative action and school readiness, there can be no prescription of a specific timeline. Nevertheless, our high schools are being called upon now to offer richer assessment information to students, parents, teachers, curriculum reformers, professional development planners, employers, institutions of higher education, and the community at large. Clearly, there are some first steps and later steps that can be identified to launch this effort.

First Steps

It is not necessary for action to begin at the state level. Each high school in Michigan should examine what information is already available and whether and how the data are being used to improve outcomes for individual students and for school improvement efforts.

Each high school should next determine where additional information is needed by the student, the school or the "customers" of the school -- employers, colleges, the community. At what choice points is information needed? By whom? For what purpose? What sources could provide the information? Careful study of the options identified here for expanding the local assessment program should be examined for their usefulness at the local level regardless of state action.

State-level action should begin where this paper leaves off: selecting a short list of priority alternative assessment tools that are capable of enriching the information available to students and schools from the MME. Ultimately, the State Board of Education and legislature would need to act on any expansion of state-mandated assessments, but there are many other roles for the state, as this paper documents. Identifying models, offering training, conducting alignment studies, funding pilot programs, launching or re-activating groups with experience and knowledge regarding an option, even simply espousing richer assessment data and launching public information campaigns.

The one instance of state-level action required in the immediate future is the mandate of end-of-course exams for the newly passed Merit Curriculum. Considerable support exists for defining those EOC assessments as testlets tied to mastery of learning strands, independent of credit hours, nature of the delivery, and time of year. When a student is ready to demonstrate achievement of the required knowledge, he or she should be able to take an on-line assessment, for example, and then move on. Determination must be made in the very near future as to whether this testlet model will replace the fixed test model, then identification of the required learnings and development of the testlets measuring them should proceed apace.

Later Steps

As local high schools develop and strengthen their own local assessments, the experience and knowledge gained should be shared statewide. Conferences at which models and instruments can be shared should be sponsored by the state, and incentives offered for experienced schools to train additional users of the tools.

In particular, models in which local schools are using career assessment tools and successfully implementing procedures such as Education and Employability Portfolios to guide students toward their future should be identified, nurtured, rewarded and disseminated statewide.

Negotiations with Michigan's community colleges, four-year colleges and universities should begin soon, to determine the availability of their placement exams for statistical alignment studies that would permit predictions from MME scores. The alignment studies should then be conducted, even if only for some institutions' exams, in order to give students a realistic expectation of their success in further education.

A policy paper should be developed around a multiple measures approach to graduation decisions, including information from a wide variety of academic indicators such as completion of the required course of study, course grades, senior capstone projects, community service, and/or other indicators but clarifying that it is entirely inappropriate to base the high-stakes graduation decision on a single measure.

Implementation Examples: Schools A, B, and C

Example High School Scenarios – This section provides some examples of how some high schools selected assessment strategies to help students better prepare for their future. These are provided to encourage schools to think creatively about assessment and high school reform.

High School A decided to supplement the MME by using the states Secondary Credit Assessment Program to assure that students were doing well in the academic classes. The school also decided that career awareness is important so it requires all students to take a career interest inventory in grade 9 and develop an Education and Employability Profile, starting in grade 8 as a collection of student work and accomplishments in high school. Twelfth grade students carry out a capstone project, which is presented by each student to a panel of adults (teachers, administrators, and employers).

High School B, on the other hand, decided that only those items required by state law will be implemented. It assures that all eleventh graders take the MME. The tenth graders are encouraged to take PLAN assessments for dual enrollment purposes, and eleventh graders are encouraged to take the PSAT as the NMSQT. It plans to implement the state's Secondary Credit Assessment Program when the state has it in place. While students and teachers may go beyond the requirements, the high school as a whole does not.

High School C students also participate in the MME and are encouraged to take the PLAN and PSAT for dual enrollment. This school really emphasizes the Education and Employability Portfolios so that students document their educational accomplishments and course plans. A career interest inventory is used, but the focus is on student documentation of their experiences and education in high school and how these translate into post-secondary options.

For schools beginning their investigation into the various assessment strategies, Appendix A includes examples of local schools and states that have tried some of these strategies with differing results.

Chapter II: Assessment Strategies Considered

This section presents an overview discussion of each strategy reviewed by the Action Team, some of the advantages of using each, some of the challenges in each and recommendations about the use of the assessment strategy by Michigan high schools. The discussion finishes with a recommended role(s) for the Michigan Department of Education.

End of Course Tests

[Secondary Credit Assessment Program]

Introduction – Michigan recently adopted more rigorous high school graduation requirements for students entering eighth grade in the 2006-2007 school year. Rather than taking a course in Michigan civics (the sole state graduation requirement) or meeting local school district graduation requirements, students will need to accumulate specific credits in order to graduate. Note that the requirements are not for specific *courses* but for specific *credits*, which presumes that the underlying competencies or standards that define each required credit can be acquired in more than one way and presumably more than one type of course. The credits required for graduation include the following:

English	Science
English 9	Biology
English 10	Chemistry or Physics
English 11	One Additional Credit
English 12	<i>Earth Science</i>
Mathematics	Social Studies
Algebra I	American History (Including Geography)
Geometry	World History (Including Geography)
Algebra II	Government/Civics
<i>Data and Statistics</i>	Economics
<i>Pre-Calculus</i>	

Note: Credits listed in italics indicate credits that students might take in order to fulfill graduation requirements. They also indicate credits for which examinations may be needed.

Another major piece of this legislation is the requirement that the Michigan Department of Education develop, within three years, "end-of-course (EOC) assessments" for each of the fifteen required credits in English, mathematics, science, and social studies. Although credits in visual and performing arts, health education, and physical education are required, the law does not require examinations in these areas. The law is not specific as to what is meant by end-of-course assessments, however.

End-of-course (EOC) assessments are used in a number of states at the secondary level to assess whether students have learned the key knowledge and skills from high-school level courses that they take. In some states, these are courses that all students are required to take; in other states, the courses are not required. Approximately half of the states administer EOC assessments in some manner. In most states, participation of schools and students is required for all students who enroll in a class for which an examination is available. Appendix A provides an overview of how some states approach EOC assessment.

End-of-course assessments usually measure the states' or districts' definition of the content of the courses. In the case of state-administered programs, the high school standards created for the states' NCLB AYP-related assessments may also be used for the definitions of the content for EOC assessments.

Typically, states administer end-of-course assessments in the spring of the school year. The assessments, which can run from one to two hours, usually include both multiple-choice and constructed-response (written response) items. In some states, the constructed response section can count for up to half of the points. Because of this, results often are returned to students and schools in late summer or early fall. Only a handful of states administer their EOC assessments in such a manner that the results are returned in time to be used in the grading of students. A couple of states administer some or all of their EOC assessments online, so results are available quickly.

A few states use the results to determine whether or not the student has passed the course (or receives credit for taking the course), regardless of whether the score is factored into the grade that the student receives. A few states require students to pass a certain number (e.g., four course exams) in order to receive a high school diploma.

An Alternative Approach – In Michigan, assessments need to be developed for each of the required and major optional credits that students can take to fulfill graduation requirements. These won't necessarily correspond to specific courses, since students could acquire the content either through traditional courses, integrated courses, applied career-technical programs, or even independent study.

Since Michigan's requirements focus on credits not courses, an alternative delivery system may also be in order. Rather than administer summative assessments at the end of two semesters of study in a course, Michigan could prepare a bank of *testlets* or mini-assessments for sub-units of study in each credit area. Testlets are defined as a set of items (multiple choice and constructed response) with known statistical characteristics that are offered together as a package in the assessment. This permits reliable and valid assessment for each standard or benchmark that defines the credit area.

One logical way to organize these testlets would be by strand or benchmark, or however the standards that comprise a credit area are organized. The testlet bank would need to be administered online so that students or schools could access the materials for assessment when they wish to assess; only online assessment could provide the flexibility to assess in this manner.

For each credit area, a series of testlets would be offered. These would be offered in different formats as suitable for the content area (e.g., traditional, integrated, career-tech, or other). By offering a series of testlets for each credit area, local school districts could offer the assessments in a flexible manner. Some of the ways in which districts might choose to assess include:

- Assessing students in the traditional manner at the end of two semesters of study;
- Breaking up the assessments into first and second semester assessments;
- Assessing student proficiency at the end of each marking period;
- Administering a testlet when students have completed their study of one strand, standard or benchmark covered during the school year;
- Offering the assessments to students who want to "comp out" of a course and receive credit for the credit area by passing the set of testlets before taking the course or while taking it.

- Using the testlets to certify students who did poorly in the course the first time that they took it.

Thus, this would no longer be an “end-of-course” examination system, but instead a *Secondary Credit Assessments* program. The goal of this *Secondary Credit Assessments* program would be to assure that students have mastered important content in the credit areas required by the new graduation requirements.

How Would This Strategy be Developed? The *Secondary Credit Assessments* program would be developed by staff of the Office of Educational Assessment and Accountability (OEAA), working in conjunction with other MDE offices, external advisory groups and contractors. There are several steps in the development of the measures to be used:

- Select the credit areas for which testlets are to be created;
- Determine the unit of specificity (e.g., strand, standard, or benchmark) for which the testlets would be created;
- Develop specifications for the testlet development. This would include the formats (traditional, integrated, applied, and so forth), item type(s), number of items needed for the final testlet, and the number of items to be created;
- Assessment development steps to be followed, including creation, editing, pilot testing, reviews, field testing, and revisions of the items.
- Development of the software needed to store, retrieve, score, and report the testlet information at the state and local levels.
- Loading of the items into the electronic testlet bank;
- Making the new testlets available to local school districts.
- Providing the capability to administer the testlets on paper or electronically.
- Scoring and reporting would be handled for either the paper- or electronically-based assessments.
- Repeat these processes to keep the testlet bank “refreshed” – that is, new forms would need to be created on an on-going basis so that students could retest without repeating any testlet form.

How Would This Strategy be Implemented? Once the testlet bank is created, local school systems would determine how it would be used. Since schools might want to administer fixed tests at the end of units of instruction, marking periods, terms, semesters or the school year, the district would control how the testlet bank would be used and when it could be accessed. This would be possible if a portion of the bank was kept secure and accessed only by authorized individuals. The other portion of the bank would be open at all times, so that students could assess themselves on the strands needed to qualify for credit in the credit area in which they take the testlets.

How Would This Strategy Provide Richer Information About and to the Student? The *Secondary Credit Assessment* approach would provide even richer information, since students could be assessed on the rigorous content that they have just learned. In addition, the students could be assessed as they are ready, rather than waiting until a fixed time in the spring. Thus, they could assess themselves before, during, and after instruction, even when they are studying content independently, so that they might be able to receive credit for material they had already learned.

How Would the Use of This Assessment Strategy Assist High School Students? *Secondary Credit Assessments* provide rich information about student achievement of the academic content standards covered by each of the courses. Thus, they can provide valuable information to students, parents, educators, and the public about student achievement. For the student, this information is useful to assure that students have

learned the content they will need to succeed in subsequent courses in the content area, as well as enhance their probability of success in post-secondary activities such as higher education or employment.

For parents, the information on student achievement at the individual student level will help assure the parents that students are making progress as needed to succeed in high school, as well as to be prepared for college. Using group data, parents can see that the school's instructional program is succeeding in adequately preparing most students for post-secondary opportunities.

For educators, the data provided by the *Secondary Credit Assessments* can provide data about which students are struggling most in learning the course content. The data can also provide educators with useful information that they can use to assure that the courses that are taught offer appropriately rigorous content that students need to be successful. Low scores may also indicate the need to review how the instruction was provided. Both reviews can help assure that students receive the instruction that they need.

Providing summary data to the public can help provide information about how well the students in their local high school do in comparison to students elsewhere in the state. This public scrutiny can bring a measure of accountability to help high schools that focus on student achievement of important knowledge and skills. Since only the students who feel prepared to pass the credit are assessed, these assessments can be both rigorous and fair for all students assessed.

If the *Secondary Credit Assessment* approach was used, students could receive feedback on their learning as it is occurring, rather than wait until the end of the school year to take a summative assessment. This could help students focus their learning on material they had not yet mastered which may speed their learning of this material.

How Would This Assessment Strategy Complement the Michigan Merit Examination? The Michigan Merit Examination (MME) is a survey assessment of high school-level standards and benchmarks. Because it is a survey instrument, the coverage of content taught in any specific course may be quite limited. In addition, survey assessments such as MME include all students, both those who have taken rigorous college-preparatory courses and those who have taken less rigorous ones. Thus, survey assessments cannot fairly probe into more rigorous content taught in more advanced high school courses. EOC assessments can provide more information in-depth about the knowledge and skills students have been taught.

The *Secondary Credit Assessments* could be used either in place of the MME assessments, or in addition to them. Under No Child Left Behind (NCLB) rules, a state can use end-of-course assessments as its high school test if all students take the exams. For example, an Algebra I end-of-course assessment could be used as the Michigan mathematics high school exam. Of course, the downside of this approach would be that other important mathematics content would not be assessed.

If the *Secondary Credit Assessments* are used to supplement the MME, then schools would receive both the survey MME results that provides an overall achievement picture for the school in English language arts, mathematics, science, and social studies, but they would also receive a much more detailed, in-depth report on student achievement in each course from which the survey instrument would draw. Thus, high schools would receive a report of broad student achievement in each content area, as well as more detailed reports of achievement in the basic courses in each content area (e.g., in

mathematics, courses such as algebra I, geometry, algebra II; in science, chemistry, biology, physics, and earth science).

What Are the Resources Needed to Implement This Strategy? For the state to develop the *Secondary Credit Assessments* system, the state needs financial resources to build as well as to administer the assessments, and curriculum and assessment administration staff to build and use the assessments. It is estimated that 6 FTE staff and an eventual annual budget of \$15 million will be needed to operate this assessment component annually.

What Are the Advantages of This Strategy? The *Secondary Credit Assessments* will encourage schools to offer rigorous high school courses, and help assure that the course content matches the course titles. They will also help assure the commonality of school instruction across the state, thus assuring equal educational opportunity regardless of community type or location. This could help assure that schools and the state provide the resources necessary for all students to achieve at high levels.

What Are the Challenges in This Strategy? Once the standards to be assessed for each credit are identified, one challenge is to reach agreement on the nature of the assessment system used to measure student achievement in the courses. Traditional end-of-course assessments are fixed tests given at the end of the school year. These might serve to reinforce traditional definitions of course content and to serve to drive out more integrated or applied (i.e., career-tech) approaches to instruction.

The traditional end-of-course assessment approach, by reinforcing the traditional course approach to instruction, could also serve to prevent some students from pursuing a career-technical education, since they might have difficulty passing the end-of-course assessments in traditional courses if they are emphasizing applied learning in their academic program.

The *Secondary Credit Assessments* approach described earlier would be to build an assessment testlet bank around the standards required for each credit so that students could be assessed on one or more of the testlets when they (or the school) feels ready. As mentioned above, this testlet bank would need to be offered in formats that match major approaches to instruction (e.g., traditional, integrated, and applied) so that students and schools would not need to change how instruction or learning occurs just to administer the testlets.

What Support Is Available for This Strategy? Because so many states already have traditional end-of-course assessments, Michigan may be able to obtain one or more assessments from one or more states at little or no cost initially. Of course, states providing such material might want some sort of quid pro quo in return, such as assistance in building new forms of the assessments provided to Michigan. This could help to “jump-start” the Michigan secondary standards assessment program, an important consideration in the early months of the new program given the lack of resources.

What Role, if Any, Should the State Take in Regards to This Strategy? As required by law, Michigan will need to construct assessments in the required credit areas within three years. While the use of the assessments is optional at the district level, the state should construct the assessment system around the *Secondary Credit Assessments* approach presented in this paper, building a system of testlets and a computerized, online testlet assessment system to deliver the assessments.

As given in the graduation requirement legislation, local school districts are free to choose the state system, or to conduct their own assessments. The state system should be offered free to school districts, and its use should be widely encouraged. By providing the resources at no cost to schools, it is hoped that many districts would choose to use this system, especially since it could be implemented in such a flexible manner within Michigan's high schools.

Education and Employability Portfolio

Description of the Assessment Strategy – Employability Skills Portfolios (ESPs) were developed to extend the definition and assessment of learning into the world of work. In building an ESP, learners discover, develop and document their academic, personal management, and teamwork skills in relation to employment and career opportunities. An organizational system of folders, guides or online tools is used for documentation. Learners engage in the ESP process to understand what is needed in a modern and diverse workplace and their own competencies compared to those needs. Further, the ESP is designed to serve as a communication tool to demonstrate to the business community and potential employers that the student has the necessary competencies for today's employment and the attributes for lifelong learning in an evolving society.

The employability skills documented in an ESP system are often organized in the following three areas:

Academic Skills are the lifelong learning skills that enable one for future training, college, and work. Skills include communication skills (speaking, listening, reading and writing), using mathematics, using science and technology, and problem-solving skills.

Personal Management Skills include acting responsibly and dependably, setting and accomplishing goals, organization, flexibility, decision-making and developing career plans.

Teamwork Skills are those skills that enable the individual to work cooperatively with a group. Skills include communicating, compromising, being responsive, being able to contribute, following a leader and being a leader.

The portfolio, which may be reviewed by the pupil's parents, guardian, or person *in loco parentis*, should be given to each pupil upon or before graduation or upon leaving the district, and should include at least all of the following categories of records:

- (a) The annual academic and nonacademic plans that the pupil intends to follow.
- (b) Academic achievements, including at least academic transcripts and the results of any statewide subject matter assessment test and nationally or locally normed achievement test that the pupil has taken.
- (c) Career preparation activities, including at least records of career and technical training under school auspices that may help prepare the pupil for a job or career, career exploration, postsecondary education exploration, job-seeking preparation, job experience, problem-solving experience and preparation for lifelong learning.
- (d) Recognitions and accomplishments, including at least nonacademic competencies, awards, and certificates that the pupil has earned.

Additionally, students are responsible for submitting records of their activities outside the regular school day for inclusion in the portfolio.

The ESP system was piloted successfully in Michigan schools in 1990-91. The following year, the ESP was included as a requirement in the State School Aid Act.

In the mid 1990s, ESPs were dropped from the School Aid Act. However, the need for Career Preparation Systems resurfaced, and in 2001 the state required districts to implement Education Development Plans (EDPs). Similar to the ESP, an EDP documents an ongoing process in which a student identifies career goals and develops a plan of

action to achieve those goals. The EDP documentation should include the six basic EDP elements approved by the Michigan Department of Career Development as part of the Career Preparation System: 1) personal information, 2) career pathway goals, 3) education/training goals, 4) career assessment results, 5) plan of action, and 6) parent/family consultation and endorsement (if under age 18).

What must happen next is a marriage of the two systems. Incorporating the EDP elements into portfolios is an effective means of meeting both sets of goals and significantly strengthening students' readiness for what lies ahead. The alternative title Education and Employability Portfolio (EEP) is used hereafter to represent that combination.

How Would This Strategy Provide Richer Information About and to the Student? The purpose of the EEP is to provide all students with both an ongoing process and a record of that process. The academic and career development progress being made and the students' evolving plans will facilitate entry into further education and their chosen career. Students begin the EEP process in middle school when they select an initial career pathway. Working with school counselors, students engage in a decision-making process based on career exploration, career assessment information, school performance and expressed interests, that facilitates selection and enrollment in courses and training related to the emerging career choice. Along the way, students document their achievements and employability skills relevant to further education and future employment, producing a ticket to their future that will be invaluable in the applications and interviews ahead.

How Would the Use of This Assessment Strategy Assist High School Students? Learners in Michigan are general education, special education and career and technical education pupils, apprentices and technical trainees, community college and university students -- and all adults. Graduation from high school or even post-secondary education is no longer considered the end of learning but is, instead, one step in a lifelong series of milestones. Once out of formal education and on the job, the individual's training and learning must continue.

High school curriculum, therefore, must reach beyond the school walls and address the world of employment and adult productivity. Learners need employability skills as much as they need school skills. The EEP process assures that learners recognize that and take responsibility for working toward that end.

How Would This Assessment Strategy Complement the Michigan Merit Examination? Global economies demand lifelong learners with skills that extend beyond the traditional curriculum. The business community has repeatedly informed us that Michigan's graduating seniors are not prepared for the world of work. We can no longer define learners as students in elementary, middle or high school. We can no longer define the curriculum as only the core academic subjects. And we can no longer accept a single data point, derived from a single style of assessment, as sufficient to describe a productive worker in today's complex and evolving world. The EEP provides both a cohesive documentation of the paper and pencil scores derived from the Michigan Merit Examination (MME) and narrative descriptions of performances that complement and/or extend the MME. In doing so, the EEP engages students in understanding their current level of skills and knowledge in relation to their academic, career and employment goals and challenges them to continue to grow toward those goals.

What Are the Advantages of This Strategy? Assessment must be as complex as the world around us, as diverse as the curriculum is rich. Just as silo thinking or

teaching is no longer enough to meet the needs of all students, neither is silo assessment. Just as we differentiate instruction to meet the needs of all learners, so too must we differentiate assessment. To this end, we must use multiple assessment tools that provide rich and varied information to the learner and the school, highlighting a variety of learning styles and skills, including employability skills.

Learners with employability skills can, for example, read sophisticated material, communicate effectively in writing and speaking, apply appropriate mathematics such as algebra and statistics, identify, organize, plan and allocate resources, work with others, acquire and use information, understand complex systems and work with a variety of technologies. Acquiring evidence of those skills for documentation in the EEP will demonstrate to students what is needed and honor individual and unique achievement.

The major curriculum reform that has been launched for Michigan high schools will, once successfully in place, contribute greatly toward secondary educators' understanding that their mission must be rigorous and full preparation of all students for their life after secondary school. An EEP strategy will assist in guiding and documenting this essential change.

What Are the Challenges in This Strategy? Historical ways of thinking must be abandoned. No student can afford to see high school graduation -- let alone dropping out -- as the end of learning. No teacher can afford to see his or her course as intrinsically valuable in itself without reference to its currency in the arena of post-secondary education and employment. And no school can afford to offer a thin curriculum to some students believed incapable of rigor, thus dooming them to a lifetime of under-employability or unemployability.

The new Michigan Merit Curriculum absolutely includes the employability skills: Academic Skills comprise the Merit Core, and Personal Management Skills and Teamwork Skills are central within the 21st Century Skills component. The challenge remains, "Whose job is it?" The answer, of course, is "Everyone's." Previous efforts were partly hindered by the structural difficulty that employability did not fall neatly into one of the historical departments. That may be an advantage now, freeing schools for creative exploration of varying delivery options, but vigilance will be required to assure that the truism is avoided that "What is everyone's job is no one's."

Still another challenge lies in the fact that changes to the high school curriculum, instruction, guidance and counseling and mission will be successful only when they occur in concert with each other. Historically, secondary education has been delivered in an environment of independence and academic freedom. What is called for now is nothing less than a single, unified curriculum focused and integrated around the future needs of the students and delivered to all: the Michigan Merit Curriculum. Its common expectations can be achieved through various alternative delivery systems, including magnet schools, smaller high schools, alternative high schools, schools within schools, and the whole array of programs that reach students who learn differently. But its common expectations will be shared by all. It has been said, "The master argument for curriculum integration is that life is not divided into subjects." In a similar vein, the master argument for career development and employability as the focus of high school is that life does not end at age 18: it launches from there.

Issues of reliability and validity in alternative assessment tools such as performances and portfolios must also be considered and addressed.

What Support Is Available for This Strategy? Necessary resources to implement EEPs include models, funding to provide professional development and paper or electronic portfolio resources. Adult EEP mentors in the school, generally counselors and teachers, must be available to work with students as they build their EEPs.

The best of what has gone before must not be lost. Excellent models of career development objectives, assessments, employability skills portfolios, education development plans and other initiatives representing years of work by thousands of Michigan citizens from the education and employer communities await rediscovery and tweaking to serve a new generation.

Among those groups that have historically led this effort -- including the Michigan Chamber of Commerce, the Michigan Department of Labor, the Michigan Department of Education, the Michigan Association for Career Education, the Michigan Career Development Association, the Task Force on Education and the Economy, the Employability Skills Committee, and the Governor's Office -- many should be available, even eager, to pick up the reins once again.

What Role, if Any, Should the State Take in Regards to This Strategy? The state should first heed the lessons learned in the 1990s in regards to the ESP so that this valuable assessment tool is not once more lost. The state must advocate that no one assessment presents a clear and true picture of any student, and that no one assessment should dominate over all others. The state may be able to disseminate models, sponsor training and encourage the use of Education and Employability Portfolios to enrich the information schools have about students. Finally, the state must educate educators and the public about the benefits of EEPs and their relationship to the high school reform initiative.

Career Interest Inventories

Description of the Assessment Strategy – Several types of career assessment tools exist to aid school counselors and students as they progress through the career development process (Kapes, Mastie & Whitfield, 1994). Chief among these are the various career interest inventories, although to some extent multiple aptitude batteries, measures of work values, career development/career maturity measures, and some personality assessments can be useful in the student's career exploration and decision-making process. Most common to the public school setting are career interest inventories, either separately or packaged with aptitude tests or achievement batteries into a comprehensive exploration tool.

An effective career assessment program must address the needs of students at varying levels of maturity. Student developmental differences include differences in career maturity (Hartung 1997, Busacca & Taber, 2002) including differences in career planning, decision-making skills and knowledge of the world of work. Students at different developmental levels may have different needs for assistance, and a comprehensive and effective assessment system should reflect an understanding of these differences.

Career interest inventories assist students in comparing their interest patterns to those of their fellow students or to adults employed in various careers in order to help the students identify career paths they may want to explore that would yield satisfying and enjoyable work. They are typically available for middle and high school students and adults, are fairly short, reasonably inexpensive, and pleasant to take, since there are no right and wrong answers and students are simply thinking about what they enjoy. Since results from career interest inventories must be put into perspective alongside students' achievement and aptitude information, the longer and more expensive comprehensive batteries that facilitate that process are often preferred.

How Would This Strategy Provide Richer Information About and to the Student? As students progress through their schooling, they are typically provided considerable information about their success in academic coursework in the form of tests and grades, and sometimes - if they are lucky - through alternative means such as performances and interpersonal communication in those courses. These days they also receive a fair amount of information on their achievement in academic content areas from state-level assessments and other standardized tests. None of these sources provides any information whatsoever about the student's interest patterns in relation to the career choices that lie ahead. Nor do any of the traditional tools offer solace to those students who are downright gifted in areas not measured (and therefore perceived as not valued) by the school, such as technical/mechanical comprehension, artistic aptitude, abstract reasoning, spatial reasoning and interpersonal skills, to name a few. Indeed, students can be found with exceptional mechanical abilities in outside pursuits that are unknown to the school and therefore not readily figured into the career planning process.

An essential step in career development is self-awareness, in which the student gains increasing knowledge about his or her skills, aptitudes, interests and values through participation in a variety of exploratory activities. Non-academic electives in the schools, which are sometimes the first to be cut in times of budget crises, have traditionally offered one source of these exploratory activities. Hobbies, volunteering, job shadowing and part-time work outside of school provide other means of exploring. Career interest inventories, alone or together with other career assessments, can provide still more information and, because these sources typically include normative

data, can help the student and the school to see the strength of the interest or aptitude compared to others.

How Would the Use of This Assessment Strategy Assist High School Students?

Students can be very good at something and not enjoy or value it at all, which helps to explain why some may change college majors or later jobs in utter despair even though they might appear to have been successful. Conversely, they can be quite inept at something and still love doing it, which helps to explain the popularity of golf. Decisions about life (and hobbies) require information about more than one's skills.

The cost to the individual student and to the economy of young people who make ill-informed career choices is high. Improving those choices requires richer information discovered in a timely fashion and often with the help of a professional to assist in interpreting the data.

Over the decades, the use of career interest inventories, aptitude batteries and work values measures has risen and fallen with the times. The first enormous spike followed Sputnik and the introduction of great numbers of counselors into America's public high schools to guide students into math and science careers. As counselors became increasingly utilized for everything from social work to scheduling, their career guidance function was often undervalued and sometimes lost, and the use of these powerful assessment tools declined. Nevertheless, during the brief era of required Employability Skills Portfolios in the early 1990s, and again under the requirement for Education Development Plans beginning around 2001, it became clear that students need richer and more complete information about themselves as they begin their career planning. It is this richer information that these tools can provide.

How Would This Assessment Strategy Complement the Michigan Merit Examination?

The career planning component of the ACT assessment that will constitute much of the new MME will go beyond simple academic achievement data to include some information about career interests to assist students. Similarly, if the selected 10th grade instrument is ACT's PLAN, a comparable section addresses career planning. Indeed, some schools may elect to administer all parts of ACT's EPAS system over the high school years, beginning with Explore, then PLAN, then ACT and finally WorkKeys. The WorkKeys component of the MME will provide some new information on how the student's skills compare to the demands of the workplace. On the other hand, if the selected 10th grade instrument is the PSAT, students will be taking the instrument that functions as the National Merit Scholarship Qualifying Test. In either case, information from these assessments will help students think about their future. However, it is quite likely that students will want more information of this type, and perhaps information that is psychometrically stronger than that provided in a few interest questions appended to an achievement test. If the MME does serve to pique students' curiosity about themselves, their readiness, and their interests for future career paths, schools that provide additional assessments of this type will find the students motivated to take them and eager to use the results.

What Are the Advantages of This Strategy? As noted above, students will have more complete and more useful information as they enter into and progress through their career planning steps. In addition, schools will have a more thorough understanding of the interests and talents each student brings to the learning environment, will be able to draw meaningful connections between learning and its relevance to students' futures, and will be able to increase student motivation to learn.

What Are the Challenges in This Strategy? Counselor time can be a major consideration. Actual costs can be a deterrent, though we have seen that there are some options there. Students who have grown jaded over high-stakes tests may not take career assessments seriously, although once they understand the value of the information, that may change. Finally, there are some communities and groups that consider assessing anything beyond academic achievement to be an infringement on parent rights. In general that objection, too, can be allayed with information on the value of the information to a student's future planning, but each case may differ.

What Support Is Available for This Strategy? School counselors with training, reasonable student ratios, and dedicated time for interpretation of career assessment tools are essential. All of Michigan's professional school counselors meet the training requirements, although additional training on a given instrument can be useful.

Purchase of the assessment tools themselves, and sometimes scoring, can be a big factor. There is a no-cost option, the Armed Services Vocational Aptitude Battery and Career Exploration Program (ASVAB) provided free to schools, though it comes with political baggage that is not acceptable in some communities. There are some very low cost self-scorable and easily administered and interpreted choices (e.g. a bit more than \$1 per student). And there are sophisticated comprehensive batteries, frequently interpreting aptitudes and interests together, that may be preferred when students have moved beyond simple exploration and are ready for making some informed career decisions.

Finally, to derive the most value from these tools, they should be imbedded into an ongoing and frequently revisited process such as Education and Employability Portfolios (EEPs), in which students are gathering together evidence of their skills, their career exploration and preparation activities, and their evolving plans.

Professional counseling associations endorse the value of career assessment instruments and support their use by counselors in the schools. These same groups provide training at regular conferences. Some publishers offer training. And, as noted before, the Department of Defense makes one such instrument available free to schools.

What Role, If Any, Should the State Take in Regards to This Strategy? The MME, in incorporating one small interest/planning tool with the ACT Assessment, will be providing schools with information it may never have had on every student. Proper training on the interpretation and use of the results will fall to the state.

Beyond that, the state can - and probably should - take a position advocating for the use of multiple assessments to gather information for the student approaching career decisions. It is patently untrue that everything a student needs to know about himself/herself can be derived from MEAP and MME scores.

Beyond this, it is possible for the state to investigate and recommend a limited number of career interest inventories or other career assessments that could be useful, though any appearance of endorsement could introduce enormous problems. It is probably better that the state identify models in which given local schools are using these instruments, probably together with EEPs, to facilitate and guide their students' career planning efforts.

Community College and University Placement Tests

Description of the Assessment Strategy. Colleges and universities typically assess student readiness for college-level, credit-bearing courses in the areas of mathematics and composition/writing and sometimes in reading. Most Michigan community colleges and universities require placement testing for new, transfer or returning students. Placement tests are used to determine in which courses a student may enroll and the student's course of study, including the need for remedial or non-credit courses. The goal of the institutions is to help students acquire the skills to be successful in college and not flunk courses, hurting their overall grade-point average and reducing their likelihood of completing a degree.

In 2005, the most common placement tests utilized by Michigan's community colleges were the COMPASS (ACT) and the ASSET (ACT). While some universities, like community colleges, may use existing instruments from publishers such as ACT and the College Board, most universities develop their own departmental examinations. These range from sophisticated online instruments to less sophisticated paper-and-pencil instruments.

Unfortunately, the placement test administered before the first semester or term in college is often a wakeup call for students who may not have taken challenging mathematics classes in high school nor mastered the fundamentals of composition. High school assessments often stress different knowledge and skills than do college placement tests, leaving many students unprepared for the academic demands of higher education.

One recommendation to address this problem is to allow students to take college placement exams in high school so that they can prepare academically for college and understand college-level expectations (Venezia, Kirst & Antonio, 2003).

A way to do this without burdening students with the placement tests from all of Michigan's community colleges and universities is to carry out statistical alignment studies in which each college's placement tests are administered to a small sample (e.g., 2,000 students) of students who are participating in the Michigan Merit Examination (MME) in eleventh grade. This would permit the MME scores to predict performance on the college placement tests for all students, thus providing additional information to students without much additional testing.

What Are the Advantages of This Strategy? Administering actual college placement tests to students during high school allows the students to determine their likelihood of being able to enroll in credit-bearing classes in college. For students who receive an indication that they are not ready, they may have as many as two or more semesters remaining in high school in which they can work on their deficient skills. This may permit students to enroll in college better prepared to do college-level work. It would also serve to motivate marginal students that they can get into college and successfully carry out college-level work.

Use of the placement tests early in high school may help to provide students with realistic expectations of postsecondary academic demands. As part of a high school assessment program, the tests would thus raise student and parent awareness of college academic expectations, encourage students to take more rigorous courses, and help identify students needing academic assistance. Use of college placement tests in high schools would also support alignment of standards and expectations between secondary and postsecondary institutions, smoothing student transition from high school to college. College placement tests provide a 'real world' experience for

students, linking their achievement in high school to the expectations they will face at the next level.

Alternatively, carrying out the statistical equating study described above would also provide realistic expectations of the students' success in higher education, but in this case based on their MME scores without additional testing. Using the MME in this way could also provide another means for students to qualify for dual enrollment in Michigan colleges and universities, since students who receive passing scores would likely pass the college placement tests without actually having to take them.

What Are the Challenges in This Strategy? A number of challenges exist if Michigan is to consider administration of actual college placement tests to students during high school. College placement tests may align poorly with high school content expectations and standards and therefore be inadequate as measures of high school achievement. There is a lack of consistency in content and expectations across colleges. Quality of the tests is an issue: Venezia, Kirst and Antonio (2003) recommended that postsecondary education placement exams be reviewed for reliability, validity, efficacy, and the extent to which they promote teaching for understanding. The extent to which college placement tests in use in Michigan meet these criteria is unclear and should be carefully reviewed prior to including them in secondary assessment recommendations. Utilizing college placement tests would involve adding more tests to an already growing number of assessments students are required to take. Finally, tests developed by the postsecondary institution may be considered proprietary and not released for high school use.

On the other hand, some challenges exist if Michigan is to consider the statistical alignment study that would use MME scores to predict scores on college placement tests. Because Michigan's universities are independent of the State Board of Education, as well as of one another, it may be quite challenging to obtain copies of the university placement tests as well as permission to use them. The administration of these along with the MME tests would add some testing time to students during the year in which these statistical studies are carried out (which does not need to be done annually). The added cost to carry out the statistical study would not be significant.

What Support Is Available for This Strategy? Instruments from commercial publishers are likely to be available for use in high schools, at least on a trial basis, as a research study for which the publishers may even be willing to pay. If the alternative strategy is considered, Michigan's Office of Educational Assessment and Accountability has the expertise to conduct the statistical alignment study described here.

What Role, If Any, Should the State Take in Regard to This Strategy?

It is recommended that the Michigan Department of Education seek permission to access the university placement tests and to use them to equate these to the MME for the sole purpose of obtaining a predicted placement score for each Michigan university. MDE's Office of Educational Assessment and Accountability should carry out the statistical alignment study for each Michigan university willing to participate and should pay the costs for conducting the study. The results of the predicted placement test scores should be incorporated into the student-level MME Individual Student Report as well as summarized in summary reports at the school, district, and state levels.

As recommended in the final policy brief for the Stanford University Bridge Project, the state should mandate alignment between postsecondary education admission standards and assessments and high school exit-level standards. Appropriate K-12 assessments could then be used as an admission and placement factor by public postsecondary education institutions (Venezia, Kirst & Antonio, 2003).

Certificate of Initial Mastery Assessments (CIM) and Certificate of Advanced Mastery (CAM)

Description of the Certificate of Initial Mastery (CIM) - The Certificate of Initial Mastery is a mechanism for high school students to demonstrate their mastery of academic and applied learning skills that are essential for their academic learning and career. To earn the CIM, students must meet the requirements on statewide assessments and on classroom work samples such as papers, projects or presentations. The CIM is awarded by the school district and is usually presented at the high school graduation.

Several states have instituted the Certificate of Initial Mastery including Oregon, Rhode Island and Washington. Descriptions of the Oregon and Rhode Island CIM requirements can be found in the appendix of this document.

Description of the Certificate of Advanced Mastery (CAM) - The Certificate of Advanced Mastery (CAM) extends beyond the CIM to require that each student develop an education plan and education profile, demonstrate extended application through a collection of evidence, demonstrate career-related knowledge and skills, and participate in career-related learning experiences outlined in the education plan.

In Oregon, to earn a Certificate of Advanced Mastery (CAM), students must:

- Participate in an endorsement area through work-, community- and school-based career learning;
- Achieve grade 12 state performance standards in English, mathematics, science and the social sciences (history, civics, geography and economics);
- Achieve district performance standards in the arts and a second language; and
- Achieve career-related learning standards in personal management, problem solving, teamwork, communication, workplace systems, career development and employment foundations.

Oregon provides for "endorsed areas" which are a broad grouping of related careers in six areas:

Arts and Communications
Business and Management
Health Services
Human Resources
Industrial and Engineering Systems
Natural Resource Systems

Students who complete an in-depth career-related study within an endorsement area receive an endorsement credential. Students may earn both the Certificate of Advanced Mastery and the credential at the same time. Career-related learning experiences connect learning with real applications in the workplace, community, and on-campus. Career development begins at the elementary level but receives a much greater focus at the high school level.

How Would CIM and/or CAM Provide Richer Information About and to the Student? The process of scoring students' work samples involves teachers from the school district. By directly involving teachers in the work sampling scores, connections between classroom learning and evaluation are strengthened. Additionally, more immediate evidence of the student's progress and attainment of the knowledge and

skills set forth in the curriculum are available to the teacher and the student. Learning is personalized and focused on each student's goals and interests.

The CAM process focuses on career-related knowledge, skills, and application. To accomplish this, the school develops a relationship with the local community or with individuals in another community to provide opportunities for students to further their academic knowledge and its practical applications. Students then have immediacy of information to aid them in monitoring their progress on career-related knowledge, skills, and experiences and make decisions in their educational plan that will lead, ideally, to a productive and successful experience. The student's learning is demonstrated in an education profile/portfolio that communicates to parents, employers, colleges, and others what they have accomplished.

How Would the Use of This Assessment Strategy Assist High School Students?

Students may apply themselves more vigorously when school offers more demanding, interesting and meaningful courses incorporating practical programs and skills that could help them be better prepared for college and/or the world of work. The CIM and CAM assessment models are mechanisms to address the rigor of the curriculum, linking to real world skills, and providing evidence of attainment via assessment through both large-scale assessments and performance assessments. Students benefit by seeing the connection of their high school experience to further education, employment and adult responsibilities. The CIM and CAM further benefit students by focusing on:

- personalized learning - each student's personal, academic, and evolving career interests and post high school goals;
- the application of high-level academic and career-related knowledge and skills; and
- learning within the school and in the community.

The CIM process includes statewide criterion-referenced assessments to determine the student's mastery of the state's performance standards in core curricular areas with reports back to the student regarding his/her performance. Additionally, classroom work samples, demonstrating other aspects of the curriculum, are scored by the classroom teacher using a state scoring guide providing immediate information to the students about their performance. The result is students have more information about their academic skills and can participate in the planning for their own future by pursuing high academic knowledge and skills, and rigorous application of standards.

In addition to the requirements of the CIM, the Certificate of Advanced Mastery (CAM) students connect classroom learning with real life experiences in the workplace, community, or school relevant to their personal, academic, and evolving career interests and post high school goals.

How Would This Assessment Strategy Complement the Michigan Merit Examination? The Work Sampling component of the CIM provides an added dimension to the Michigan Merit Exam (MME). Large-scale testing prevents assessing all aspects of the curriculum. The classroom work samples provide a means to measure other aspects of the curriculum that are not measured by the MME while maintaining the integrity of the high school curriculum. An additional benefit of the classroom work samples is involving teachers in the process, resulting in enhanced teacher development.

The CAM provides an additional component focusing on educational plans and career-related knowledge, skills, and experiences to enhance the information provided by the components of the MME including WorkKeys.

What Are the Advantages of This Strategy?

- Assessments can be worked on in an applied setting – take home, service project, survey.
- Students understand why they learned a particular skill or knowledge.
- The process pulls together a demonstration of applied competence of skills/content to broaden the curriculum.
- The Certificate can be used in job setting or post-high school educational pursuits.
- Non-traditional learners can demonstrate their learning.

What Are the Challenges in This Strategy?

- Investment of time and money.
- Establishing and maintaining rigor and standardization of final project/product.
- Components of the CIM or CAM cannot be used as stand-alone assessments.
- Mobility or consistency across communities may be difficult.
- Fairness of tasks and scoring (reliability and validity).
- Teacher willingness and engagement.
- Appeals process of scores.

What Support Is Available for This Strategy? The CIM/CAM process requires funding for district-level development, training, and implementation; state level training funding; funds for professional development of teachers regarding assessments; and development of the components cited below under “role of the state.” Community support for rigor in the curriculum and career-related experiences must be developed. The work of Oregon, Washington, and Rhode Island provides a roadmap for implementation and considerations (see Appendix A and B).

What Role, If Any, Should the State Take in Regards to This Strategy? Public education regarding performance assessments will be necessary. The state should provide models of CIM programs and should provide on-going professional development to teachers regarding performance and classroom assessments. Teacher competence in assessment should be evaluated and teachers surveyed about their professional development needs. Rhode Island developed a CIM Consortium to provide a train-the-trainer network. Michigan might review that model as a possible strategy in this state. Included in that model is a focus on promoting school-to-career strategies.

Michigan should ensure that reporting efforts are adequate and that secure reviews are allowed. The performance and classroom assessments should be bias reviewed and insure the inclusion of IEP and LEP students. A mechanism should be provided to offer support for students who do not meet the standards. One possibility is funds (state and/or federal) to the school districts to provide a CIM summer school.

It will be essential that any one assessment does not become the “gatekeeper.” A formal review process of the evaluation system would be warranted. Impact studies of the assessment on curriculum and instruction, alignment of standards and performance assessment and classroom assessments as well as technical studies should be conducted. Analysis of the assessment of critical thinking should be determined.

Students participating in the CIM assessment process have rights to: retesting in order to meet the standard; juried forms of assessments for those who are unsuccessful; and appeal of scores, first at the school level, and then at that state level. Washington implemented the CIM in 1999. A progress report conducted in 2003 and reported to the Washington Legislature identified concerns and questions about the Essential

Academic Learning Requirements and scoring of the Washington Assessments of Student Learning. There were differences in the understanding, awareness, and readiness of Washington's schools to support the Certificate of Mastery as a graduation requirement. Validity issues, including predictive validity and consequent validity and reliability issues were noted in the report. The report also listed recommendations to improve the readiness of the Washington system to withstand legal challenges regarding graduation requirements and fairness. The report concluded with questions regarding what to do for students who do not and cannot pass the secondary Washington Assessments of Student Learning (WASLS). It would be worthwhile to keep these questions and considerations in mind if Michigan chooses to pursue a course similar to Washington.

Capstone Projects

In 2004, Stanford University released a study "Multiple Measures Approaches to Graduation," authored by Linda Darling-Hammond, Elle Rustique-Forrester and Raymond Pecheone, School Reform Network Associate Directors, and Alethea Andree, Stanford University Research Associate. The study examined a range of approaches to high school graduation that include tests as one element among an array of student proficiency indicators. The report argues for using multiple measures for deciding about high school graduation. The variety of student work included student academic records, research papers, portfolios, essays, **capstone projects** and oral exams.

Description of the Assessment Strategy - Capstone Projects are a means for students to integrate learning from multiple sources (school, personal, family, community) by researching, analyzing, and presenting the findings. The projects generally focus on intensive research, writing and presentations related to a student's personal and/or career interests, but are generally more than a research paper. Capstone Projects are aligned with the state's curriculum and standards. The projects range from a semester to a full school year to a four-year focus culminating at the end of the senior year. The Capstone Project may also be known as Senior Project.

Employers and postsecondary faculty alike stress the importance of research and analysis skills for success on the job and in the college classroom. High school graduates must be able to design and carry out significant research projects, including selecting researchable topics; collecting, analyzing and interpreting appropriate data; and communicating the results clearly and effectively. The Capstone Project gives each student an opportunity to explore in depth an important topic of genuine interest and to apply academic knowledge learned over a period of time to a meaningful problem in an academic discipline, the community, or a career or technical area. Often these projects are presented formally to a panel of evaluators whereby the student receives relevant feedback about their work.

The senior project should be incorporated into students' coursework and count toward students' course grades. Local school districts provide the leadership and support necessary to accomplish this, within broad state guidelines.

How Would This Strategy Provide Richer Information About and to the Student? Teachers and mentors from the community work with students in identifying and researching topics, analyzing and interpreting data, and developing clear and effective presentations of the information. Teachers and schools use the information to determine what skills and knowledge needs to be taught or re-taught and in which courses. Teaching and learning is more personalized and relevant to the development of the students.

How Would the Use of This Assessment Strategy Assist High School Students? Capstone Projects connect the learning in school to the real world and to the student's interests. Students view the Capstone Project as a practical endeavor that is personally relevant and intellectually rigorous. Students use their Capstone Project to demonstrate their knowledge, interests, and abilities in their portfolio, job interviews and college applications. As a result of this assessment strategy, students grow in their confidence about their skills and abilities and to formulate and voice their opinions. The presentation to a panel of experts showcases the student's skills and knowledge and provides the student with pertinent feedback from knowledgeable experts.

How Would This Assessment Strategy Complement the Michigan Merit Examination? Capstone Projects "cap" the high school experience by students

applying their knowledge, skills, interests, and inquisitiveness to an area of relevance and then demonstrating their abilities in a larger arena to employers and/or higher education. The Capstone Project is based on a culminating project that demonstrates the student's ability to apply learning gained from coursework and other experiences to the real world. It is relevant to the student's interests and allows for an application of his or her learning in a presentation format that is beyond the paper and pencil assessments of the MME. The Capstone Project assesses students' higher-order performance skills such as problem solving and application.

What Are the Advantages of This Strategy? The Capstone Project allows demonstration of skills and achievement beyond paper and pencil work. The project assesses transferable work skills not measured elsewhere, including writing portfolios that contain a comprehensive representation of the student's academic writing. It allows students to explore their personal interest topics and discover their personal passions. If the Capstone Project includes a community service component, students learn how their actions can have larger consequences in the local community and the world at large.

The Capstone Project connects students to the curriculum, meaningfully engaging seniors in an experience relevant to their lives as adults. It guides their transition from high school to college. Learning is viewed as not only personally relevant but also intellectually rigorous.

The project also connects students with adult role models. Someone outside of the school evaluates them, and Capstone Projects may incorporate community service to extend students' learning into the community.

Seniors become role models for underclass students of how to identify, research, analyze, and present a topic. Students begin the project as freshmen and "present and defend" at the end of their senior year to an audience of classmates, community members, teachers and administrators, family, and friends.

What Are the Challenges in This Strategy? The Capstone Project needs dedicated faculty, considerable allocated time and community mentors. It potentially pushes out academic time needed by students with demanding courses. Heavily scheduled students, particularly students carrying multiple Advanced Placement classes, may feel burdened by the project. Finally, it may be difficult to sustain over time.

What Support Is Available to Implement This Strategy? Models from school districts that have already implemented Capstone Projects are available. In addition, Achieve is an advocate for Capstone Projects, as is National High School Alliance, NCEE America's Choice, and School Redesign Network at Stanford, California. See the Appendix and Resources/Bibliography sections found later in this document.

Taking note of schools that have ventured forth with this strategy, it is clear that introducing and sustaining Capstone Projects requires planning, preparation, professional development, and evaluation to ensure successful implementation. The following steps should be considered:

- 1) Involve the community – including parents, business, labor, higher education – as well as educators in discussing the purpose, the process, and the implementation of Capstone Projects.
- 2) Offer professional development to provide vision and training for educators to implement Capstone Projects.

- 3) Provide training sessions for educators willing to implement Capstone Projects. Vermont began with standard-based units of study that included at least one Capstone element.
- 4) Allocate time in the school day for teachers and students to develop the project.
- 5) Develop a handbook and provide resources to help educators interested in implementing Capstone elements.
- 6) Provide opportunities for educators to meet several times during the school year to share their successes and challenges in implementing units.
- 7) Conduct pilots and collect feedback from students, educators, and community members to help shape the program for subsequent years.
- 8) Invite students who had Capstone experiences to share their views and projects with educators and other students.
- 9) Assess and evaluate the impact of the Capstone experience.

What Role, If Any, Should the State Take in Regards to This Strategy? Public education regarding performance assessments will be necessary. Provide on-going professional development to teachers regarding performance and classroom assessments enabling them to apply common performance standards to varied projects. Teacher competence in assessment should be evaluated and teachers surveyed about their professional development needs.

It will be essential that any one assessment does not become the “gatekeeper”. The state should promote the Capstone Project within a larger framework of assessments such as the Certificate of Initial Mastery, providing integrative, not additive models and broad state guidelines for Capstone Projects.

The state should consider establishing a Capstone Projects Consortium to provide a train-the-trainer network and a focus on promoting school-to-career strategies.

Michigan should ensure that reporting efforts are adequate and secure reviews are allowed, ensure that students have the right to appeal, first at the school level, and then at that state level, a score that did not meet the standard, and address what to do for students who do not and cannot pass the Capstone Project.

Impact studies of the Capstone Project on curriculum and instruction, alignment of standards and performance assessment and classroom assessments as well as technical studies should be conducted. Analysis of the assessment of critical thinking should be determined. Conduct a bias review for the portfolio, research assessment, and exhibitions and ensure the inclusion of IEP and LEP students. Reliability and validity issues, including predictive validity and consequent validity, need to be addressed.

Finally, the state should address differences in the understanding, awareness, and readiness of Michigan’s schools to support the Capstone Project as a graduation requirement, including issues of fairness. Questions to be considered include:

- Should Capstone Projects be required of all Michigan students as part of the high school assessment? If yes, what is the best fit for the overall high school experience?
- Should Capstone Projects be an independent study or integrated into a course? If the latter, which courses are appropriate?

High School Graduation Tests

Description of the Assessment Strategy High School Graduation Tests are examinations used to measure the student's achievement of the stated curriculum. The examination is given in the senior year of high school and is considered a high stakes test when the student's performance is used to determine whether he or she will graduate from high school. According to Achieve, Inc, a national bipartisan school reform organization, nearly half of the states have high school graduation examinations, and more than half of all high school students must pass their state's test in order to graduate (2004). Furthermore, in the states where the exit exam determines whether the students will graduate, the determination is made regardless of what courses the students have taken, what grades they have earned, and what abilities they have demonstrated in other ways.

How Would This Strategy Provide Richer Information About and to the Student? The test results are intended to guide students, teachers, and possibly higher education and employers regarding the knowledge and skills the students demonstrated on the exam. Schools may use the information to evaluate their curriculum, including issues of teaching and learning.

How Would the Use of This Assessment Strategy Assist High School Students? Students may be more serious and focused about learning in their courses, and the consequences of the assessment may encourage students to higher achievement. The assessment results provide information to the student about what knowledge and skills he or she demonstrated on the exam and may be helpful in making decisions about further areas of study.

How Would This Assessment Strategy Complement the Michigan Merit Examination? A high school graduation test designed to determine whether a student will be able to graduate is an entirely different kind of assessment than is the MME. Each is intended to measure students' attainments of the essential learnings and skills of high school, but the impact is decidedly different. While the MME rewards student achievement with funds for further education, a graduation test punishes students who do not achieve.

What Are the Advantages of This Strategy? The employment community considers high school graduation tests a means for "guaranteeing" the skill levels of graduates whom they may wish to hire. This perception may, however, be inaccurate, as described next.

What Are the Challenges in This Strategy? Achieve, Inc. analyzed the graduation exams of six states to determine how high a bar high school graduation exams set for students. It concluded that the tests currently in use are not overly demanding of high school students. Specifically, it found that exam questions often reflect material that most students study early in their high school careers, as opposed to the knowledge and skills that colleges and employers say are essential for success after high school. They also found the cut scores to reflect modest expectations.

Amrein and Berliner (2002) looked at high-stakes tests in eighteen states. They concluded that student learning (as measured by other tests covering the same domain as the state tests, such as SAT, ACT, NAEP and AP scores) – as opposed to student performance on the state test – remained at the same level it was before the policy was implemented or that it actually went down when high-stakes testing policies were instituted. Because clear evidence for increased student learning was not found, they

conclude that there is need for debate and transformation of high-stakes testing policies.

The School Reform Network study, *Multiple Measures Approaches to High School Graduation*, found that states that have required exit examinations as the primary basis for graduation from high school resulted in:

- Reduced graduation rates, especially for African American and Latino students, English language learners, and students with disabilities;
- Incentives for schools to push out students who do poorly, when school ratings are contingent on the average pass rates of students; and
- Narrowing of the curriculum and neglect of higher order performance skills where limited test measures are used.

From the research, it appears that high stakes graduation tests are not the most efficient or effective means of meeting state policy goals. Such tests do not insure that students have actually reached high levels of achievement; the greater the stakes, the greater the safety net needed regarding retesting; to be fair to students and avoid litigation, the state must provide alternate evidence and appeals; these conditions often result in lowering the standards. It may be that alternatives such as end-of-course exams would better serve students, districts and the state.

What Support is Available for This Strategy? Research is not supporting the use of a single-test assessment, particularly with such high stakes as graduation, in determining students' proficiency.

The experience of the state of Massachusetts suggests that the adoption of a high stakes testing program involves much more than developing the test itself. An elaborate retesting and appeals process must also be put in place. There should be enough lead time between the introduction of a test and its consequences for individual students that district curricula and instructional practices can be revised and aligned so that students will be adequately prepared to take it. In the case of Massachusetts, a phase-in of the test resulted in significant improvement in the number of students meeting the graduation standards before they actually went into effect. One result seems to be that overall drop out rates have remained steady at just over 3 percent.

What Role, If Any, Should the State Take in Regards to This Strategy? Achieve recommends that state graduation tests be strengthened over time by emphasizing more challenging content, asking more challenging questions, and phasing in higher cut scores. This speaks to the phase-in model as described in Massachusetts. Achieve also recommends that states move beyond large-scale assessments and work with local districts to develop ways to incorporate research projects and oral examinations into instructional programs, and that states and districts establish rigorous, systematic criteria for evaluating these projects and examinations across the state.

Linda Darling-Hammond at the School Re-design Network at Stanford University says, "High School graduation policies have important consequences for teaching, learning, and student achievement. It is important both to balance tests with other sources of evidence and to encourage students to do real-world tasks that go beyond what can be measured with multiple-choice questions." States would do better to employ multiple measures approaches to graduation, sampling a broad range of students' skills including skills such as problem solving, that multiple-choice tests can't measure. Considering a variety of student work such as student academic records, research papers, portfolios, essays, capstone projects and oral exams offers a more balanced and informed platform for holding students and schools accountable, and monitoring

student's individual growth and progress, preparedness for college, and readiness for the world of work.

High School Follow-Up Surveys

Description of the Assessment Strategy - Good decisions are made from information. The best decisions are made from accurate information provided in a timely fashion and interpreted for meaning, often through comparison to information from other groups or times. So it is with decisions about how to change our public high schools to meet the requirements of the world into which our students are graduating. Without solid information about how their students are faring after they leave, schools must make decisions about curricular offerings, organization, academic expectations, student support opportunities and the like on the basis of what appears to be helpful today, rather than what may be most helpful for survival in the future.

A partial answer is in place. The State of Michigan currently mandates an annual follow-up survey of those students who have completed a career and technical education (CTE) program in high school in order to meet US Department of Education reporting requirements. The survey collects information about these students' continuing education and employment, including military service, about nine months after they left high school.

Other high school follow-up surveys attempt to fill the information vacuum by contacting not just one group of students but the entire cohort group of graduates. Surveys, generally anonymous, are sent out to graduates of a school after they have been out "in the real world" for a year, three years, five years, or more. Graduates are asked to evaluate the experiences they had in the high school and the impact of those experiences on their adult experiences in further education and/or the work force. Analysis of the data leads high school faculties to some tough realizations, for example: that although 60% of students say they will go to college, only 45% actually go and only 25% successfully graduate in four years; that students who followed a "general studies" track in high school are unable to succeed in further education; that students who had no idea what career they might choose after high school often waste time and money in changing college majors and drifting between jobs; that a high percentage of the school's graduates are still living at home after five years, unable to make a living wage on their own; that the high school experience of some of its student groups is not at all the experience of students in other groups; that the lower expectations high school staff members hold for certain groups, e.g. minorities, disadvantaged, homeless or special education kids, are well known to the students and become self-fulfilling prophecies, driving their own ambitions and expectations.

Such data are sometimes rewarding and often challenging, even painful, to face, but they provide some of the most important information a high school may have about its real effectiveness.

How Would This Strategy Provide Richer Information About and to the Student? The high school graduate himself or herself who completes the survey may gain a bit of self-understanding and closure on reflection, but the real gains are realized by the next cohorts of students in the school. Feedback from students in the classes just ahead of them about the value or harm of certain decisions they made in high school is a much more powerful motivator for young people than advice from the faculty. Information that helps parents to see the long-term effects of their high schoolers' decisions encourages parents to be active partners with the school. And changes the school itself may make in response to the data, e.g. discontinuing a general math class that leads nowhere, will improve the academic futures of its students.

How Would the Use of This Assessment Strategy Assist High School Students?

The high school, in making positive changes in the light of survey data, will be improving a number of things in the school, from its academic offerings to its treatment of certain groups. Hard data with the power to help administrators and staff see their school the way students see it are hard to come by and invaluable. Current students are unlikely to trust the anonymity of their responses, but graduates with nothing to lose and the perspective of time can provide compelling data about such things as the quality of instruction, the perceived safety of the school, and the currency of the diploma in the job market. When school improvement committees take these data in hand and grapple with the tough decisions, positive changes can result, with real improvement in the schooling experiences of their current students.

How Would This Assessment Strategy Complement the Michigan Merit Examination?

Nothing measured in the MME speaks to inputs. Users *infer* things about a high school from its achievement data, rightly or wrongly, but without data to back up these inferences. Graduate follow-up surveys over time will provide evidence of the quality of instruction, the social climate of the school, the level of rigor and academic expectation felt by students, even the kinds of help given to and needed by students as they navigate choices ranging from course selection to academic track to extracurricular activities to their future careers.

While graduate follow-up surveys can be common across a number of high schools, for example when an Intermediate School District (ISD) conducts them for all of its constituent districts, generally there is still an opportunity for each school to tailor or develop questions suited to its own information needs and school improvement goals, thus providing data that are literally unavailable from the MME or anywhere else.

What Are the Advantages of This Strategy? School Improvement Plans that start from hard data and use hard data to monitor growth are stronger and more likely to be effective than plans based on hunches. Information from former students, supplied anonymously and with care given to address the representativeness of the sample of returns, excites faculty, creates an impetus for change in the building, and generates understanding of some features of the school that cannot otherwise be grasped. It has power to motivate current students and their parents as well as educators. In cases where groups of high schools cooperate in the endeavor such as through an ISD, the data on an individual building are supplemented with comparison data showing group averages, lending another layer of meaning to results.

What Are the Challenges in This Strategy? Taking a hard look at oneself is never easy. Faculties may be appalled at students' perceptions that the school is unsafe. Administrators may not want to know what percent of their graduates actually make it into college and stay to graduate, numbers that are far lower than the oft-touted "percent going on to college" based on seniors' announced plans. Hard evidence that certain academic choices are dead-end choices that shortchange students may be painful for the teachers and departments that have traditionally offered those choices. Nevertheless, it is essential that a school know these things about itself or there will be no justification for the hard work of making changes.

In addition, funding follow-up surveys may be a challenge in an era of obsession over achievement data alone. Arguments will be needed that these input data have immediate and very real effects on the outputs of the school. In places where several years' worth of follow-up data have begun to yield some changes that are paying off, data may be available to bolster the cause for other districts trying to get support for such an effort.

What Support Is Available for This Strategy? Development costs can run high if a school or district chooses to start from scratch, but there are several fine follow-up surveys already in place in Michigan schools, such as that administered annually by the Washtenaw ISD for its 18 constituent high schools, which can be obtained at only copying cost by other districts.

The costliest aspect of a follow-up survey is, of course, locating and communicating with the graduates, who often don't live at home and may be away at school, in the military, in another state working, even incarcerated. Washtenaw ISD has used a professional survey research firm for this step, which includes both mail and telephone outreach and has yielded exceptionally high response rates. Districts without adequate resources for this step are encouraged to join with other districts such as through an ISD. Least expensive of all, as a starter option to get faculties excited about the data, is a senior exit survey, administered anonymously and at the end of the year when students have nothing to lose and will be candid on their way out. In this case, they are still a "captive audience" and can be sampled at almost no cost. The trade-off is that there will be no long-term college or job success consequences yet, but early data on students' experiences in the school still yields important information for the school.

Scoring is quite reasonable, since these surveys will be 90 - 100% machine-scorable Likert rating scales and multiple-choice items. The few open-ended items that some schools may desire should be handled in strict confidence and read only by those staff members in a position to use the data appropriately (e.g. School Improvement Teams), since students are likely to name names in their critiques. Tear-off sheets at the end assure that they are never sent to scorers.

Actual survey questionnaires exist for the borrowing. Districts already undertaking these surveys can share their experience and train others to spare them making costly mistakes. Funding must be addressed; in some cases a particular source of money in the school, from Career Ed dollars to PTA funds to drug abuse reduction funds may be tapped for partial support assuming the questionnaire includes items on the issues important to those groups. There may be a bit of money dedicated for School Improvement that can support data gathering. Joint operation of the strategy may unleash some funds from ISDs or other collaboratives. Grants may be sought for start-up. Creativity will be required, but the value of the data is so imperative that the struggle is worth it.

What Role, If Any, Should the State Take in Regards to This Strategy?

Expanding the current CTE survey to include all students after high school would provide vital information regarding the success of both academic and career preparation of students. And, if the survey could be repeated after a longer interval of time lapsed, the data would be even more valuable as an indicator of successful preparation. Information provided by the survey could be used by both state and local educators to evaluate the impact of educational programs, since the data would be statewide on all groups.

Should it not be feasible for the state to greatly expand its CTE survey, however, there are other important roles the state can and should play. In conferences and training sessions, the state can offer sessions highlighting the data in a given local follow-up survey program and how use of the data has improved the school. Conducting this kind of survey can be a suggested, but not required, source of data for the School Improvement process. Models can be disseminated, and trainers can be identified and suggested. Any grants to high schools can suggest follow-up data as part of the evaluation of the impact of the grant. State power brokers can perhaps talk up follow-up surveys to potential sponsors with a vested interest in improving the schools. The

list could go on. It is not likely that the state can ever conduct, fund, require or reward total-school graduate follow-up surveys, but the state as an advocate would be a powerful mechanism to advance the spread of this tool.

Appendix A: Examples of Assessment Implementation

This appendix provides specific examples of some of the assessment strategies that have been implemented at the state or local levels. The inclusion of these examples is not an endorsement of them, since the educational and policy contexts of states or local school districts help determine whether these examples are applicable or useful by others. These examples are provided to Michigan districts as a place to start in considering whether these assessment options will be useful in their districts

End of Course Tests

This section reviews six states that currently require end-of-course exams. Each review will include information on the specific purpose of end-of-course exams, courses in which tests are currently being administered, and finally how the results of the tests are being used. The states included in the review are North Carolina, Indiana, Tennessee, Georgia, New York and Virginia.

North Carolina The state of North Carolina has currently developed both end of grade assessments for students in grades three through eight as well as end-of-course exams for courses offered at the high school level. Initiated in response to legislation passed by the North Carolina General Assembly and North Carolina Elementary and Secondary Act of 1984, these exams are used for three primary purposes:

1. To assure that all high school graduates possess those minimum skills and that knowledge thought necessary to function as a contributing member of society.
2. To provide a means of identifying strengths and weaknesses in the education process in order to improve instructional delivery.
3. To establish additional means for making the education system at the state, local and school levels accountable to the public for results.

The exams also serve the purpose of providing accurate measures of individual student knowledge and skills. The testing domain for these instruments include the content covered in identified high school courses. In addition, North Carolina has made concerted efforts to ensure that their end-of-course exams assess student learning of high level thinking skills. They have chosen to use the Dimensions of Thinking (Marzano, et al., 1988) as a framework to incorporate higher order thinking in their exam items. Research conducted by Thompson and Newsome (2002) have found these exams to positively impact teachers use of higher level thinking skills when developing classroom assessments. Support for the exams impact on increased higher level thinking skills in teachers' instructional practices however was inconclusive.

The test formats of North Carolina's exams include multiple choice as well as performance assessment items particularly for the assessment of writing proficiency. Courses in which exams have been developed include Algebra I and II, Biology, Chemistry, Economics, Legal and Political Systems, English I, Geometry, Physical Science and Physics. During the 2005-06 school year, exams were for Civics and U.S. History. Any student enrolled in one of these courses and who expects to earn credit must take the accompanying exam. This includes students with disabilities and students repeating the course. The tests must be administered during the last week of school for schools that utilize a block schedule and during the last two weeks for schools using a traditional schedule. In addition, the results of the test must count for a minimum of 25 percent of the students' final course grade.

While passing these courses are not a requirement for graduation in North Carolina, schools are required to provide a system of documentation that facilitates the

monitoring of student enrollment in the course for the purpose of local and state accountability. The student's most recent score is ultimately used for accountability.

Indiana The state of Indiana Core 40 program are academically rigorous high school courses in core subjects of English Language Arts, mathematics, science, social studies, physical education/health and wellness as well as elective courses. Beginning with the 9th grade class of 2007, all students will be required to complete the Core 40 program. During the 2003-2004 school year, the state introduced Core 40 end-of-course exams for Algebra I and English II. These tests were designed to ensure the quality, consistency, and rigor of Core 40 courses and to provide a measure of what students know and are able to do upon completion of each course. During the 2006 school year, operational tests will be administered in Algebra II, Biology and U.S. History.

Each test includes two 45-minute sections that are administered online. Paper and pencil versions are also available. Schools and school districts may choose to include test results as part of the student's overall grade but are not required to do so. Nor are these tests required for graduation. However the test results are used as a school improvement indicator of accountability. Schools must participate in the assessment program in order to achieve the top two school performance categories on their school report card.

Tennessee On October 29, 1998, in compliance with TCA 49-10608 and TCA 6001(a)(1), the State of Board of Education designated ten high school courses for the development of end-of-course exams. Their identified purpose was to implement systems that would serve to raise the academic bar for all high school students and add accountability for students' academic performance.

Beginning with the class of 2001, students were required to pass at least three of the ten exams before graduation to earn a high school diploma. The ten exams offered include Algebra I and II; Math Foundations II; Biology I; Physical Science; Chemistry; English I and II; and History. The three required exams must include a math course, a science course and a language arts course. The results obtained from any of the ten exams administered must be used to determine at least 15 percent of the student's grade.

Georgia In the state of Georgia, the A+ Educational Reform Act of 2000 mandates that the State Board of Education adopt end of course assessments for specified core subjects taught in grades nine through twelve. Georgia's End of Course Test (EOCT) program was created to improve student achievement through effective instruction and assessment of the standards in eight core high school courses. These courses include Algebra I, Geometry, Biology, Physical Science, U.S. History, Economics/Business Free Enterprise, 9th grade Literature and Composition and American Literature and Composition.

EOCTs are paper and pencil tests that can be administered using an online format. The tests are administered in two 45-60 minute sections. Each test is aligned with the state core curriculum and is designed to ensure that all Georgia students have access to a rigorous curriculum that meets high performance standards. They are to be used as the final exam for any EOCT course and must account for at least 15 percent of the student's grade. In addition, students must earn a minimum course grade of 70 percent to pass the course and earn credit toward graduation.

New York The New York Regents Exams are this country's oldest example of end-of-course exams. These exams are based on the state's core curriculum and include 15 tests. Until 1994, these exams were not required of any student. During the fall of

1994, students were required to take three Regents level Math courses and three Regents level Science courses before graduating. They were not, however, required to pass the tests.

In 1996, the State Board of Regents decided to raise the bar for the entire state (Bishop, et al, 2000). Students are now not only required to take the exams but are required to pass them. In fact, students entering ninth grade in 1996 or later were required to take a new six hour Regents English exam and pass it at the 55% level. Beginning with the class of 2001, students must also pass an exam in Algebra or Geometry. The class of 2002 was required to pass exams in Global Studies and American History and the class of 2003 was required to pass one exam in laboratory Science. In total New York students are now required to pass a minimum of five exams to earn a diploma.

Virginia The State of Virginia currently offers end-of-course exams in English, Mathematics, History and Science. All exams are based on the Standards of Learning, the states required curriculum. Exams are administered online and students must pass a minimum of six to graduate. Students in the class of 2006 must pass two English exams as well as four of their own choosing. Students of the class of 2007 must pass two English exams, one Math, one Science, one History and one of their own choosing.

Summary

End-of-course exams are currently being used by at least six states for the purpose of assessing student learning of state-required course content and courses. States implementing this level of testing view the process as one that ensures state, school as well as student accountability. At least one state has made a conscientious effort to ensure that end-of-course exams they develop assess higher level thinking skills. Failure to do so has been cited by non-supporters of state-mandated testing as a serious deficit that often leads to forcing teachers to teach to the test and thereby narrowing the curriculum (Kohn, 2000).

In light of Michigan's recent movement toward state-required courses for graduation, a subsequent move to complementary and aligned end-of-course exams seems to be the next logical step.

Certificate of Initial/Advanced Mastery

Oregon

To earn the CIM, students must meet requirements on statewide assessments and on classroom work samples. Oregon's statewide criterion-referenced test is administered at grade 10. Between the 9th and 12th grade years, an Oregon student may earn a CIM showing he or she has met Oregon's performance standards in English/language arts, mathematics and science. Most state CIM tests and work samples occur in grades 10-12 but students can take the CIM tests starting in 8th grade if they have demonstrated the knowledge and skills. Work samples are classroom assignments such as papers, projects or presentations. Teachers score these assignments using a state scoring guide on a scale of 1 to 6. Students are expected to produce the following number of work samples meeting scoring guide standards: writing, 3; speaking, 3; mathematics, 2; science 1.

The CIM is awarded to students who:

- Achieve grade 10 state performance standards through state and local assessments in English, mathematics, science and the social sciences (history, civics, geography, economics);

- Achieve district performance standards through local assessments in the arts and a second language; and
- Demonstrate abilities to learn, think, retrieve information, use technology, and work effectively as individuals and as individuals in group settings.

Students who are unsuccessful on state tests are provided an avenue to demonstrate performance at the CIM level using one of three "juried" forms of assessment.

A Certificate of Achievement is available for any student who exits high school without graduating. Oregon does not require students to earn the CIM to receive a diploma. However individual school districts may have additional diploma requirements. Students have until they graduate from high school to earn the CIM.

Rhode Island

The CIM components include:

English Language Arts assessed with scores from the state exam, two on-demand performance tasks, and one extended performance task.

Mathematics assessed with the state exam, two on-demand performance tasks, and one extended performance task.

Work Habits assessed through the Capstone Project, observation by two adults of the student's specific work habits, and student selected work samples as evidence of teamwork and responsibility.

Following the completion of all of the CIM components, the student writes a **reflective essay** based on his/her experience.

All the assessment components are assembled into a **CIM Portfolio** which displays the student's skills and knowledge to employers and educators.

Capstone Projects

Greenhill School (Addison, Texas)

Greenhill School embarked on a review of the upper school program over the past five years. They were struck by the challenge of Nancy Sizer in her article "Reclaiming Senior Year" where she wrote "...self-respecting high schools... can change the emphasis of the course of study to the serious interests that the seniors are developing and the eventual work that they might be able to do." Furthermore, she wrote "High school seniors are living in three time dimensions at once: with the record they have already assembled, the work they are doing in their final year, and the kind of work they imagine in the future". This led Greenhill faculty to ask "So what should be the point of the senior year?" and resulted in revamping their courses and instituting a senior year project.

In 2001-2002, Greenhill instituted the Capstone Project. In a year-long, independent project, a senior can explore deeply an area of particular interest. Projects range from traditional to start-up business proposals to original jazz and classical compositions. The project possibilities are wide open. Once a student's proposal receives approval, he or she meets with faculty and out-of-school mentors. A successful Capstone Project includes the submission of biweekly progress logs; satisfactory committee evaluations; work as a peer evaluator; and a final written component that must include some reflection on the Capstone experience. The review committee composition includes mentors, faculty representatives, chairs from any department the student desires

credit; and a peer evaluator to evaluate the project at the end of the trimester and upon completion. The exhibition is a key facet of the Capstone Project.

In addition to revamped courses, the Greenhill School also wanted to encourage more students to participate in the existing senior year project that replaces the final month of classes. A senior develops, participates in, and helps to evaluate an experience unavailable during the regular school year and involving community service. The projects lead students beyond their normal scope of activities. Recent projects have included interning at various local schools, volunteering at shelters, assisting in production at a public radio station, and working at a professional theater.

What Greenhill students say.... *Many students arrive to college never having written a paper longer than eight pages or undergoing the tedious task of research for a long paper; the Capstone project forces students to undergo this arduous and lengthy task with the guidance of a faculty sponsor who works closely with the student, before coming to college where the task of you is expected with little guidance and direction.* (Jonathan Brajtbord, '02)

I realized this project would be a way for me not only to teach myself about China's past, but also to test my ability to work independently, perhaps to prepare myself for a collegiate level of responsibility. (Hillary Prince, '02)

Chris Dwyer '02 says that one of the hardest--and best--parts of his projects was getting stuck and having to figure out just what questions to ask.

Greenhills' teachers' perspectives.... *Capstone has helped stimulate provocative conversations among faculty about program and assessment. Teachers have noted the integrative approaches students consistently take to their projects, the range of the topics, and the creative methods students have developed to present their knowledge. Ultimately, both students and teachers have begun to look at ideas and problems in new ways.*

Motivation, perseverance, confidence, pride, reflection – these are some of the qualities we see in our graduates. Fostering them in meaningful, appropriate ways can help cure, and even eradicate, senioritis. (Mark Crotty, Director of preK-12 curricular programs and English teacher)

Indiana University

At Indiana University, in the capstone courses students are asked to integrate and apply their learning by completing a significant project, often one that addresses a "real-world" issue or a close simulation of one.

Caledonia High School, Caledonia, Michigan

Ms. Marylou Boncher, English Department Chair at Caledonia High School, described Caledonia High School's Senior Exhibition. This initiative was started in 1994 under the leadership of Tonia Porter, the high school principal at that time. The Senior Exhibition was composed of the Portfolio and the Senior Research Project and culminated in the Senior Exhibition Day.

The portfolio was based on the district's seven exit outcomes which included career awareness, global understanding, communication, technology, and reasoning. The outcomes aligned with North Central Accreditation standards. Students were responsible for refreshing their portfolio each semester. An event sheet provided evidence regarding the artifact and explained how it related to the exit outcomes. A written paper was also included that described the student's progress over time using

evidence cited in the portfolio. Transcripts, scholarships, ACT/SAT/MEAP scores were included in the portfolio as well.

The **Senior Research Paper** was produced in the Senior English class. The paper, usually about a topic of significance or a career interest to the student, included the student's research, an interview of an expert on the topic, and visual aids. During the Senior Exhibit Day (seniors' last day of school) each senior led a 20-30 minute presentation of their research. Presently, the Senior English class still requires the Senior Research Paper, however, the interview of an expert on the topic is optional and the presentation has been scaled down to 5-7 minute presentations.

During the **Senior Exhibition Day**, classes were suspended. Underclassmen attended the presentations and the community was welcome to attend. Each presentation was an hour in length. A three-member panel composed of the teacher/advisor, an expert in the research area, and one other person of the student's choosing, reviewed the portfolio, evaluated the presentation of the portfolio and the senior research project and provided feedback to the student regarding their presentation.

In the beginning, in-services were held to present the concept of the Senior Exhibition Day. Professional discussions provided opportunity for staff to think about what should be asked of students, including special education students. A key component leading to the success of the endeavor was the buy-in of staff to provide the support necessary to students. The high school schedule was organized to provide a daily forty-five minute advisory period. Every teacher served as an advisor. Students were assigned an advisor as they entered their freshman year and stayed with that same advisor until they graduated. Each advisor's group was mixed with approximately 7 freshmen, 7 sophomores, 7 juniors, and 7 seniors. When a class graduated, new freshmen were assigned to the advisors. The advisory period was dedicated time for the students to develop their portfolio with the advisor teacher also serving as the exhibition teacher. Practices of presentations with advisors were mandatory and there were many practices. Oral presentations were required in every class in high school. Students grumbled about the effort involved in the projects, but once they graduated from high school, many have returned with high praise for the requirement stating that it prepared them well for the transition beyond high school, particularly for college. Caledonia High School suspended the Senior Exhibition in 2004 due to budget and time constraints.

Harrison High School, Farmington School District, Farmington, Michigan

Ms. Laura Sparrow, AP teacher at Harrison High School, Farmington School District, shared information about her experiences with Capstone Projects. Ms. Sparrow had been searching for something that would combat senioritis that worsened after the students took the AP exam. She also was looking for something that would provide a significant culmination of students twelve years of education and that would help them think about what comes after high school. Her principal encouraged her to visit with Caledonia High School about their senior projects. Ms. Sparrow liked Caledonia's ideas and returned to her classroom eager to implement the senior project in 1998. However, the first year didn't go well largely because she had too many good ideas going on in the classroom. She also said that her expectations and sequencing of activities were not particularly clear. Lessons have been learned from that first year of trying, including developing materials for students that help guide them in the process of creating their Capstone Project. As a result, her students are now excited and finding the Capstone Project a powerful experience.

Ms. Sparrow has tried three models in the placement of the Capstone Project.

1. *A single semester class.* The Capstone Project was introduced into the Philosophy class, it was too much of an intrusion on the curriculum of the Philosophy class. There was not enough time for the Capstone Project.
2. *AP English 12.* Capstone Project was introduced in September and worked on throughout the year. This model has worked well.
3. *Stand alone course in the spring with enrollment open to all students.* There is a wide range of ability of the students, but the construct of the course allows more hands on instruction and opportunity to learn.

Ms. Sparrow introduces Capstone Projects to her students by saying, "The project should be a challenge for you about a topic that you are passionate about. It should be something you've always wanted to do, something you've wanted to learn more about, or to explore further." Once students have gathered their information, they use Excel to display their survey results in three ways (data, research, and product). They present their project to a panel for comment. At the end of the project, Ms. Sparrow asks the students "How did it go?", "Did your self-assessment scores agree with the reviewer's scores?"

Ms. Sparrow is passionate about the Capstone Project and has infused interest and support with her colleagues at Harrison High School. Her district has asked her to coordinate Farmington's district-wide graduation requirements and to include the Capstone Project. Community resistance to instituting the Capstone Project as a graduation requirement has placed implementation on hold. In the meantime, she continues to utilize the Capstone Project in her AP English class and a 12th grade English course. Of note, is that Oakland Schools Research Department has conducted an external research with many of the 250 students who have participated in the Capstone Project over the last five years. Ms. Sparrow has artifacts of her students' work and a course manual that she is willing to share with others who are interested.

Parker School (Devins, Massachusetts)

Division III (11th and 12th grade students) culminate their studies with a capstone Senior Project – a topic or project they choose to explore independently with the guidance of an outside mentor, sometimes in a workplace internship. Presented to a public audience as part of a student's graduation exhibition, the Senior Project makes an intellectual and personal bridge between high school and the world beyond.

Poland Regional High School (Poland, Maine)

Students at Poland Regional High School are required to complete a Sophomore Core Portfolio. Students are asked to reflect on their lives, on their challenges, on their learning, and on their growth – refining their ability to describe who they are, what they are doing, and where they are going. The portfolio project provides an opportunity for students to develop crucial, lifelong skills including self-assessment, measuring progress toward goals, determining if changes need to be made, and summoning the words that represent their assessment. It also connects the work of school to the student's life as a whole by asking the student to build the portfolio around "at least eight pieces of evidence from the student's life that address the essential questions of the portfolio. Students can choose evidence from class, co-curriculars, home, hobbies, job, or wherever they find evidence that best answer the questions."

Student, Daniel Burgess says "I am going to use this as a portfolio when I apply for jobs. I think it's the best way, short of getting to know me over a long period of time, for someone to understand who I am and what my goals in life are."

Teacher Heather Manchester helped her students work through the process of creating their Sophomore Core Portfolios by linking the Portfolio project with the Roundtable

curriculum and using activities to stimulate thinking. Roundtables are similar to other group advisory sessions. Roundtables continue to be revised with ideas such as incorporating chronologically organized personal narratives, highlights and bloopers videos, and personal timelines. Work with the portfolios continues into the junior year roundtables; students create resumes that they will add, thus extending the portfolios to complement the focus on career exploration.

Rhode Island

Included in Rhode Island's graduation requirements is a requirement for proficiency based graduation requirements. The proficiency must be demonstrated through at least two of the following: departmental end of course exams, a Certificate of Initial Mastery, portfolios, extended "capstone" projects, public exhibitions, and the use of technological tools.

Rutland, Vermont

In Rutland, Vermont, the Capstone Initiative has four components:

- **Personal Development Collection (PDC)** is a portfolio that comprehensively presents a student's products, performance and reflection, and show his/her accomplishments of Vermont's Vital Results. Creation of the PDC is a process as well as a product. The student reviews the PDC annually at a conference with teacher, parents, and peers.
- **Work-Based Learning Experiences** gives students a scheduled and planned opportunity to use some of what they know in a job setting. It allows students to meet academic standards in a hands-on, out-of-school environment. Students go into the workplace with specific learning goals in mind. They engage in activities such as job visits, job shadowing, apprenticeships, student entrepreneurship, internships, supported employment, mentor relationships, or cooperative employment. These may include unpaid work experiences, paid work experiences, short or long term experiences. The purpose of multiple work-based learning experiences is to give students many opportunities during their school years to demonstrate their own accomplishment of Vermont's Vital Results standards.
- **Community Service Learning Experiences** allows students to use their school and personal knowledge and skills to address actual human or environmental needs in their communities. It is learning through problem solving in a deliberate variety of settings, including their families, school and the greater community outside of school. The services students provide meet a genuine need, rather than one created for the learning situation. When students are volunteering, they work to develop a mutually beneficial relationship with those they are serving. Through these experiences, students gain a sense of empowerment, because they learn that they can make a difference. They gain insights into themselves and others that allow them to fulfill both the letter and the spirit of Vermont's Vital Results Standards. Students participate in service learning activities repeatedly throughout their primary, intermediate, middle and high school years.
- **Personal Performance Project (PPP)** is an investigation designed and carried out by the student in a combination of school, community and research settings. The student shares his/her learning in some original way with a jury of peers, mentors, experts, and family, in a public performance of expressive presentation. Students undertake a PPP each year, pre-K-through 12, with increasing independence in all phases of the work, from topic selection to

presentation format. The student includes some of this work in the Personal Development Collection, demonstrating Vital Results Standards as “in progress” or “met”.

Ideally, students participate in all four components of the Capstone Initiative each year, pre-K through 12. Some schools may require some or all elements of Capstone for all students. Many schools integrated the components through the action planning. Other schools are building to an integrated Capstone Initiative by starting with one component and adding as experience and capacity allows.

The attraction of the Capstone Initiative for schools is that it integrates practices the school must implement to satisfy existing mandates from the state and demands from the community for improved learning. For many educators, it appeals to their passion for teaching and making a difference in the lives of students. For students, it provides a process to investigate things that are of interest to them and to integrate their learning.

Wakulla High School (Wakulla, Florida)

Every student at Wakulla High School is involved in a capstone experience. Each experience is suitable to the individual educational and career goals of the students as identified through assessment and interviews required as part of the school wide comprehensive career guidance plan. Students have various capstone experiences ranging from work-based components either off campus or as part of a school-based enterprise to community service work and written research papers on various career topics. The end product is a written report and demonstration. Florida Tech Prep Pathway capstone experience includes a work-based component involving preliminary meetings with employers, work-site orientation, contracts with the student/school/parent and employer, weekly timesheets, student journals of activities and experiences, and periodic evaluations.

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Appendix C

High School Assessment Action Team Membership

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