

Blended Learning: Leveraging teachers and technology to improve student outcomes

By Steve Robinson, Policy Analyst

Introduction

Technology has become a vital part of American life. Combined with the Internet, innovative new technologies bring the information of the world into the palm of our hands. Kids of all ages use iPhones, iPads, Facebook, Email, Wikipedia and myriad other Web-based platforms every single day. Now imagine if we could leverage Web-based technology to deliver a customized, rigorous and creative education to Maine students. The good news is, we can: It's happening every day in classrooms across the country where students are engaged in blended learning.

So what is blended learning? Blended learning happens any time a student learns in part at a supervised brick-and-mortar location away from home and online with some element of student control over time, place, path, and/or pace. It can be done through traditional public schools or through public charter schools. Wherever it happens, blended learning takes advantage of innovative digital technologies while preserving the socialization of traditional classroom learning. Blended learning combines the best of old and new approaches to education.

The rise of digital learning presents parents, students, teachers, administrators and policymakers with the opportunity to positively transform education in Maine. In the following case study, we'll explore one school that is using blended learning to make a positive impact on students' lives.

Case Study

Carpe Diem Collegiate High School – Yuma



In an Arizona desert town near the Mexico and California borders, an innovative charter school is changing the way American students learn, one child at a time. They're doing it with a blended learning model that leverages technology – combined with hands-on teacher interaction – to deliver customized learning experiences to every student.

That school is Carpe Diem Collegiate High School and Middle School in Yuma, Arizona – a publicly funded but privately operated charter school – and their unconventional approach to learning is quickly catching on.

Carpe Diem started in 2000 as a traditional public charter school serving nearly 300 students. In 2003, executive director Rick Ogston started to develop a blended learning model. Three years later, the school relocated to a building custom-designed for that model where it continues to offer instruction to students grades 6 – 12. Carpe Diem has since been recognized by *BusinessWeek*, in 2009, and *U.S. News & World Report*, in 2010, as one of the top schools in America.

Except for the presence of teachers and students, Carpe Diem has flipped American learning on its head. Students at Carpe Diem attend tuition-free, wear red uniforms and sit at cubicles with their own computers. They attend school four days a week – no school on Fridays – but school days are longer, from 8 a.m. to 4 p.m. Students are typically assigned little or no outside homework.

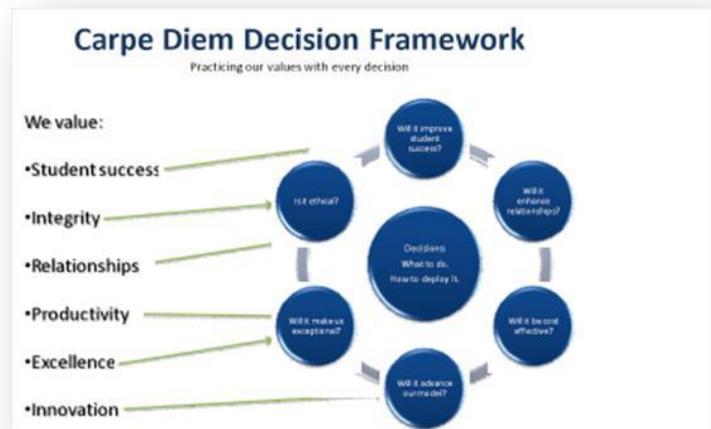
Students divide their days between work sessions on computers and hands-on learning experiences with teachers. Computer-based exercises are used to introduce and teach concepts. Once students get an understanding of basic concepts, they enter workshops with teachers who refine their knowledge and make it applicable and relevant to real world examples. The school uses 55-minute periods which rotate between online instruction and face-to-face time with teachers for reinforcement and application.

The school has six teachers – one each for math, language arts, science, physical education, social studies, and electives – and a handful of teaching assistants that are assigned to mentor individual students. Each teacher teaches all grade levels in their subject, allowing for continuity of instruction as a student progresses. Carpe Diem compensates teachers at or above local district salaries and offers competitive retirement packages.

Apart from its unique organizational structure, Carpe Diem is most well known as a pioneer in the practice of blended learning. Blended learning is any learning program that combines traditional, supervised brick-and-mortar instruction and schoolteachers with online delivery of curricula and some element of student control over when, where, and how quickly learning happens. Blended learning *blends* traditional learning with technology-based instruction and gives students a measure of control over their educational destinies.

As Carpe Diem Founder Rick Ogston has said:

“CDCHS is a blended learning school that blends the best of face-to-face instruction, technology, and extended learning opportunities in order to boost student achievement. Kids today are wired in every way... [W]hat we wanted to do was leveraged that experience, that knowledge, that savviness about technology, and bring it into the classroom to where they would also be excited about using their skills to learn the things that we thought would be important for them to learn.”

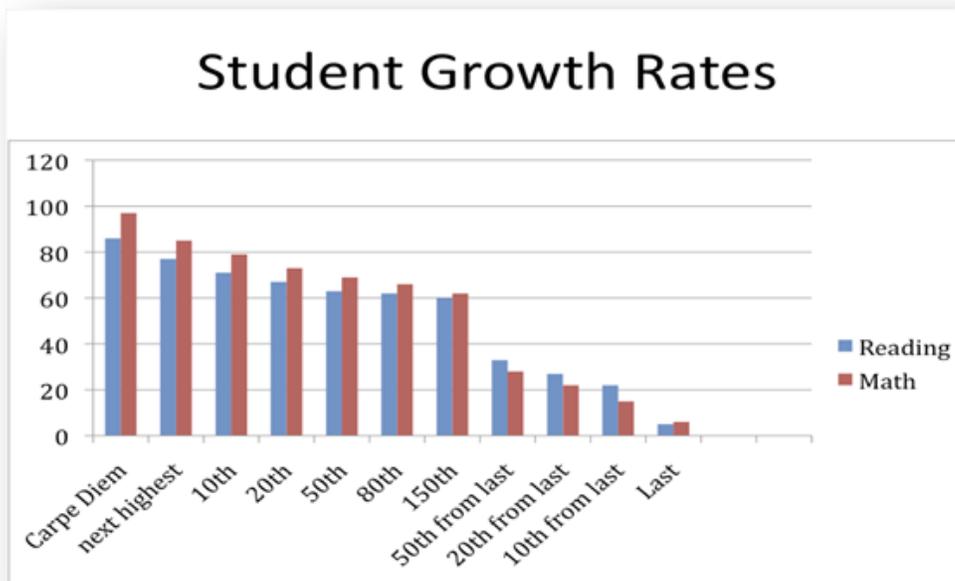


Technology is a critical part of what is happening at Carpe Diem, but computers alone do not necessarily enhance education. The backbone of the blended learning model is the online program students use. Carpe Diem has used Education2020, an online curriculum provided by Edgenuity, since 2010. The E2020 curriculum delivers subject-specific workshops in math, language arts, science and social studies. The program has produced positive results not just at Carpe Diem, but also at schools in central Texas, Gainesville, Georgia, Louden County, Virginia, Detroit, Michigan, and more.

With heavy reliance on technology, you might be tempted to think Carpe Diem’s model cannot be replicated more broadly. However, compared to average costs per pupil in Arizona and the U.S., Carpe Diem is inexpensive. According to the school, per pupil costs run about \$5,303 per year. Comparatively, the Arizona and U.S. average costs are \$7,608 and \$10,259, respectively.

Carpe Diem’s blended-learning model requires fewer teachers and administrators and this allows the school to spend less per pupil than its peers. According to the 2013 Annual Report of Arizona’s Superintendent of Public Instruction, Carpe Diem’s appropriation for fiscal year 2011 – 2012 was \$1.575 million. The school spent \$548,497 on classroom instruction, \$13,856 on classroom supplies, \$598,019 on administration, and \$414,087 on student support services. The school’s administrative office is lean. It has two administrators – a principal and a guidance counselor who doubles as an office manager.

Although Arizona’s public charter schools receive roughly \$1,700 less per-pupil than its government-run schools, Carpe Diem is producing amazing results with its blended learning model. Compared to other schools in Arizona, Carpe Diem is a tremendous success.



The above chart depicts the math growth rates of Carpe Diem (first in growth performance) as compared to other Arizona Schools (representative cross section provided to show variation).

As of 2010, the average Arizona school had 65 percent of students performing at a proficient level. For Carpe Diem, the proficiency rate was 92 percent. Moreover, the school is producing these kinds of results with a demographic and socio-economic mix comparable to other local schools. Forty-six percent of Carpe Diem students receive free or reduced-price lunch and the school's ethnic composition mirrors that of peer institutions.

Carpe Diem provides one model of blended learning being used successfully to improve the education and, ultimately, the well-being of all students. Supporters of the school see it as a project that can help not just students in Yuma, Arizona, but also students across the United States.



“We can scale this and replicate this around the state and around the country,” says Ogston.

And that's exactly what Carpe Diem's organizers are planning to do. As of 2012, Carpe Diem schools are operating in Indianapolis, Indiana and Cincinnati, Ohio. While the Carpe Diem schools are relatively young, all evidence suggests the blended learning revolution is having a positive impact on student outcomes.

Steve Robinson is a Policy Analyst at The Maine Heritage Policy Center. He may be reached at srobinson@mainepolicy.org.

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Director of Communications Jonathan Haines can be reached at jhaines@mainepolicy.org.

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P.O. Box 7829, Portland, Maine 04112 Phone: 207.321.2550 Fax: 207.773.4385

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