



A Solution-Finding Report

Title: *The Cost of Competency-based Education*

Date: March 24, 2015

This Solution-finding Report provides information, requested by the Instructional Intervention Consultant with the Curriculum and Instruction Unit of the Office of Education Improvement & Innovation, Michigan Department of Education, for any information on the “cost” of implementing competency-based education (CBE).

Many of the following reports and papers deal with costs in more general ways. Most serious budgetary discussions – that get down to the dollars and cents of implementing competency-based education – are not generally disseminated on the Internet, and are particular to the school or district, and the extent to which they intend to implement CBE. A few of these reports and papers involve post-secondary education, and have been included because the information contained therein is equally applicable to K–12.

Solution-finding Reports are intended to provide a quick response to the request for information; they are not intended to be a definitive literature survey or synthesis of the topic.

Chuong, C., & Mead, S. (2014). *A Policy Playbook for Personalized Learning: Ideas for State and Local Policymakers*. Sudbury, MA: Bellwether Education Partners.

http://bellwethereducation.org/sites/default/files/PolicyPlays_Final.pdf

This policy playbook, designed “to provide state and local policymakers with actionable ideas that can support the growth of high-quality and accountable personalized learning opportunities in their states and communities,” includes a chapter entitled “Personalized Learning Policy Play #3: Create Funding Mechanisms for Schools to Cover One-Time Start-up Costs Involved in Implementing Innovative Models.”

Council for Adult and Experiential Learning. (2014). *Customized, Outcome-based, Relevant Evaluation (CORE) at Lipscomb University*. Chicago, IL: Author.

http://www.cael.org/cael_lipscomb_case_study

This paper includes a section on Cost and Pricing/Sustainability, which begins, “The cost of developing a new CBE program based on the Polaris business model includes the purchasing of the rights to the competencies, staff trainings, a behavioral assessment center with a one-way glass window, course design and development, and staff time. The estimated out-of-pocket costs to Lipscomb were around \$70,000. The program did not receive any grant funding for the program’s development.”

Freeland, J. (2014). *Hire Education: A New Trend that High Schools Should Pay Attention To*. San Mateo, CA: Clayton Christensen Institute.

<http://www.christenseninstitute.org/hire-education-a-new-trend-that-high-schools-should-pay-attention-to/>

According to this blog posting, “Last week our Institute’s Michelle R. Weise and Clayton Christensen published a new book, *Hire Education*, on a key trend in higher education: the emergence of online competency-based degree programs. These programs are poised to offer modularized curricula that can be tailored to hone particular skill sets for different industries. Many of them offer a comparable or even lower price tag than community colleges. Modularization of learning via competencies as opposed to courses enables these providers to meet the demands of employers. Weise and Christensen argue that the ‘embedded inefficiencies’ of traditional institutions—like time-based credit metrics and fixed faculty roles and costs—have made it difficult for traditional players to effectively pivot to meet workforce needs. Online competency-based institutions’ ability to corner this underserved pocket of the market, at a lower cost, positions them as a disruptive force in the higher education industry.”

Gratz, S. (2015). *Testimony on the Education Provisions of House Bill 64, the FY16-17 Biennial Budget*. Columbus, OH: Ohio Department of Education.

<file:///C:/Users/rsulliva/Downloads/GratzSubcommitteeTestimonyFinal.pdf>

This is the testimony, before the Ohio House of Representatives Finance Subcommittee on Primary and Secondary Education, of Steve Gratz, senior executive director for the Center of Student Support and Education Options at the Ohio Department of Education. Gratz discusses a competency-based education pilot program: “Students must be engaged in school in a way that makes learning come alive. The governor is proposing a three-year, competency-based pilot program that will incentivize 10 districts to develop and implement innovative competency-based education models that advance students as they master course content. Districts may pilot competency-based education for a part of the district or part of a building. Each pilot school will provide students with timely, individualized support and will incorporate partnerships with business, industry and institutions of higher education to provide practical learning experiences. Under this proposal, the department will award each pilot school a grant of up to \$250,000 in each year of the biennium for planning in FY16 and implementation in FY17. The pilot will examine creative models of instruction and the feasibility of a competency-based funding model based on course completion rather than student enrollment and seat time.”

Klechen, R. (2015). *The Landscape of Competency-based Education: Enrollments, Demographics, and Affordability*. (2015). Washington, DC: American Enterprise Institute.

<http://www.luminafoundation.org/files/resources/competency-based-education-landscape.pdf>

This paper asks the question, “Are [competency-based education] programs more affordable than traditional degrees?” The Foreword to the paper says the author “takes a look at the variety of providers in the market and what affordability looks like in a competency-based world.” The author says his paper is designed to answer four questions, the fourth of which is, “What are the costs of CBE programs? How do they compare to traditional programs, particularly after accounting for financial aid and opportunity costs?”

Legislative Services Agency. (2013). *Budget Unit: Competency-Based Education*. Des Moines, IA: Author.

<https://www.legis.iowa.gov/docs/publications/FT/17052.pdf>

This report details the history and funding of competency-based education in the State of Iowa. It includes links to numerous statutes and administrative rules, and the preliminary and final reports of the Competency-Based Instruction Task Force, which was established to, among other things, construct personal learning plans and templates, develop student-centered accountability and assessment models, develop supports and professional development for educators to transition to a competency-based system, and develop a draft strategic plan and proposed timeline for statewide implementation of competency-based learning for consideration by the General Assembly.

Miller, L., Gross, B., & Lake, R. (2014). *Is Personalized Learning Meeting Its Productivity Promise? Early Lessons from Pioneering Schools*. Seattle, WA: Center on Reinventing Public Education.

http://www.crpe.org/sites/default/files/CRPE_personalized-learning-productivity-promise201405.pdf

This report begins, “Many innovative new schools are investing in efforts to tailor the learning experience – in content, style, and pace – for each student, all within the constraints of public revenue. Teachers, school principals, and district leaders across the country, in both the public and private sectors, are exploring what is possible with new software and school models where technology complements teacher-led instruction. The promise: to better educate kids by allowing schools to organize and prioritize staff (and related costs) in more productive ways. The Center on Reinventing Public Education is midway through a two-year cost study to examine whether that promise is being realized. We have been analyzing the financial plans of 20 schools that receive grants from the Next Generation Learning Challenges (NGLC) initiative...that seeks to dramatically improve college readiness through digitally enhanced personalized learning. Our study is designed to learn about the financial side of NGLC schools: how they allocate their resources, how they manage start-up costs of technology, and whether they ultimately become financially sustainable.”

Miller, L., Gross, B., & Oujidani, M. (2012). *Getting Down to Dollars and Cents: What Do School Districts Spend to Deliver Student-Centered Learning?* Seattle, WA: Center on Reinventing Public Education.

http://www.crpe.org/sites/default/files/pub_scl_dollarsandcents_nov12.pdf

According to this report, “To determine the extent to which resource use differed in high schools embracing SCL [student-centered learning] principles, we conducted a detailed expenditure analysis on a purposeful sample of seven high schools. We then compared the expenditure patterns in these seven schools to similar schools offering a traditional comprehensive high school curriculum and model. The comparative analysis uses financial data sets that are consistently prepared across both samples and comparison schools within each case study. The comparative case study method provides a means of controlling for geographical, environmental, enrollment, and performance differences that can confound the results of cost studies in education.”

National Association of College and University Attorneys. (2014). *Experimental Sites Concept Paper: Competency-Based Education*. Washington, DC: Author.

<http://www.nacua.org/documents/ExpSitesConceptPaperFINAL.pdf>

According to this paper, “Potential advantages of competency-based education include:
Lower net price for students and families and institutional spending or costs

- Creating integrated, cross-disciplinary curricula can eliminate redundancies.
- Embedding assessments at the concept and competency levels can allow students to test out of smaller chunks of knowledge, skills and abilities than the credit-hour approach allows.
- Implementing advancement-by-mastery approaches can lead to more rapid completion for some students.
- Eliminating repetition of already-learned knowledge, skills and abilities and acknowledging mastery of smaller chunks of knowledge, skills and abilities than the credit hour permits can eliminate the costs to institutions of developing (and the expense to students of demonstrating) these knowledge, skills and abilities more than once.
- Making greater use of open educational resources (OER) and digital content, further reducing institutional costs and student expense.”

New Schools for New Orleans. (2013). *Breakthrough Schools: New Orleans Personalized Learning Implementation Application*. New Orleans, LA: Author.

<http://www.newschoolsforneworleans.org/wp/wp-content/uploads/2014/11/Implementation-Application-Final-2-0.pdf>

This report details the founding of Breakthrough Schools: New Orleans, a collaboration seeking schools interested in implementing personalized learning models in New Orleans. Applicants were given until January 30, 2015 to submit documents, including a narrative and a budget, stating, “The budget should provide an understanding of how the operator expects that Personalized Learning efforts will impact the budget at the school and CMO level. It should present a clear picture of the school and CMO [charter management organization] financial viability, including the assumptions supporting the revenue and expenditure projections; projected operating reserves; expected fundraising needs; and how well the school’s budget aligns with and supports effective implementation of the proposed Personalized Learning model.” It asks for school- and network-level budgets, a budget narrative, a cash flow and balance sheet, and key budget categories, stating, “Budget categories at the school and network shall include, but are not limited to the following: Staff and Benefits (full time, part time, hourly); Professional Development (job embedded, travel, consultants, etc.); Information Technology (one time, recurring, contract requirements, etc.); Facilities (one time vs. recurring, financing, rental, renovation, etc.); and Other Costs/Supports (transportation, debt service, support functions like accounting, legal, etc.).”

Patrick, S., & Sturgis, C. (2011). *Cracking the Code: Synchronizing Policy and Practice for Performance-Based Learning*. Vienna, VA: International Association for K–12 Online Learning.

<http://files.eric.ed.gov/fulltext/ED537322.pdf>

According to this report, “The following proposed policy framework, designed to expedite state policy development in performance-based learning, may be applied to all next generation learning. [T]his discussion explores how state policy can loosen the regulatory environment that is handcuffing administrators and educators who are ready to move toward student-centered, competency-based models of learning. The paper is organized to answer four questions: What is performance-based learning? What are states doing to advance performance-based learning? What type of policy framework can guide state leadership in advancing a performance-based education system? What are the emerging issues in redesigning the education system around performance-based learning?”

Porter, S. R., & Reilly, K. (2014). *Maximizing Resources for Student Success: Competency-based Education as a Potential Strategy to Increase Learning and Lower Costs*. Washington, DC: HCM Strategists.

http://hcmstrategists.com/maximizingresources/images/CBE_Paper.pdf

This paper says, “Competency-based education offers the intriguing possibility of a postsecondary innovation that can increase college access and completion, as well as lower the costs of college for students and the institutions. Breaking the link between learning and time provides the flexibility that many nontraditional students need. Emphasizing the demonstration of learning, rather than the process of learning, allows students to gain recognition of their competencies at entry as well as progress faster through school.”

Rennie Center for Education Policy & Research. (2014). *Building Multiple Pathways to a High School Diploma: A Cost Study of Non-Traditional Academic Options*. Boston, MA: Author.

<http://www.nmefoundation.org/getmedia/bc5afccd-72c7-4099-a089-0fd3be270ac7/MultiplePathways?ext=.pdf>

In this report, the Rennie Center for Education Policy & Research aims to “expand the conversation about effective practices in offering multiple pathways by documenting a menu of research-based models underway in districts across the Commonwealth [of Massachusetts]. Based on a scan of recent literature, the Rennie Center first identifies research-based, effective practices in developing multiple pathways. Then, the team describes the structure and practice of four very different district programs—focusing on practices that could be prime for inclusion in a pathway. Finally, the team compiles cost estimates for replicating program strategies across Massachusetts public school districts.”

Steele, J. L., Lewis, M. W., Santibañez, L., Faxon-Mills, S., Rudnick, M., Stecher, B. M., & Hamilton, L. S. (2014). *Competency-based Education in Three Pilot Programs: Examining Implementation and Outcomes*. Santa Monica, CA: RAND Corporation.

http://www.rand.org/content/dam/rand/pubs/research_reports/RR700/RR732/RAND_RR732.pdf

According to this report on competency-based education in three pilot programs (which includes frequent discussion of financing), “In the days before online technology made personalized learning more scalable, whole-class instruction was designed to allow many students to move through the education system in sync, thus vastly reducing the cost of a one-on-one, face-to-face model, which would have proven untenable at scale. Yet the limitation of whole-class instruction is that it forces teachers to teach to the model student in the class, so that the instruction may be too fast for some and too slow for others. Intelligent computer-based tutoring systems, which adapt instruction based on students’ responses to problem solving tasks, provide a potentially scalable alternative. One recent synthesis of 29 studies on these systems found them to be as effective as human tutors, raising student achievement by 0.76 of a standard deviation in comparison to no tutoring at all. The author of the synthesis estimated the corresponding effect for one-on-one human tutors to be nearly identical, at 0.79 of a standard deviation.”

Sturgis, C., & Patrick, S. (2010). *When Failure Is Not an Option: Designing Competency-based Pathways for Next Generation Learning*. Vienna, VA: International Association for K–12 Online Learning.

http://depts.washington.edu/uwcel/inacol_failurenotoption.pdf

This paper says there are four forces that are driving interest in competency-based approaches: online learning, multiple pathways to graduation, state and district budget deficits, and low-performing schools and districts. Under state and district budget deficits, the paper states, “Given the economic downturn, across the country leaders are questioning the costs built into the time-based systems such as remediation, summer school, and developmental education at the college level. Thus, reforms that offer greater cost-effectiveness are gaining more attention.”

Sturgis, C., Patrick, S., & Pittenger, L. (2011). *It’s Not a Matter of Time: Highlights from the 2011 Competency-Based Learning Summit*. Vienna, VA: International Association for K–12 Online Learning.

https://www.inacol.org/cms/wp-content/uploads/2012/09/iNACOL_Its_Not_A_Matter_of_Time_full_report.pdf

This report details the highlights of a March 2011 summit where 100 competency-based innovators discussed different aspects of competency-based learning. According to panel member Michael Horn, “The budget crisis is increasing areas of non-consumption where you have to reach for other solutions. The nature and depth of the crisis will create a spark for innovative solutions that look at reformulating how to deliver education at a much higher productivity level. So what the states have to do is create the space as solutions are introduced.”

Utah State Office of Education. (2013). *Competency-based Education Funding Report*. Salt Lake City, UT: Author.

<http://www.schools.utah.gov/legislativematerials/2013/Nov/CompetencyBasedEducationFundingReport2013.aspx>

This report begins with a paragraph headed “Competency Based Funding Options,” then states, “The legislature through H.B. 393 directed the State Board of Education to provide to the Education Appropriations Subcommittee a recommendation concerning how the public school finance formula could be amended to include competency based funding. This statute includes two sections including developing a competency based funding unit and providing the ability for LEAs to develop competency based programs which are funded on the course level and are not dependent on seat time. Course level funding would be provided when a student has shown competency in the subject matter associated with the course or courses included in the program.” The enrolled copy of H.B. 393 as introduced is available at <http://le.utah.gov/~2013/bills/hbillenr/hb0393.pdf> The amended version is available at <http://le.utah.gov/~2013/pamend/hb0393.hfap.01.pdf> and a fiscal note is available at <http://le.utah.gov/lfa/fnotes/2013/hb0393.fn.pdf>

Williams, M. (2015). *A Blueprint for a New Ohio: Competency Education Pilots Proposed in Ohio*. Cincinnati, OH: KnowledgeWorks Foundation.

<http://knowledgeworks.org/worldoflearning/competency-ohio/>

According to this article, when Governor John Kasich of Ohio released his budget recommendations to the General Assembly, one highlight in the Department of Education budget was, “Engage students in learning by funding ten sites to pilot competency-based education programs that advance students when they master course content.” The governor’s complete budget recommendations are available at http://www.blueprint.ohio.gov/doc/budget/State_of_Ohio_Budget_Recommendations_FY-16-17.pdf