

1/15/2013

Competency-Based Education Task Force

Preliminary Report



Senate File 2284

Iowa Department of Education

Grimes State Office Building
Des Moines, IA 50319-0146



State Board of Education

Rosie Hussey, President, Clear Lake
Charles C. Edwards, Jr., Vice President, Des Moines
Diane Crookham-Johnson, Oskaloosa
Sister Jude Fitzpatrick, West Des Moines
Michael Knedler, Council Bluffs
Valorie Kruse, Sioux City
Mike May, Spirit Lake
Max Phillips, Woodward
LaMetta Wynn, Clinton
McKenzie Baker, Student Member, Forest City

Administration

Jason E. Glass, Director and Executive Officer of the State Board of Education
Gail M. Sullivan, Chief of Staff

Bureau of Standards and Curriculum

Sandra Dop, Education Program Consultant

It is the policy of the Iowa Department of Education not to discriminate on the basis of race, creed, color, sexual orientation, gender identity, national origin, sex, disability, religion, age, political party affiliation, or actual or potential parental, family or marital status in its programs, activities, or employment practices as required by the Iowa Code sections 216.9 and 256.10(2), Titles VI and VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000d and 2000e), the Equal Pay Act of 1973 (29 U.S.C. § 206, *et seq.*), Title IX (Educational Amendments, 20 U.S.C. §§ 1681 – 1688), Section 504 (Rehabilitation Act of 1973, 29 U.S.C. § 794), and the Americans with Disabilities Act (42 U.S.C. § 12101, *et seq.*).

If you have questions or complaints related to compliance with this policy by the Iowa Department of Education, please contact the legal counsel for the Iowa Department of Education, Grimes State Office Building, 400 E. 14th Street, Des Moines, IA 50319-0146, telephone number: 515-281-5295, or the Director of the Office for Civil Rights, U.S. Department of Education, Citigroup Center, 500 W. Madison Street, Suite 1475, Chicago, IL 60661-4544, telephone number: 312-730-1560, FAX number: 312-730-1576, TDD number: 877-521-2172, email: OCR.Chicago@ed.gov.

Table of Contents

Senate File 22843

Task Force Membership.....4

Meeting Schedule7

Introduction8

Executive Summary12

Recommendations17

Conclusion27

References.....28

Appendices29

 Appendix A: Student Essay.29

 Appendix B: Timeline.....31

 Appendix C: Competency Validation Rubric.....37

 Appendix D: Universal Constructs.....39

Senate File 2284

The Iowa Legislature established a Competency-based Instruction Task Force in Senate File 2284 and provided the following charge:

The Department of Education shall appoint a task force to conduct a study regarding competency-based instruction, standards, and options and the integration of competency-based instruction with the Iowa core curriculum, and to develop related assessment models and professional development focused on competency-based instruction. At a minimum, the task force shall do all of the following:

- a. Redefine the Carnegie unit into competencies.
- b. Construct personal learning plans and templates.
- c. Develop student-centered accountability and assessment models.
- d. Empower learning through technology.
- e. Develop supports and professional development for educators to transition to a competency-based system.

The task force is required to submit a preliminary report that includes, but is not limited to, its findings and recommendations relating to "b," "d," and "e" by January 15, 2013.

The task force is also required to submit its plan, findings, models, and recommendations in a final report to the State Board of Education, the Governor, and the General Assembly by November 15, 2013.

Task Force Membership

Todd Abrahamson, Superintendent, Grinnell-Newburg Community School District, Grinnell

Linda Allen, President, Hawkeye Community College, Waterloo

Connie Buhr, Director of Institutional Research, Hawkeye Community College, Waterloo

Charity Campbell, 2012 Iowa Teacher of the Year, Norwalk Community School District, Norwalk

John Carver, Superintendent, Howard-Winneshiek Community School District, Cresco

Chris Coffman, LEA Curriculum, Grinnell-Newburg Community School District, Grinnell

Shawn Cornally, Teacher Math/Science, Solon High School, Solon

Joan Corbin, Board President, Pella Community School District, Pella

Lyn Countryman, Coordinator of Student Teaching, University of Northern Iowa, Cedar Falls

Sandra Dop, Consultant, Iowa Department of Education, Des Moines

Jason Ellingson, Superintendent, Collins-Maxwell Community School District, Maxwell

Ron Fielder, Professor, University of Iowa, Swisher

Dirk Halupnik, Executive Director of Instruction, Linn-Mar Community School District, Marion

Jeff Herzberg, Administrator, Prairie Lakes Area Education Agency, Pocahontas

Liz Hollingworth, Assistant Professor, University of Iowa, Iowa City

Pam Kirsch, Dropout Prevention Specialist, Davenport Community Schools, Davenport

Valorie J. Kruse, Member, State Board of Education, Sioux City

Susan Lagos-Lavenz, Associate Dean, University of Iowa, Iowa City

Cathy Molumby, Superintendent, Valley Community School District, Elgin

Nancy Movall, AEA PD Online, K12 Online Learning Specialist, Johnston

Allan Nelson, Superintendent, Clayton Ridge Community School District, Guttenberg

Dana Schon, Professional Learning Director, School Administrators of Iowa, Clive

Jen Sigrist, Director of Teaching and Learning, Van Meter Community School District,
Van Meter

Elliott G. Smith, Executive Director, Iowa Business Council, Des Moines

Andrea Stewart, Teacher, Muscatine Community Schools, Muscatine

Deanna M. Stoube, Teacher Education Program Assessment Coordinator, St. Ambrose
University, Davenport

Cindy Swanson, Teaching and Learning Specialist, Iowa State Education Association,
Des Moines

W. David Tilly, Deputy Director and Administrator, Division of Learning & Results, Iowa
Department of Education, Des Moines

Matt Townsley, Director of Instruction and Technology, Solon Community School
District, Solon

Bridgette Wagoner, Director of Educational Services, Waverly-Shell Rock Community
School District, Waverly

Susan Walkup, Consultant, Iowa Department of Education, Des Moines

Kari Webb¹, NW Iowa STEM Regional Manager, Iowa Lakes Community College,
Estherville

Todd Wessels, Director of Technology, Curriculum, Personnel, Holy Family Catholic
Schools

¹ Academic Dean at Sprit Lake Community Schools at time of appointment.

Non-Voting Task Force Membership

Meredith Dohmen, School Counselor, West Des Moines Community Schools, West Des Moines

Lisa Fry, Programs/Services Administrator, Grant Wood Area Education Agency, Cedar Rapids

Nancy McIntire, Coordinator, Mississippi Bend Area Education Agency, Bettendorf

Kay Schmalen, Reading/Language Arts/Technology Consultant, Area Education Agency 267, Cedar Falls

Rhonda Sheeley, Director of Instructional Services, Keystone Area Education Agency, Elkader

Shane Williams, Director of Elementary Innovation and Instruction and Technology, Muscatine Community School District, Muscatine

2012-2013 Meeting Schedule

Date	City	Facility	Time
July 30, 2012	Clive	School Administrators of Iowa	9:30 a.m. to 3 p.m.
November 13, 2012	Clive	School Administrators of Iowa	8:30 a.m. to 4 p.m.

Four work groups that formed at the July 30, 2012, meeting met before the November 13, 2012 meeting.

Future task force meetings:

March 12, 2013

May 14, 2013

July 11, 2013

September 19, 2013

Introduction

A Call for Competency-based Education:

We have been asking the questions about change for a couple of decades: How are students different? What has changed in the job market? How do we “keep up,” – or worse, “catch up” – with the rest of the country/world? How has technology immersion affected this generation? And, ultimately, it comes down to one question: How do we prepare the next generation for a world we cannot even imagine? The paradigm shift required to answer that question goes beyond that which we have encountered in the past. Knowledge is no longer power; it is ubiquitous. The facts, the figures, the “how-tos” can be found on Google or in YouTube videos created by 12-year-olds! In short, we already live in an anytime, anywhere, any-pace type of world – a competency-based type of world, where if you can figure it out, you can do it.

Our students have changed because this is the world in which they have been raised. They are more connected and often learn more on their own time about their own passions than they do in school. They learn what they love because they are willing to invest their time learning it. Unfortunately, as Csapo (2007) reports, in school students “master a large body of knowledge but they are unable to apply it outside their educational context. In many cases, the application of knowledge is limited to the school subject in which it was acquired” (page 196). When students do not see the connections, it becomes irrelevant. However, competency-based environments connect learning to student passions and interests, drawing them toward higher-order thinking and, therefore, deeper learning. In competency-based environments, the goal is not knowledge and understanding, or, in some cases, even applying. Instead, it’s about analyzing, evaluating, and creating.

Competency-based education is anytime, anywhere, any-pace learning. These pathways validate student learning that occurs outside the school building, as well as in school, but outside the traditional constraints of seat time and divisions of content areas. In other words, competency-based education allows students to learn and demonstrate learning more like they do outside school – and more like we do, as adults in our daily lives – by learning what they need, as they need it, in a context that makes the learning relevant. These pathways enable districts and schools to provide student-centered, personalized learning systems through which students of all ages and ability levels develop both ownership and control of their learning. And, as the U.S. Department of Education acknowledges, competency-based pathways present “an opportunity to achieve greater efficiency and increase productivity” (UADE 2012).

The State Board of Education has included competency-based education as a priority for three years; the Governor included competency-based pathways in his Blueprint for

Education; in Senate File 2284, the Legislature eliminated the century-old dependency on the Carnegie unit as a basis for credit in Iowa high schools, and two school districts have taken the lead by developing competency-based opportunities in their schools. Iowa is well on the way toward making the changes necessary to embrace and implement competency-based educational opportunities for all students. This task force was charged with investigating what those changes might be and how we might make them together as a state.

To that end, we present this as our preliminary report, with preliminary recommendations for our own work, as well as that of others, with the intent to provide a final report of what we have accomplished and an outline and timeline of future work in November 2013, as required in Senate File 2284.

Development of Competency-based Education in Iowa:

When the State Board of Education first made competency-based education a priority in 2010, a task force was created to investigate the concept. The task force reviewed the results of the development of competency-based pathways in Alaska and New Hampshire and found that school districts had been able to significantly increase important education markers, such as literacy, graduation rates, and college attendance and success, and some schools met Adequate Yearly Progress (AYP) under the federal No Child Left Behind law for the first time ever.

The work of this task force resulted in three key developments for the state: The State Guidelines for Competency-based Education were created and housed on the Iowa Department of Education website; the Iowa Department of Education worked with REL Midwest and West Wind Education Policy to offer a day-long Forum on Competency-based Education in December 2011, and legislation was requested and passed to eliminate the requirement that high school credit be based on the Carnegie unit.

The State Guidelines (<http://tiny.cc/lowaCompEdGuidelines>) include the following Principles of Competency-based Education:

- Students Advance upon Mastery
- Explicit and Measurable Learning Objectives that Empower Students
- Assessment Is Meaningful and a Positive Learning Experience for Students
- Rapid, Differentiated Support for Students Who Fall Behind or Become Disengaged
- Learning Outcomes Emphasize Application and Creation of Knowledge

Two Iowa school districts have become engaged in competency-based pathways as a part of their quest to provide the best educational opportunities possible for their students. Spirit Lake and Muscatine have taken different routes toward that goal, but each has become a competency-based example, and both provide willing and capable leadership for the state.

In Spirit Lake, the superintendent's tour of Rembrandt Enterprises and a trip by staff members to High Tech High in California provided the catalyst for the district's launch into project-based and, ultimately, competency-based education. The superintendent realized as he toured the plant that the school system was not preparing students for the types of jobs he saw. At High Tech High, the staff members saw students deeply engaged in projects that required higher-order thinking and returned home determined to provide those opportunities for their own students. When they read the State Guidelines for Competency-based Education, they immediately applied for a waiver and began moving beyond just project-based to competency-based in some of their courses for their newly developed January Term (J-Term), which launched in January 2012.

An Iowa Department of Education researcher who visited Spirit Lake in the last week of the January term reported that during 53 percent of the observations, students were engaged in the upper two levels of Bloom's Taxonomy (evaluate, create) and, in fact, during 77 percent of the observations, students were engaged in the upper three levels of Bloom's (analyze, evaluate, create). This is in stark contrast to what had recently been observed in many Iowa high schools, where a significant majority of the tasks were in the bottom three levels of Bloom's Taxonomy (remember, understand, apply). Students were able to articulate what they were learning and why, as well as what they had learned about themselves and their own strengths and abilities. The district reported that aggregate excused absences dropped from 229.5 during the 15 days prior to J-Term (December 2011) to 149 during J-Term (January 2012); unexcused absences dropped from 9.5 to 4.5; and the number of office referrals dropped from 13 to 3.

The December 2011 Forum on Competency-Based Education led the Muscatine district to investigate competency-based education. Alongside district leadership, teacher leaders worked with a cohort of 14 K-12 faculty members, beginning with knowledge-building in March 2012. Using the State Competency-based Education Guidelines, the team engaged in the design process during the summer and piloted work in their classrooms starting in August 2012. This team continued to expand its knowledge through professional development and a rigorous progress-monitoring effort. A second cohort of 15 teachers started the knowledge-building and design process in a collaborative study with the first cohort and will begin implementation during the 2013-14 school year.

The district and community were increasingly concerned about a graduation rate that fluctuated below the state average. Following implementation of the pilot projects, zero percent of students earned Ds or Fs in competency-based education classrooms, compared to 38 percent of all students in the 2011-12 school year. Additional data points expand the positive impact of competency-based education:

- Six percent of the students engaged in learning contracts or short-term remediation to reach proficiency prior to the end of a term;
- Four percent of the students needed intensive remediation, which required additional time beyond the term;
- Three percent of the students were able to accelerate their learning through content or a course;
- Teacher support for the methodology was rated at 85 percent, as evidenced through a district-wide survey following building presentations in the fall of 2012.

The movement to design an educational system that will create critical thinkers cannot ignore what students have to say about their education. Elizabeth Sturms, a senior at Muscatine High School, describes a competency-based education environment where “students are taught how to learn rather than just taught the content.” Sturms explains competency-based education as a way to “help make sure each student fully comprehends a standard before moving on so that each student receives a deeper education than they would in a classroom based on seat time.” (See Appendix A for the complete essay.)

Other schools are discovering the benefits of competency-based education and are beginning to investigate or plan for competency-based pathways. For example, Van Meter has a chemistry teacher using competency-based principles, and Newell-Fonda is following Spirit Lake’s lead and will have its first J-Term this month. The recommendations of this task force are meant to support and nurture the type of innovation that leads to the results witnessed in Muscatine and Spirit Lake, as well as those in other states that have worked on competency-based education for up to 20 years. It is our sincere desire to develop a statewide system of support that will allow for quality competency-based pathways to be available for all students in Iowa.

Executive Summary

Organizational Meeting:

Our task force held an organizational meeting on July 30, 2012. To open that meeting, we developed burning questions and reviewed the State Guidelines and our charge from Senate File 2284. We used Skype to interview Rose Colby, a national expert on competency-based education who lives in New Hampshire, to ask about that state's progress toward competency-based education. We held a Google Hangout session with administrators, teachers, and students in competency-based programs in Oregon, New Hampshire, and Colorado.

During the Google Hangout session, we were able to ask some “how-to” and “so-what” types of questions. Teachers and administrators helped us to understand the processes and development of how competency-based education works, but students provided much of the richness of what change this really means for them and their learning. For example, one student from Oregon explained that one of the differences for students is that they understand what they are supposed to learn and how that fits into other things. She said that under the traditional way of learning, when students didn't understand something in math, they would give up and say such things as, “I just don't get math” or “I'm no good at math.” But in the competency-based system, students who are stuck on something say, “I don't get this,” and the teacher is there to help them figure out what “this” is and how they can learn it.

Our task force then self-selected into work groups to work on the specific tasks with which we had been charged, held preliminary discussions, and chose group leadership.

Work Groups:

Work groups were created around each of the charges from Senate File 2284, with the exception of Empower Learning through Technology. Group consensus was that each of the other groups should address technology and how it affects that aspect of competency-based education. The four work groups created were:

- Convert Credit Based on Carnegie Unit to Credit Based on Competency
- Learning Plans and Templates
- Assessment and Accountability
- Professional Development

These groups invited others outside the task force to participate and met in day-long workshop formats or electronically, as their work dictated. Their goal was to report back to the whole task force at the next meeting.

Preliminary Report:

The next task force meeting was held November 13, 2012, with the purpose of allowing the work groups to report back to the whole task force and receive feedback on their work so far. We then broke into work groups again to develop recommendations and came back together to finalize our preliminary recommendations, which are contained in this report.

Several themes emerged from that day, and other work groups were created to investigate those areas of concern. The task force is engaged in ongoing work in these additional areas:

- Transitions to higher education and pre-service teacher and aspiring administrator training;
- Development of a continuum of transition from traditional to competency-based systems for districts to self-assess and determine next steps;
- Investigating what is appropriate for engaging the community and developing support for this change.

Preliminary Task Force Recommendations: (Complete recommendations begin on page 17.)

- 1) The Legislature should invite educators and students from schools that are experiencing success with competency-based pathways to present during the 2013 session.
- 2) Develop common language and vision for competency-based education and a shared operational definition of a competency.
- 3) Develop a continuum rubric that outlines the transformation from traditional to competency-based education.
- 4) Identify up to 10 school districts to serve as models across the state, and develop support for these districts to help them serve as Iowa-based models.
- 5) Conduct a review of current policies, administrative rules, and education and para-educational practices that may block optimal implementation of competency-based education.

- 6) Establish a research partnership with an institution of higher education to monitor and evaluate the work and to share findings.
- 7) Establish a collaborative team with higher education to support smooth transitions for students with competency-based educational experiences in high school, to facilitate entrance into post-secondary institutions, and to work toward instituting training for pre-service teachers and aspiring administrators in competency-based environments.
- 8) Investigate how this work connects to, and could support, the Governor's STEM initiative and the recommendations of the Teaching Standards and Teacher Evaluation Task Force.
- 9) Members of the Legislature should join members of the Competency-based Education Task Force at the Iowa ASCD Conference "Define, Design, Deliver" on June 26-27 in Des Moines. Competency-based education is the conference theme.
- 10) Iowa should begin planning for a Midwest regional conference on competency-based education to be held in June 2014.
- 11) Establish the criteria for writing and critiquing competencies.
- 12) Statewide efforts should be made to develop model competencies aligned to the Iowa Core and the universal constructs.
- 13) The state should investigate and make recommendations on the development of an infrastructure that supports the connectivity necessary to provide every student with the opportunity to learn, no matter where they live. The Legislature should direct the Iowa Department of Education to investigate this need.
- 14) Develop templates, models, rubrics, and technology available to students for competency-based learning environments to work.
- 15) Develop what is needed to record and report in a competency-based environment and work with the student management systems to provide what is needed for this transition.
- 16) Develop training for teachers in use of learning plans and recording and reporting processes that become increasingly dependent on reliable, connected technology.
- 17) The state should bring together state experts in assessment and competencies to develop an Assessment Validation Rubric that complements the Competency Validation Rubric suggested by the competency work group.

- 18) Develop a plan toward successful assessment and accountability for competency-based educational opportunities for students.
- 19) Establish a collaborative group of professional development and competency-based education experts to create professional development to help educators understand what competency-based learning environments look like at different levels, from preschool/kindergarten through high school.
- 20) Create professional development for administrators that includes understanding and leading the paradigm shifts being made by their teachers, students, parents, and community members.
- 21) Investigate what to provide for parents, community members, legislators, State Board of Education members, and other stakeholders.
- 22) Future consideration of mandated competency-based opportunities for all students.

Funding:

The foundational work of other states involved in competency-based pathways has taken years. We can learn from their achievements, as well as their struggles; however, for competency-based education to be successful in Iowa, we must provide the commitment in expertise, time, and financial resources of a statewide effort. Many of the recommendations in this preliminary report will be accomplished by the task force before the final report is submitted in November; however, several will take greater commitment of resources. Each of the recommendations is further explained below.

Our request is for the following:

- Recommendation 4: Support for up to 10 districts
 - \$100,000 per year for five years (\$500,000) to support competency-based pathways in up to 10 districts statewide as we develop competencies, assessments, and professional development to take to scale.
- Recommendation 12: Writing model competencies
 - \$100,000 for one year to bring together in-state and out-of-state experts to write model competencies aligned to the Iowa Core and the universal constructs.
- Recommendations 14-16: Plans and templates
 - \$25,000 to investigate and provide examples of templates that will effectively and efficiently record and report student achievement in a competency-based environment.

- Recommendations 17-18: Assessment
 - \$100,000 for one year to develop the Assessment Validation Rubric and model assessments aligned to the competencies.
- Recommendations 19-21: Professional Development
 - \$100,000 for one year to design professional development for pre-service and in-service teachers, as well as in-service and aspiring administrators.

Funding requests are further described in each recommendation.

Our Recommendations

As this is our preliminary report, we qualify these recommendations as exactly that: preliminary. Each recommendation also is accompanied by who should be responsible and a timeline if we were able to establish those responsibilities. Much of this will be the work of the task force, and others will be invited into the conversation as we work toward our final report for November 15, 2013. (See Appendix B for a detailed timeline.) However, the work is complex and extensive and will require many years to evolve.

Recommendations are divided into three categories. First, we include overarching recommendations. The second category is subdivided into the five specific charges given by the Legislature. Finally, we offer a recommendation for future consideration by the Legislature.

Preliminary Task Force Recommendations

- 1) The Legislature should invite educators and students from the schools that are already experiencing success with competency-based pathways to present and answer questions during the 2013 session.** The Muscatine and Spirit Lake school districts have established quality competency-based examples. Others are beginning this year. (Education Committees: 2013 Session)
- 2) Develop common language and vision for competency-based education and a shared operational definition of a competency.** (Task force: Spring 2013)
 - Competencies must be undergirded by the Iowa Core and the universal constructs.
 - We must consider what competencies look like when they are tied to courses and what they will look like when the system has evolved to the point that competencies are no longer tied to courses.
- 3) Develop a continuum rubric that outlines the transformation from traditional to competency-based education.** This would include what students are doing, what teachers and administrators are doing, what parents are doing, as well as what the community is doing. (Task force: Spring 2013)
 - The continuum would define incremental changes.
 - Since our discussion and that of others is still connected to “courses,” the continuum would take a district from credit for traditional courses to credit for competencies within courses to graduation when all competencies within the

Iowa Core are proficient or advanced. (At first, competency-based pathways would be aligned to the 4-3-3-3 state requirements for graduation, but we must research whether that requirement would be necessary in the new paradigm.)

- The continuum should be supported by targets, examples, models, templates, and rubrics that define incremental changes and help leaders identify feasible inroads to the work.
- The continuum would help districts self-assess where they are and how they can move toward a competency-based educational environment for all students.
- The continuum should include a clear explanation of the differences among standards-based grading, competency-based education, individualization, and personalization.

4) Identify up to 10 districts that would serve as models across the state and develop support for these districts to help them serve as Iowa-based models. That support could then be used to guide other districts as they begin the transition to competency-based education. This recommendation would require funding. We recommend approximately \$100,000 per year for five years (\$500,000). The money would be used for expenses such as Iowa Department of Education and AEA leadership and district work in the form of stipends or substitute pay for teachers and lodging, mileage, and meals for members of work groups. (Funding – Legislature 2013 Session; Lead development of support – Task force or those appointed by the task force as the work extends beyond the task force: Spring 2013 through Summer 2018; Hold, distribute, and monitor funds – Iowa Department of Education.)

5) Conduct a review of current policies, administrative rules, and education and para-educational practices that may block optimal implementation of competency-based education. (Task force: Summer 2013) The review should consider:

- Rules governing activities eligibility;
- Guidelines for scholarships;
- Class, lunch, and extracurricular activity schedules that may prevent fluidity of academic progress.

- 6) **Establish a research partnership with an institution of higher education to monitor and evaluate the work and to share findings.** Encourage publication of the findings to add to the body of literature, which, as stated above, is very minimal. (Task force, Institutions of Higher Education: Summer 2013)
- 7) **Establish a collaborative team with higher education to support smooth transitions for students with competency-based educational experiences in high school, to facilitate entrance into post-secondary institutions, and to work toward instituting training for pre-service teachers and aspiring administrators in competency-based environments.** (Task force: Spring 2013)
- 8) **Investigate how this work connects to and could support the Governor’s STEM initiative and the recommendations of the Teaching Standards and Teacher Evaluation Task Force.** (Members from the task force, STEM Regional Managers, and the Iowa Department of Education’s Bureau of Educator Quality: Summer 2013)
- 9) **Members of the Legislature should join members of the task force at the Iowa ASCD Conference “Define, Design, Deliver” on June 26-27 in Des Moines. Competency-based education is the conference theme.** (Legislators, task force members: June 2013)
- 10) **Iowa should begin planning for a Midwest regional conference on competency-based education to be held in June 2014.** (Task force, Iowa Department of Education, AEAs, school districts already working on competency-based education: Spring 2013 to June 2014) The conference should include, but is not limited to:
 - Introductory level definitions, processes, and guidelines;
 - The digital system for student learning plans and templates;
 - The connection between project-based and competency-based education;
 - The connection between standards-based and competency-based education;
 - The connection between personalized learning and competency-based education;
 - Developing projects that promote higher-order thinking and learning through doing;

- Protocols for teacher groups to use toward helping each other design quality, authentic tasks/projects;
- Transitions from traditional to competency-based education (using the continuum created by the task force);
- Parent roles in competency-based education (using the continuum for transformation created by the task force);
- Connecting the community: Moving beyond community awareness to community involvement (using the continuum for transformation created by the task force);
- Leadership in a competency-based system;
- Transcripts, college admissions, and activities eligibility;
- Assessment and accountability in a competency-based education system.

Preliminary Recommendations Specific to Task Force Charge

Although Senate File 2284 required that we report only on three of the five requirements in the preliminary report, the task force found the work so intertwined that working on one area without the others was counterproductive. So we offer our preliminary recommendations for each request here with the caveat that none of this work is complete and will continue not only through the final report in November 2013, but thereafter as well.

Redefining Credit Based on Carnegie Unit to Credit Based on Competency Preliminary Recommendations:

11) Establish the criteria for writing and critiquing competencies. The group proposed that we adopt the New Hampshire Competency Validation Rubric with one exception. The rows across the rubric are Relevant to the Content Area, Enduring Concepts, Cognitive Demand, and Relative to Assessment. (See Appendix C.) This group proposed that we keep the top three rows and replace the bottom row with “And the competency is assessable.” See below under Assessment and Accountability for the recommendation concerning this work. (Task force: Spring 2013)

12) Statewide efforts should be made to develop model competencies aligned to the Iowa Core and the universal constructs. (See Appendix D for universal constructs.) The work group debated the value of having a statewide group of content experts work on competencies for each content area versus the

value of having all teachers involved in this work. The task is monumental and too difficult for each teacher to write all competencies for every course; however, having content experts write them would bring together our best people – those who understand the content, those who understand the Iowa Core, and those who understand competency-based education – and should include national experts as well, at least in the beginning. It is also important to note that this work will be extensive and time-consuming, so it will take several years. Therefore, the task force can begin the process and develop a plan for model competencies to be created in each content area, but it will take well beyond the final report scheduled for November 15, 2013. Also, funding will be required. We estimate \$100,000 to be used for expenses such as Iowa Department of Education and AEA leadership, stipends, substitutes, mileage, meals, and lodging for in-state participants and payment to out-of-state experts who may be contracted for work or help with the work. (Funding—Legislature 2013 Session; Lead development of competencies—task force or those appointed by the task force if the work extends beyond the task force; Hold, distribute, and monitor funds—Department of Education.)

Empower Learning through Technology Preliminary Recommendations:

Knowing that technology is becoming a larger part of the way we do business every day, the task force decided to divide into four work groups and that each group would investigate how technology empowers education through their work. Therefore, most of our recommendations for this category are included within each of the other areas. However, we make this one recommendation specific to a need to make technology accessible to all students in Iowa.

- 13) The state should investigate and make recommendations on the development of an infrastructure that supports the connectivity necessary to provide every student with the opportunity to learn no matter where they live. The Legislature should direct the Iowa Department of Education to investigate this need.** It is critical that educators and students have access to bandwidth, hardware, and software that supports the work, assessments, and reporting of a 21st century learning environment, including, but definitely not limited to, competency-based environments. (Legislature: 2013 Session)

Learning Plans and Templates Preliminary Recommendations:

The work group proposed the following definition of learning plan: A personalized student learning plan is the driver of learning housed online that incorporates a student learning profile, documents the pathway of a student's learning progress, organizes

evidence of student learning, and coordinates feedback from peers, parents, and educators.

Our goal would be to bring back recommendations and projected costs in the November final report. The task force makes the following recommendations, which will require funding. We recommend \$25,000 for expenses such as Iowa Department of Education and AEA leadership, stipends for teachers, mileage, lodging and meals for participants (Funding—Legislature 2013 Session; Lead development of recommendations—task force or those appointed by the task force if the work extends beyond the task force; hold, distribute, and monitor funds—Department of Education):

14) Develop templates, models, rubrics, and technology available to students for competency-based learning environments to work. This work should include, but is not limited to:

- Investigating use of the Iowa Content Alignment Tool (I-CAT) to validate claims that students in competency-based environments do learn the Iowa Core and to help districts build a system of competencies that represent a guaranteed and viable curriculum. (Task force: Summer 2013)
- Investigate what New Hampshire and others have developed for this purpose, as well as what is already used in Iowa schools that have competency-based education components. (Task force: Summer 2013)
- Investigate whether the I Have A Plan Iowa® structure could meet learning plan needs. (Task force: Summer 2013)
- Investigate appropriate teacher-student ratios. (Task force: Summer 2013)

15) Develop what is needed to record and report in a competency-based environment, and work with the student management systems to provide what is needed for this transition. (Task force: Fall 2013 through Summer 2014) Components of the plan should include, but not be limited to:

- Evidence of mastery of Iowa Core
- Flexibility and adaptability, including transfer of student profiles from school to school and across student information systems
- A digital learner profile, which includes learning styles and interests and can be continually updated

- A portal for students, parents, and teachers for real-time data review and feedback
- Consideration of how the community might engage in this area as appropriate

16) Develop training for teachers in use of learning plans and recording and reporting processes that become increasingly dependent on reliable, connected technology. (Task force, Iowa Department of Education, or AEAs: After templates and processes are ready.)

Assessment and Accountability Preliminary Recommendations:

Although we cannot write all the assessments, we can guide educators toward knowing what quality assessment is in a competency-based learning environment. National competency-based expert Rose Colby recently told attendees at the International Association for K-12 Online Learning (iNACOL) conference that what is necessary to hold students accountable is having “common scoring guides for uncommon assessments” (Colby 2012). In other words, it will become imperative that teachers know the competency, the standards associated with the competency, and how to assess whether someone has demonstrated proficiency on those standards and competencies, even though the product being assessed is quite different from what another student might bring.

The task force makes the following recommendations, which will require funding. We recommend \$100,000 for such expenses as Iowa Department of Education and AEA leadership, stipends for teachers, mileage, lodging and meals for participants and payments for out-of-state experts for work or training of in-state participants. (Funding—Legislature 2013 Session; Lead development of recommendations—task force or those appointed by the task force if the work extends beyond the task force; Hold, distribute, and monitor funds—Department of Education):

17) The state should bring together our state experts in assessment and competencies to develop an Assessment Validation Rubric that complements the Competency Validation Rubric suggested by the competency work group. (Task force: Summer 2013)

18) Develop a plan toward successful assessment and accountability for competency-based educational opportunities for students. (Task force: Summer 2013-Summer 2014) The plan should include, but is not limited to:

- Ensure that assessments are tied to standards and competencies.

- Ensure that students can document competencies through a variety of assessments.

Professional Development Preliminary Recommendations:

This work group has several recommendations; however, these are preliminary recommendations, and it will not be possible to outline all professional development required by this transition until more of the work recommended above is accomplished.

The task force makes the following recommendations, which will require funding. We recommend \$100,000 for expenses such as Iowa Department of Education and AEA leadership, stipends for teachers, mileage, lodging and meals for participants, and payments for out-of-state experts contracted to help or train in-state participations (Funding—Legislature 2013 Session; Lead development of recommendations—task force or those appointed by the task force if the work extends beyond the task force—Iowa Department of Education, AEAs, Institutions of Higher Education, and school districts: Summer 2013 through Summer 2015)

19) Establish a collaborative group of professional development and competency-based education experts to create professional development to help educators understand what competency-based learning environments look like at different levels, from preschool/kindergarten through high school. This professional development must be aligned to the Iowa Core, the universal constructs, and the Iowa Professional Development Model. The group should leverage models of social authoring, social learning, and social networking, as well as traditional face-to-face professional development.

Professional development for teachers and administrators should include, but is not limited to:

- The foundations of the work already done in the state, including the State Guidelines and the definition of a competency
- Writing assessable competencies aligned to the Iowa Core
- The continuum of transforming an education system from traditional to competency-based
- Reliable, relevant assessment, validation, and evidence of learning
- Standards-based grading
- Personalized learning

- The role of the teacher and administrator
- The role of the parent and community
- Gradual release as students begin to own and design their own learning
- Time management for teachers and students

20) Create professional development for administrators that includes understanding and leading the paradigm shifts being made by their teachers, students, parents, and community members. (Task force, Iowa Department of Education, Institutions of Higher Education: Fall 2013-Summer 2014)

21) Investigate what to provide for parents, community members, legislators, State Board of Education members, and other stakeholders. (Task force: Fall 2013-Spring 2014)

Recommendation for Future Consideration:

22) Future consideration of mandated competency-based opportunities for all students. (Legislature, future)

Our consideration of the pros and cons of requesting that competency-based pathways be required in Iowa Code was our longest face-to-face discussion. That conversation then spilled over into a robust and lengthy email debate, which became even more inclusive as 26 of the 33 members of the task force joined that exchange.

Although it was nearly unanimous that at some point it will be advantageous that all schools be required to offer competency-based pathways, a majority of task force members supported delaying the recommendation that all students be provided competency-based pathways. Most agreed that even though competency-based pathways would be best for students, the transition would be difficult for districts at this point, and since Senate File 2284 removed the requirement for credit based on the Carnegie unit and requested this task force to promote the work, we should complete the work that will make that shift easier for districts before we recommend a mandate.

Therefore, we ask the Legislature for support as we bring together local, state, and national content, competency-based, and personalized learning experts to write quality model competencies and assessments, create the validation rubrics and the continuum of transition described above, create professional development for educators, and investigate and develop support for districts

currently on the competency-based continuum. When that work is significantly underway so as to promote quality competency-based learning environments across the state, we recommend the Legislature mandate that all schools make competency-based pathways available to all students.

Conclusion

After investigating competency-based education and reviewing the positive results of improved student engagement and, therefore, achievement in other states and in frontrunners right here in Iowa, we make the recommendations included in this preliminary report. We agree with Karen Cator, (2012) Director the Office of Educational Technology for the U.S. Department of Education. Cator said at a recent conference that competency-based education is “the only way we are going to improve – to build in opportunities for people to demonstrate competence.”

Therefore, we submit that if, as a state, we:

- Develop and begin to use a common definition of competency,
- Develop a continuum of transformation from traditional to competency-based that districts can use to self-assess and plan,
- Develop a Competency Validation Rubric and model competencies aligned to the Iowa Core and universal constructs,
- Develop an Assessment Validation Rubric and model assessments aligned to the competencies,
- Develop effective and efficient ways to record and report student progress on competencies,
- Connect with post-secondary institutions to provide smooth transitions for students,
- Work toward pre-service teacher and aspiring administrator training,
- Develop appropriate professional development for in-service educators, and
- Work toward parent and community understanding and support,

Then Iowa can provide world-class competency-based opportunities for students and become a national leader in this work and in education.

References

- Cator, K. (2012, October 24). Connecting the Dots: Transformative Trajectory. Panel Discussion at iNACOL Virtual School Symposium, New Orleans., LA. (Attendee notes) Retrieved at <http://inacol.kzoplatform.com/swf/player/72>
- Colby, R.L. (2012, October 24). Title of Presentation. Workshop Presentation at iNACOL Virtual School Symposium, New Orleans, LA. (Attendee notes)
- Csapo, B. (2007). Research into learning to learn through the assessment of quality and organization of learning outcomes. *Curriculum Journal*, 18:2, 195-210.
- U.S. Department of Education. (2012). <http://www.ed.gov/oii-news/competency-based-learning-or-personalized-learning>

Appendices

Appendix A: Student Essay

Personal Essay: Elizabeth Sturms, Presidential Scholar winner

Presidential Scholars are widely known to possess a strong sense of intellectual curiosity. Tell us about an idea or an experience you have had that you found intellectually engaging. Describe specifically how the idea or experience engaged and affected you, as well as its significance.

Imagine you are given the opportunity to redesign education with no limitations. You can eliminate what no longer works to create a new education system from scratch. This may sound far-fetched, but I was blessed with this amazing opportunity toward the end of last school year when I was invited by district members as one of six students to be a part of the design team for a new methodology called competency-based education (CBE). CBE is an innovative way of educating where the primary focus is not seat time, but rather demonstration of understanding of the Iowa Core standards. My role on the design team included attending meetings during the school year and summer to voice my opinions on what was being discussed in the process of designing a plan for CBE. At the first meeting I felt reserved about CBE. I grew up in a traditional classroom so my mind was stuck there. I was stubborn about changing what I was comfortable with, but as I attended more meetings I realized the many benefits that CBE would provide and that change in our education system was long overdue. Everything from trends to technology have evolved from my grandparents' time to my time—even from my parents' time to my time—but education has remained the same, which is a disservice to my generation. We are receiving an old-world education to prepare us for new-world times; however CBE is the solution to this gap in education. I am honored to be a part of this team that is enhancing and shaping my education as well as the future education of all students who attend Muscatine High School.

Along with being a part of the CBE design team, I am also enrolled in three CBE-style courses: Government, AP Lit, and AP Calculus. Government is a requirement for seniors to graduate and so the classes are populated with students of various academic abilities who work at different paces, which makes it a perfect environment for CBE. CBE helps to make sure each student fully comprehends a standard before moving on so that each student receives a deeper education than the student would in a classroom based on seat time. I am a student who has always learned more quickly than others, so in Government class I mastered the competency standards and then had the freedom to synthesize my learning to create and organize an event called Rock the Vote, where I invited Iowa's Secretary of State, Matt Schultz, to present to my senior

class about the importance of voting. In preparation for the event, I had the privilege to personally speak with Mr. Schultz, his secretary, and county auditors regarding information on registering students during this election year when many were eligible to vote. CBE gifted me with this amazing experience that intrigued me to discover more about my country's government than a traditional classroom would have.

In my CBE classes I am encouraged to learn more on my own. This is one of the main foundations of CBE: students are taught how to learn rather than just taught content. Again, I was stuck in the mindset of a traditional classroom; I wanted what I was familiar with, which was essentially listening to a teacher and regurgitating it on a test. Being immersed in the process of CBE has helped me to apply what I am learning as a critical thinker. I am now aware of the importance of fully understanding what I am learning. The greatest thing about CBE classrooms is that the students become the teachers, and the teachers become facilitators of learning.

The impact CBE has had on me is life-changing. It has taught me to be open-minded and to realize that there is more than one way to approach things and sometimes the new way is the better way. I am more engrossed in what I am learning and the positive feedback from students in CBE classrooms is astounding. Not only has CBE impacted my education, but it is also affecting current and future students of MHS, which gives me pride because I helped to bring this methodology to our school. As a member of the design team for CBE I am active in events throughout the school year to promote CBE. Last school year I was invited to travel to Des Moines to speak about CBE to Iowa's Special Assistant for Education, Linda Fandel. Most recently, education students from the University of Iowa visited our school in the beginning of November to learn about CBE from a student panel, of which I was a part. It has been a privilege to promote CBE to such significant people, and I hope that they become as excited as I am about this innovative way of learning.

I care immensely about the education I receive, and CBE has been imperative in assisting me to learn the most I can in the finest way possible. I am so very eager to attend the University of Iowa next year to continue my education, and I will carry with me my expanded knowledge from CBE, along with CBE methods of learning. CBE encompasses all of the University of Iowa's core values, especially excellence, learning, and responsibility. These three values will be exceptionally important in maintaining my desire to go above and beyond others, and thankfully I will have competency-based education as a background to achieve my goals. I am humbled to be recognized as one of this elite group of students who qualify for this Presidential Scholarship. As a Presidential Scholar I will represent the University of Iowa with my determination to learn rather than simply to be taught. Despite growing up with an old-world education,

I've always had the desire and I now have the means to learn more than what is presented to me in the classroom because as Mark Twain says, "I have never let my schooling interfere with my education."

Appendix B: Timeline

General Recommendations:

#	Recommendation	Responsible	2013 Session	Spr 2013	Sum 2013	Fall 2013	Spr 2014	Sum 2014	Continuing Work
1.	Muscatine and Spirit Lake present to legislative committee	Legislature	X						
2.	Common language, vision, operations definition for competency	Task Force		X					
3.	Continuum of transition from traditional to competency-based education	Task Force		X					
4.	Engage 10 districts in the work to develop support for competency-based education	Task Force		X	X	X	X	X	X
	Funding	Legislature	X						
5.	Review policies and rules to see if anything inhibits competency-based education	Task Force		X					
6.	Partner with	Task Force,		X					

	Institution of Higher Education for research on competency-based education	Institutions of Higher Education							
7.	Work with Institutions of Higher Education toward smooth transitions to post secondary & work for pre service teachers & aspiring administrators	Task Force, Institutions of Higher Education		X					X
8.	Investigate connections with STEM and Teaching Standards and Teacher Evaluation Task Force	Task Force STEM Regional Managers Iowa Department of Education's Educator Quality Bureau			X				
9.	ASCD conference on competency-based education	Legislators Task Force STEM Educator Quality			X				
10.	Midwest Regional Conference in Iowa	Task Force Iowa Department of Education, AEA, school districts						X	

Credit Based on Carnegie Unit to Credit Based on Competency Recommendations

#	Recommendation	Responsible	2013 Session	Spr 2013	Sum 2013	Fall 2013	Spr 2014	Sum 2014	Continuing Work
11	Finalize a Competency Validation Rubric	Task Force		X					
12	Develop model competencies	Task Force, Iowa Department of Education, AEAs, school districts		X	X	X	X	X	X
	Funding	Legislature	X						

Empowering Education through Technology Recommendation

#	Recommendation	Responsible	2013 Session	Spr 2013	Sum 2013	Fall 2013	Spr 2014	Sum 2014	Continuing Work
13	Request Iowa Department of Education investigate what the technology needs are in the state	Legislature Iowa Department of Education	X	X	X	X	X		

Learning Plans and Templates Recommendations

#	Recommendation	Responsible	2013 Session	Spr 2013	Sum 2013	Fall 2013	Spr 2014	Sum 2014	Continuing Work
14.	Develop learning plans and templates	Task Force		X	X				
	Funding	Legislature	X						
15.	Develop recording and reporting programs	Task Force				X	X	X	
	Funding	Legislature	X						
16.	Develop training—After plans and templates are developed	Task Force, Iowa Department of Education, AEA Time: TBD							
	Funding	Legislature	X						

Assessment and Accountability Recommendations

#	Recommendation	Responsible	2013 Session	Spr 2013	Sum 2013	Fall 2013	Spr 2014	Sum 2014	Continuing Work
17.	Develop Assessment Validation Rubric	Task Force			X				
	Funding	Legislature	X						
18.	Plan for assessment and accountability	Task Force			X	X	X	X	
	Funding	Legislature	X						

Professional Development Recommendations

#	Recommendation	Responsible	2013 Session	Spr 2013	Sum 2013	Fall 2013	Spr 2014	Sum 2014	Continuing Work
19.	Create professional development	Task Force, Iowa Department of Education, AEAs, Institutions of Higher Education			X	X	X	X	
	Funding	Legislature	X						
20.	Create professional development for administrators	Task Force, Iowa Department of Education, AEAs, Institutions of Higher Education				X	X	X	
	Funding	Legislature	X						
21.	Create development for parents and community	Task Force, Iowa Department of Education, AEAs, Institutions of Higher Education			X	X			
	Funding	Legislature	X						

Recommendation for Future Consideration:

#	Recommendation	Responsible	2013 Session	Spr 2013	Sum 2013	Fall 2013	Spr 2014	Sum 2014	Continuing Work
22.	All schools provide competency-based pathways for all schools	Legislature – at a later date							

Appendix C: Competency Validation Rubric (Adapted from New Hampshire)

Competency Validation Rubric				
The competency statement...				
	Strong	Strong	Weaker	Weaker
	4	3	2	1
<p>Relevance to Content Area To what extent does this competency statement align with standards, leading students to conceptual understanding of content?</p>	<p>...aligns with national, state, and/or local standards/frameworks; areas may be combined or clustered for learning. ...articulates, in a clear and descriptive way, what is important in understanding the content area. ...connects the content to higher concepts across content areas.</p>	<p>...aligns with national, state, and/or local standards/frameworks; areas may be combined or clustered for learning. ...states what is important in understanding the content area. ...addresses conceptual content.</p>	<p>...has beginning alignment with national, state, and/or local standards/frameworks. ... is either too abstract or too specific in its content area focus. ...is so detailed in language that it obscures the connection to higher concepts.</p>	<p>...has little evidence of alignment with standards or frameworks ...focus on content is factual in nature without connection to concepts.</p>
<p>Enduring Concepts To what extent does this competency statement reflect enduring concepts?</p>	<p>...includes skills that are transferable across content areas and applicable to real-life situations. ...requires an understanding of relationships between/among theories, principles, and/or concepts.</p>	<p>...includes skills that are transferable across content areas with real-life connections. ...is based on concepts supported by topics and/or facts.</p>	<p>...is a statement specific to program/resource used. ...is based on topics applicable to the course.</p>	<p>...is limited to scope and sequence of textbook/program/resource. ...is very specific to facts in content.</p>
<p>Cognitive Demand What depth of knowledge does this competency</p>	<p>...requires deep understanding of content as well as application of</p>	<p>...reflects academic rigor and implies opportunities</p>	<p>...is limited in academic rigor and/or opportunities to</p>	<p>...asks for routine or rote thinking or basic recall,</p>

<p><i>statement promote?</i></p>	<p><i>knowledge to a variety of settings. ...asks students to create conceptual connections and exhibit a level of understanding that is beyond the stated facts or literal interpretation and defend their position or point of view through application of content. ...promotes complex connections through creating, analyzing, designing, proving, developing, or formulating.</i></p>	<p><i>for students to apply knowledge in a variety of ways. ...asks students to create conceptual connections and exhibit a level of understanding that is beyond the stated facts or literal interpretation. ...promotes deep knowledge using reasoning, planning, interpreting, hypothesizing, investigating, or explaining.</i></p>	<p><i>apply knowledge. ...asks students to show what they know in ways that limit their ability to build conceptual knowledge. ...requires engagement of mental practices such as identifying, defining, constructing, summarizing, displaying, listing, or recognizing.</i></p>	<p><i>and lacks opportunities to apply knowledge ...asks students to show what they know in simplistic ways. ...requires recall of information, facts, definitions, and terms such as reciting, stating, recognizing, listing, reproducing, memorizing or performing simple tasks or procedures.</i></p>
----------------------------------	--	--	--	--

And the competency must be assessable. Students may demonstrate in different ways.

Appendix D: Universal Constructs

Universal Constructs: Essential for 21st Century Success

Introduction: The universal constructs were compiled by an Iowa Department of Education work team. The committee members surveyed current literature, as well as such sources as the 1992 SCANS report, and agreed that these six constructs are necessary outcomes for each Iowa student to graduate prepared for success in career, college, and citizenry.

The next step in the process was to expand the construct definitions in order to examine their complexity and identify the embedded concepts. Given the elaborated definitions and supporting instructional and professional development materials, teachers will be able to integrate the constructs into content and instructional practice, using a new 21st century lens.

Critical Thinking: Critical thinking is the ability to access and analyze key information to develop solutions to complex problems that may have no clear answer. It incorporates reflective and visionary processes. Critical thinking utilizes abstractions and non-rules based strategies to guide decisions, behaviors, and actions. Twenty-first century critical thinking reflects:

- Thoughtful questioning that challenges assumptions, promotes higher-order thinking, leads to new insights, and validates perceptions
- Metacognition that supports reflective practice
- Processes that analyze, select, use, and evaluate various approaches to develop solutions
- Frame critical issues to develop innovative responses
- Analysis and synthesis of multiple sources and points of information
- Intentional use of disciplinary frameworks to analyze complex issues and information
- Suspension of judgment while collecting evidence to make determinations

Complex Communication: Complex communication is based on the successful sharing of information through multiple means, including visual, digital, verbal, and nonverbal interactions. The message is purposeful, clear and concise leading to an accurate exchange of information and ideas. Twenty-first century complex communication reflects:

- Negotiation processes that generate mutually satisfactory solutions
- Managing and resolving conflicts
- Interacting effectively with people of different cultures
- Selection and integration of various communication processes
- Integration of appropriate forms of information communication technology
- Understanding the interactions among modes of communication
- Meaningful and engaging interactions
- Focus, energy and passion around the key message
- Navigation through nuances of effective communication

Creativity: Creativity incorporates curiosity and innovation to generate new or original thoughts, interpretations, products, works, or techniques. Creativity is nurtured, advanced, and modeled through numerous approaches, including inquiry-based learning, abstract thinking, and student-focused learning. Twenty-first century creativity reflects:

- A disciplined process that includes skill, knowledge, imagination, inspiration, and evaluation
- Capturing or collecting new ideas for current or future use
- Combination of seemingly unrelated ideas into something new
- Respectful exchange of ideas
- Engagement in formal and informal learning experiences
- Divergent thinking
- Entrepreneurial thinking that encourages unique thoughts and applications
- A comfort level with open-ended challenges that reflect multiple approaches and results
- Reconfiguration of current thought within a new context
- Pattern recognition across disciplines resulting in an innovative outcome

Collaboration: Collaboration is working among and across personal and global networks to achieve common goals. It requires cultural competence and personal and civic responsibility in all environments. Collaboration also requires open and flexible approaches to leadership. Twenty-first century collaboration reflects:

- Non-hierarchical leadership based on individual skill sets
- Respect for a complex process that requires individuals to contribute and participate in meaningful interactions
- The belief that group synergy enhances productivity
- Understanding and application of effective group processes to solve problems
- Productive group interactions
- Respectful disagreement

Flexibility and Adaptability: Flexibility and adaptability include responding and adjusting to situational needs, and changing to meet the challenges of new roles, paradigms and environments. Flexibility and adaptability include the thoughtful balance between an individual's core beliefs and appropriate reaction to change. These dispositions are nurtured through life-long learning and continuous improvement. Twenty-first century flexibility and adaptability reflect:

- Engagement in innovation and creativity
- Intellectual agility
- Embracing change
- Expecting and accepting the emotions inherent in change while supporting those involved
- Respect for unique qualities of others and self
- Purposeful and thoughtful response to disruptions
- Acknowledging and responding to dissonance in productive ways
- Reflecting on positive and negative outcomes of risk-taking

- Proactive and reactive approaches to change
- Acknowledging ambiguity inherent in a changing environment

Productivity and Accountability: Productivity is prioritizing, planning, and applying knowledge and skills to make decisions that create quality results in an ever-changing environment. Individuals and teams demonstrate initiative, self-direction, and personal responsibility to add value to the world around them. Individuals demonstrate accountability through efficient time management, appropriate resource allocation, personal integrity, and self-monitoring to meet the demands of productivity. Individuals and teams recognize the interconnectedness of their actions at all levels. Twenty-first century productivity and accountability reflect:

- Ability to acquire new learning on one's own
- Application of appropriate processes and tools to facilitate task completion
- Self-sufficiency as required in a complex environment
- Identification of available opportunities
- Motivation and commitment to achieve
- Assuming leadership roles
- Building on prior learning and experience to apply knowledge and skills in a variety of contexts
- Self-confidence and self-respect

Universal Construct Key References:

Achieve. (2008). *Cross Disciplinary Proficiencies in the American Diploma Project Benchmarks*.

Costa, A. (2009). *Describing the habits of mind*. In Costa, A. & Kallick, B. (Ed.), *Learning and leading with habits of mind*. Alexandria, VA:ASCD.

Jerald, C.D. (2009) *Defining a 21st century education*. Center for Public Education.

NCREL/Metiri Group. (2003). *enGauge 21st Century Skills*.

Organization for Economic Co-operation and Development. (2003). *The definition and selection of key competencies*.

Palfrey, J. & Gasser, U. (2008). *Born digital*. New York, NY:Basic Books.

Partnership for 21st Century Skills.

Pink, Daniel. (2006). *A whole new mind: Why right-brainers will rule the future*. New York: Riverhead Books.

Secretary's Commission on Achieving Necessary Skills. (1992)

Wagner. T. (2008). *Global achievement gap*. New York, NY:Basic Books.