Competency Based Graduation Requirements
Research on State Legislation & Adoption

Introduction:

The states of New Hampshire, Massachusetts, Michigan, Ohio and the school district of Chugach, as outline below, serve as examples of states that have initiated innovative legislation and requirements for high school graduation. Developed around the concepts of competency based learning, various requirements have been set in order to reach the needs of students. Competency based learning objectives are focused on empowering students in and outside of the classroom by allowing them to choose their own ways to learn and meet the standards and by encouraging them to become involved in outside-the-classroom learning experiences. The requirements are designed to provide flexibility but also challenge the students to truly master skills. Thus various benchmarks are set in order to prepare students for future studies, careers and vocations. There is a great deal of variability in the way states and districts have implemented competency based learning—from testing to more of a focus on outside projects. The states and district described below outline some of the leading methods that are present in new legislation and competency based learning approaches.

Chugach School District:

This Alaskan school district originally developed a performance-based learning system that has been transformed into the Re-Inventing Schools Coalition (RISC) model. Students are evaluated based on 10 areas of performance that include academic and professional development skills, cultural awareness, and character skills. This model uses a standards-based learning approach that does not emphasis seat time, rather a flexible format that promotes student ownership on learning. Chugach School District outlines the expectations and what is needed by each student in order to make progress toward completing the content areas. Students and teachers create assessment binders that are regularly reviewed and provide proof of skill mastery after graduation. The use of this model has now expanded to sixteen districts across the country.

The Chugach school district has identified 10 content areas that aim to engage student learning, within each of these 10 content areas there are several key elements/competencies students must reach in order to pass the content area. The 10 content areas are: math, science, reading, writing, service learning, career development, cultural awareness and expression, and healthy development. The science competencies (listed below) revolve around understanding and applying major concepts and processes that can be used across all of the sciences.

1. Use unifying concepts of cycle, change, equilibrium, model, systems, and order.
2. Use the major processes of observation, hypothesizing, measuring, and classifying in scientific investigations.

3. Identify the structures and properties of matter including atoms, bonding, elements, and compounds.
4. Describe chemical and physical changes.
5. Explain the interaction of energy and matter.
6. Describe the structure and function of cells and their components at the molecular level.
7. Explain the behavior and interdependence of organisms in their natural environments.
8. Identify the structure and properties of earth and space.
9. Explain the processes that change the earth and the solar system over time.

The district uses multiple assessments to evaluate students including a self-assessment, skills-based assessment, and a cumulative analytical assessment. Each assessment serves as its own function to evaluate the student's progress towards the completion of each content area.

Self-Assessment- student directed assessments of knowledge and skills of a particular standard and level.

Skills-Based Assessment- Demonstration of knowledge and skills through basic recall of facts and specifics in a tradition fashion, essentially a standard test.

Cumulative Analytical Assessment- Assess the quality of performance, measures skills, and ability to apply skills and knowledge in the context of a real world situation.[1]

Massachusetts

One of the ways states such as Massachusetts has determined to assess student competency levels is through the Competency Determination Standard (in additional to the required local graduation standards). The Massachusetts Education Reform Law of 1993 created new requirements for students starting with the graduation class 0f 2010. The legislation informs us that students must now "satisfy one of the following two conditions in both English language arts and mathematics to earn a competency determination: (a) meet or exceed the Proficient threshold scaled score of 240 on the English Language Arts and Mathematics grade 10 MCAS tests, or (b) meet or exceed the Needs Improvement threshold scaled score of 220 on the English Language Arts and Mathematics grade 10 MCAS tests and fulfill the requirements of an Educational Proficiency Plan."[2] These two conditions seek to meet students with varying levels of educational progression.

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[1] The district website (http://mail.chugachschools.com/standards_based_system/ multiple_assessments/index.html) provides access to example rubrics with specific grading criteria and each assessment for students or the public to view.

[2] http://www.doe.mass.edu/mcas/graduation.html

The students will also take a discipline specific high school Science and Technology/Engineering MCAS test (Biology, Chemistry, Introductory Physics or Technology/Engineering) by tenth grade (with exceptions). At the beginning of the third year (consecutively) students are required to take the History and Social Science high school assessment. These tests, among others, are used to "determine whether a student is making progress toward proficiency or has become proficient."[3]

Additionally, the Massachusetts Department of Education has recommended the Massachusetts High School Program of Studies (MassCore), which is a "comprehensive set of subject area courses and units as well as other learning opportunities, before graduating from high school… This includes additional learning opportunities including AP classes, dual enrollment, a senior project, online courses for high school or college credit, and service or work-based learning."[4]

Highly noted among the schools that have taken competency-bases learning to a new level is Boston Day and Evening Academy. An alternative public charter school (which are becoming more and more popular around the nation), BDEA serves students ranging from those classified as overage to those who feel they are not the proper attention in class in order to succeed. "BDEA is a student-centered, competency based school, and uses neither Carnegie units (A, B, C, D, F) nor traditional grade levels (9th, 10th, 11th, 12th) to measure success and progress."[5] Students here are required to achieve competence in all their courses, complete a capstone project, pass standardized tests in English, math and science and complete classes and other requirements aimed at helping them plan their futures past graduation.

Michigan:

A common theme among Michigan's competency-based learning programs focuses on personalized learning and academic mastery. Programs focus on measurable, transferable and individualized learning objectives, which entail various alternatives to the traditional schooling approach. A few of these alternatives are found in legislation such as the 5-O-B or Seat Time Waiver Act of 2010, the competency of the Education Achievement Authority and the project based learning approaches found in Diploma Plus schools, such as Apex High School. These examples, as shall be demonstrated below, represent schools that serve a variety of demographics and learning targets.

The Seat Time Waiver legislation was passed in order to provide pupils access to learning options online that did not involve them physically attending a school facility. Michigan's Department of Education introduced this as a way to create flexible alternatives that "allow

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[3] http://www.doe.mass.edu/mcas/graduation.html

[4] http://www.doe.mass.edu/mcas/graduation.html

[5] http://www.bacademy.org/#!graduation-requirements/c1rs

students to progress as they demonstrate mastery of academic content, regardless of time, place, or pace of learning."[6] This would provide students with the ability to earn credits in a number of ways and it is more conducive to giving each student a personalized learning experience. The Department believes that "this type of learning leads to better student engagement because the content is relevant to each student and tailored to his or her unique needs. It also leads to better student outcomes because the pace of learning is customized to each student."[7]

There are stipulations and requirements within the program such as students are required to attend the school facility on specific days but the cap on the number of online classes a student can take has been lifted. According to the legislation, the pupil must be physically present for the scheduled on-site instruction at the school facility or site or the first day after the count day for each course under the waiver.[8] The Department of Education has specified various attendance and participation requirements and the teacher of record serves as an on-site mentor and has virtual and face-to-face interaction with the student. The effectiveness of the program is measured by using academic benchmarks for pupils (such as grade appropriate assessments).[9] Various districts in Michigan have employed this legislation and have adapted it to fit their own schools.[10] Each waiver granted has specific stipulations based on the schools enrollment and resources available to dedicate to this alternative learning method.

Michigan's Education Achievement Authority is the governing body of the Education Achievement System—a Michigan statewide school system for "failing" schools. If a school is deemed failing and is not under an approved redesign plan, it can transferred in the System—as approved by Michigan's state governor in 2011.[11] Students are assessed upon enrollment based on where they are on their learning progression. "The model is described as student-centered and is a dynamic integration of mastery-based and blended learning topped off by a no-excuses leadership mentality."[12] This program also involves a Seat Time Waiver. The model focuses on blended learning and Buzz, a powerful teaching and learning platform. The model is build on five pillars, which are briefly: *Students are grouped by readiness*, not by grade (there are two levels for each age-grade), students create and assume ownership for learning and are able to communicate their progress, students work at their own pace, students must pass and provide

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[6] http://michigan.gov/mde/0,4615,7-140-28753_65803-322532--,00.html

[7] http://michigan.gov/mde/0,4615,7-140-28753_65803-322532--,00.html

[8] https://www.michigan.gov/documents/mde/5-O-B_SeatTimeWaivers_329678_7.pdf

[9] https://www.michigan.gov/documents/mde/5-O-B_SeatTimeWaivers_329678_7.pdf

[10] See attached document for additional descriptions for how various districts have implemented the Seat Time Waiver legislation.

[11] http://www.michigan.gov/eaa

[12] http://www.competencyworks.org/uncategorized/student-centered-learning-at-michigans-education-achievement-authority/

evidence in relevant performance tasks and common assessments and continuous feedback between students, educators, parents and administrators is provided.[13] Additionally, students are required to present three forms of evidence for each learning target—with varying options for how they can demonstrate this.

Diploma Plus schools, geared toward adult or unaccredited students, also uses project-based learning and Blooms revised taxonomy in every course to help students understand their progress. Three phases of Foundation, Presentation and Plus Phase lead up to graduation as well as a Community Action Project and an internship that each student participates in.[14] All of these programs focus on helping the students become individually proficient in subjects and some (such as Southeastern High School) are allowing students to work during the day at their own pace without being "inhibited by bell-blasting 50 minute periods."[15]

New Hampshire

New Hampshire implemented a statewide initiative to redesign high schools from a time-based system (Carnegie unit) to a competency-based system that emphasizes personalized learning, teacher-student relationships, and developing 21st century skills. All high school courses must be measured by the mastery of course level competencies as a means to earn credit towards graduation. This rule allows schools and students to be flexible with time regarding the completion of courses; this will allow the use of after school, summer, and credit recovery to support credit attainment. Each district and school are responsible for creating their own competencies but they must align with the state standards.

Schools must be able to certify and demonstrate that they have a process in place to assess competency for all courses at the high school level by the start of the 2008/2009 school year. Each district is responsible for identifying/developing high school course competencies, deciding on the appropriate competency assessment methods, and defining sufficiency in terms of evidence for student mastery. School personnel must certify the new competencies and for a student to pass the given course they must meet both state and local standards.[16]

To aid school districts in writing course level competencies the state has created a competency validation rubric[17] that has four criteria: relevance to content area, enduring concepts, cognitive

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[13] http://www.competencyworks.org/uncategorized/student-centered-learning-at-michigans-education-achievement-authority/

[14] http://www.competencyworks.org/uncategorized/optimizing-personalized-blended-competency-based-schools/#more-5341

[15] http://www.competencyworks.org/uncategorized/optimizing-personalized-blended-competency-based-schools/#more-5341

[16] Exact language of the legislation is available for review at http://www.education.nh.gov/standards/ documents/advisory12.pdf.

[17] (http://www.education.nh.gov/innovations/ hs_redesign/documents/validation_rubric_for_course-level-competencies.pdf)

demand, and relative to assessment. These criteria encourage schools to center their competencies around real-life learning and higher thinking level on the Bloom's taxonomy scale.

Science competencies: In May 2013 the New Hampshire Department of Education held a conference with educators in the state to create statewide college and career ready science competencies that will be used statewide. The attendees of the conference identified 7 major ideas of science that should be incorporated into curriculum: patterns, cause-effect, scale proportion and quantity, systems and models, energy and matter, structure and function, and stability and change.[18]

The group then refined these ideas and created a set of practices that should be incorporated into the curriculum as well: asking questions and defining problems, developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, constructing explanations and designing solutions, engaging in argument from evidence, and obtaining evaluating and communicating information.

These benchmarks should serve as a starting point for schools/districts to form their own competencies, and should use other tools such as the competency validation rubric to create well-constructed challenging competencies for students.

Ohio:

The State of Ohio has instituted some new graduation requirements that have been put in place for the ninth grade incoming class of 2014-2015. Ohio House Bill 487 charged the State Board of Education and the Ohio Department of Education with creating the guidelines, which were finalized on September 16, 2014. Two essential elements of this new structure involve a graduation points system and a list of tests a student can take which replace Ohio's State tests.[19]

The new program is designed so that students can earn points toward graduation on seven end-of-course exams. While the number of course credits nor course requirements did not change, these end-of-course exams replace the Ohio Graduation Tests. "The courses in which students take an end-of-course exam will be: English I and II, algebra I, geometry, integrated math I and II, physical science, American history and American government. Beginning in 2015-16 districts may have the option to use the state end-of-course exams to replace their current course final exams and use the state's test as part of the class grade. This will help avoid double testing in

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[18] A full explanation of each major benchmark is provided at http://www.education.nh.gov/ innovations/hs_redesign/documents/ccrs-competencies-science.pdf.

[19] http://education.ohio.gov/Topics/What-s-Happening-with-Ohio-s-Graduation-Requirements

future years."[20] Based on their performance, students earn 1-5 points on each exam with a scoring of 5 meaning the student is advanced in the subject and 1 meaning they are limited. With a few exceptions, due to transfer students and other exceptions, students are required to gain a minimum of 18 points over the course of their various exams to become eligible for a diploma. Student competency is measured on how they perform overall and there is flexibility is how that is accomplished.

In congruence with these new policies, many schools have instituted Credit Flex or credit flexibility. This is a way for schools to increase student's interest in connection to real world situations and future careers. Instituted by the Ohio Department of Education, students are "able to show what they know and move on to higher-order content they are ready to learn and have not yet mastered. They will be able to learn subject matter and earn course credit in ways not limited solely to "seat time" or the walls of a school building."[21] Students are able to customize aspects of their learning perhaps through flexible schedules or methods (such as online courses or community-based projects) and are encouraged to pursue their own interests. Alternative learning modalities even offer the opportunity for students to combine subject classes and graduate early.

Through working with their particular school and its policy on credit flexibility, students and parents can have a plan approved that is overseen by an assigned teacher. The requirements stipulate that "if the student does not complete all elements in the plan or is not successful in demonstrating the knowledge and skills needed, then the student will not earn the credit. If this occurs, the student can go into a traditional classroom to earn the credit."[22] This places responsibility on the student and the teacher who provides feedback. Students can gain credit by "completing traditional coursework, testing out or otherwise demonstrating mastery of the course content; or by pursuing one or more "educational options" (e.g., distance learning, educational travel, independent study, an internship, music, arts, afterschool program, community service or engagement project and sports)."[23]

Summary and Conclusion:

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[20] http://education.ohio.gov/Topics/What-s-Happening-with-Ohio-s-Graduation-Requiremen/Graduation-Requirements-2018-Beyond

[21] http://education.ohio.gov/getattachment/State-Board/State-Board-Reports-and-Policies/Ohio-s-Credit-Flexibiilty-Plan/FINAL-CreditFLEX-8-4-ExSummarySPREADS.pdf.aspx

[22] http://education.ohio.gov/getattachment/State-Board/State-Board-Reports-and-Policies/Ohio-s-Credit-Flexibiilty-Plan/FINAL-CreditFLEX-8-4-ExSummarySPREADS.pdf.aspx

[23] http://education.ohio.gov/getattachment/State-Board/State-Board-Reports-and-Policies/Ohio-s-Credit-Flexibiilty-Plan/FINAL-CreditFLEX-8-4-ExSummarySPREADS.pdf.aspx

Legislation surrounding competency based learning requirements tends to authorize greater flexibility and opportunity in the ways students can approach their education. While many states such as Ohio require more testing, it is done in a way that lets students find their own path in gaining scores (as there is no minimum score required for each test individually). The language and meaning behind more recent approaches to education centers on mastering the information students are learning in the courses beyond what a single test can show—thus having multiple tests over time for example. As schools are becoming more adaptable to letting their students find alternative ways to gain credit (through online courses or in other community programs for example), we see an opportunity for both more personalized learning options and a chance for students to design their own pathway if they so desire. Students are more and more often being grouped not by grade and age level but by their level of proficiency—particularly in areas where the school is seeing a wider variety in student ages. Over all, competency based learning, in its many forms, shows that states are taking education very seriously by asking their students to reach beyond their time in their seats.