

Learning

2.0



California Virtual Academies

At-Home and Blended Learning

Laura Steen Mulfinger

Charles Taylor Kerchner

Claremont Graduate University

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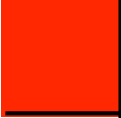


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The California Virtual Academy

Lessons from learning at home about curriculum integration and flexibility, blended learning, and a unique blending of technology

From VICES to Virtue: The Rise of Virtual Education

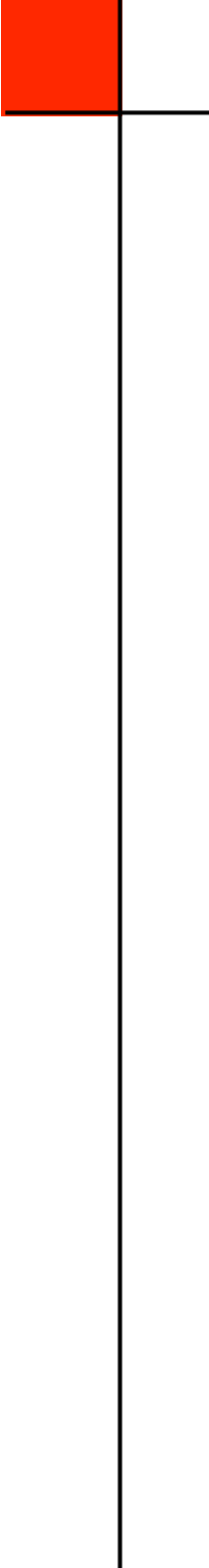
In the 1970s and 1980s, a handful of universities both in the United States and internationally began to develop and offer on-line courses. However, the “birthplace” of on-line teaching is generally acknowledged as the New Jersey Institute of Technology, where in the late 1970s, Murray Turoff and Starr Roxanne Hiltz began experimenting with collaborative learning in a classroom setting using interactive computers.¹ Growth in on-line teaching and learning—what would come to be known as virtual schooling—began to truly accelerate with the rise of the Internet in the 1990s.

“Do you have VICES?” asked William D. Graziadei in 1993. “Well, now you do,” he wrote in his project report titled “Teaching and Learning via the Network: Virtual Instructional Environment in Science (VICES).” Graziadei, a SUNY Plattsburgh professor, was an early adopter of virtual education. Utilizing electronic mail, two VAX Notes conferences and Gopher/Lynx, Graziadei offered students lecture notes, tutorials and assessment materials that could be accessed electronically outside of scheduled class time to “enhance classroom and collaborative learning and participation.” Faculty and researchers from beyond the walls of the Plattsburgh campus participated as well via the Internet, Telnet and VAX mainframes. The intent, wrote Graziadei was to “‘grip’ and engage students actively in exploring the principles of cell and molecular biology,” and to allow them to join with other faculty and former students, both local and remote, to “participate in this dialogue of exploration.”²

Virtual education in the United States moved quickly from the university to the pre-collegiate environment. Florida took the lead with the establishment of the Florida

¹ Hiltz, Starr. (1990) “Evaluating the Virtual Classroom,” in Harasim, L. (ed.) *Online Education: Perspectives on a New Environment*. New York: Praeger, pp. 133–169.

² Graziadei, William D. 1993. Virtual Instructional Classroom Environment in Science (VICES) in Research, Education, Service and Teaching (REST), available at <http://www.cni.org/projects/netteach/1993/prop01.html>. Accessed October 6, 2010.



Virtual School, the country's first, state-wide Internet-based public high school, in 1997.³ By 2009, 46 of the 50 states, plus Washington D.C., had a state virtual school or online initiative, full-time online schools, or both, with an estimated 320,000 course enrollments in state virtual schools and 175,000 full-time students in full-time online schools.⁴ As many as two million students are estimated to be engaged in some form of on-line learning in the United States today, with the number growing by 30% per year.

Students who attend virtual schools or take online courses range from those who want to accelerate their coursework to those who are in need of credit-recovery. A virtual education is also attractive to many homeschoolers, aspiring athletes and performers, military families, "expats" and those who are homebound. According to the 2009 Sloan Consortium report, K-12 school district administrators cited "offering courses not otherwise available at the school," "meeting the needs of specific groups of students," and "offering Advanced Placement or college level courses" as the top three reasons they perceive online courses to be important.⁵

Virtue becomes Virtual

In late 1999, two executives at the education investment company Knowledge Universe, Lowell Milken and Ronald Packard, approached William Bennett, former Education Secretary and well-known author of *The Book of Virtues* (1993). They asked him to head up their new for-profit on-line learning company, K¹². Packard, who would become K-12's CEO, had read Bennett *et al's* book, *The Educated Child* (1999), which promotes a traditional, values-centered approach to education, and conceived the idea of putting Bennett's name and philosophy behind an on-line curriculum.⁶ Bennett's "star power" would allow K¹² to attract well-known experts to the curriculum team.⁷

Although Bennett had been publicly skeptical of the efficacy of computers in education, he agreed to serve as K¹²'s chairman on the condition that Yale computer science professor and fellow computers-in-the-classroom skeptic, David

³ www.flvs.net. Today, FLVS serves students in grades K-12 and provides a variety of custom solutions for schools and districts to meet student needs. Accessed October 6, 2009.

⁴ Watson, John et al (2009). Keeping Pace With K-12 Online Learning: An Annual Review of State-Level Policy and Practice. Evergreen Education Group. Available at <http://www.kpk12.com>. Accessed October 6, 2010.

⁵ Picciano, Anthony G. and Seaman, Jeff (2009). *K-12 Online Learning: A 2008 Follow-up of the Survey of U.S. School District Administrators*, Sloan Consortium. http://www.sloan-c.org/publications/survey/pdf/k-12_online_learning_2008.pdf, p. 11.

⁶ Chris Moran, "Cyber Classrooms," *San Diego Union Tribune*, November 10, 2002, p.A-1.

⁷ Ibid.

Gerlenter, sign on as the company's technical advisor.⁸ According to Bennett, the involvement of Gerlenter would ensure that the company would "emphasize old-school academic achievement rather than simply training kids in the newest computer technology."⁹ Thus, in February 2000, with \$10 million in seed money from Knowledge Universe, K¹² was launched.¹⁰ Its mission: "to provide any child access to exceptional curriculum and tools that enable him or her to maximize his or her success in life, regardless of geographic, financial or demographic circumstance."¹¹

In the twelve years since its founding, K¹² has become a leading for-profit provider of proprietary, technology-based curriculum with a staff of more than 1,000. Clients of K¹² include full-time online public schools throughout the U.S., individual families who purchase courses and products directly from the company, and public and private schools who use the K¹² curriculum to supplement their own. K¹² has also begun to develop an international market and reports that it now has a "...meaningful presence in China." The company went public in 2007, and is traded on the New York Stock Exchange. Revenues for fiscal year 2011 totaled \$522.4 million, with a net income of more than \$12 million.¹²

A Virtual Network is Born

Just two years after K¹² began operations, the California Virtual Academies, or CAVA, launched its network of publically funded virtual charter schools. CAVA began to offer its on-line, nonclassroom-based, teacher-supervised education in August 2002. It offered flexibility, individualization and rigor. In its first year, CAVA enrolled 200 K-5 students from across the state in a network of six charter schools. CAVA partners with K¹² to provide the curriculum and administrative support, which includes marketing and professional development. K¹² has provided ongoing financial support to CAVA as, to date, state funding has not covered the entire cost of the program.¹³

By the 2009-10 school year, CAVA had grown to offer a K through 12 curriculum and to enroll more than 10,700 students. The network has expanded to a total of

⁸ In the early 1990s Gerlenter was critically injured when a package he received from the Unabomber exploded. Ibid.

⁹ A. Starr, "Bill Bennett: The Education of an E-School Skeptic," *Business Week*, February 14, 2001, http://www.businessweek.com/technology/content/feb2001/tc20010214_651.htm, accessed September 15, 2010.

¹⁰ Knowledge Universe was backed by former junk-bond king Michael Milken. Ibid.

¹¹ http://www.k12.com/about_k12, accessed September 15, 2010.

¹² K-12 Web-site, <http://investors.k12.com>, accessed October 12, 2011.

¹³ Abelson, Katrina, personal communication, February 4, 2010.

nine independent public charter schools and is available to students in 44 counties. Each of the nine charters has received its approval from a school district, usually a smaller one. According to Ron Packard, "K¹² likes to use tiny districts as its base camps because they are less bureaucratic and quicker to act."¹⁴ This includes districts such as the Spencer Valley Elementary School District in northeast San Diego County, which has a student population of 32 and school board of three.¹⁵ (See Table 1 below.)

Table 1: CAVA Chartering Districts and Enrollment Areas

School	Chartering District (County)	Year Opened (Grade Range)	County Enrollment Area
CAVA @Jamestown	Jamestown Elementary (Tuolumne County)	2002 (K-12)	Alpine, Madera, Mariposa, Merced, Mono & Tuolumne
CAVA @Kern	Maricopa Unified (Kern County)	2002 (K12)	Inyo, Kern and Santa Barbara
CAVA @Kings	Armona Union (Kings County)	2006 (K-12)	Fresno, Kings, Monterey, San Luis Obispo & Tulare
CAVA @Los Angeles	West Covina Unified (Los Angeles)	2006 (K-12)	Los Angeles, San Bernardino & Ventura
CAVA @San Diego	Spencer Valley Elementary (San Diego)	2002 (K-12)	Imperial, Orange, Riverside & San Diego
CAVA @San Joaquin	Stockton Unified (San Joaquin County)	2007 (K-12)	Amador, Calaveras, San Joaquin & Stanislaus
CAVA @San Mateo	Jefferson Elementary (San Mateo County)	2006 (K-12)	Alameda, Santa Clara, Santa Cruz, San Francisco, & San Mateo
CAVA @Sonoma	Liberty Elementary (Sonoma County)	2004 (K-12)	Contra Costa, Lake, Marin, Mendocino, Napa, Solano, & Sonoma
CAVA @Sutter	Nuestro Elementary (Sutter County)	2006 (K-12)	Butte, Colusa, Placer, Sacramento, Sutter, Yuba, & Yolo

Sources: <http://www.cde.ca.gov/ds/si/cs/ap/rpt.asp?s=2> and http://www.k12.com/cava/faqs/enrollment__attendance/. Accessed November 15, 2010.

The CAVA staff, too, has grown, from 12 in its first year to nearly 500 in 2009, including more than 400 teachers. CAVA's headquarters are located in Simi Valley.

¹⁴ Chris Moran, "Cyber Classrooms,": San Diego Union Tribune, November 10, 2002, p.A-1.

¹⁵ Spencer Valley Elementary School District Web-site, <http://www.sdcoe.net/districts/spencer> (accessed September 16, 2010).

Their 12,000 square foot utilitarian office suite is located in an industrial park, which, in addition to housing approximately 30 central administrative staff, serves as the repository for the thousands of records and samples of student work required by the state.

The CAVA Model: Rigor and Flexibility

Although CAVA students can access their virtual classroom anywhere an internet connection is found, the vast majority conduct their learning from home under the watchful eye of their “learning coach,” most often a parent or grandparent. CAVA provides enrolled students with a loaner computer, printer, software, subsidized Internet connection, and all books and curriculum materials for the entire year, free of charge.

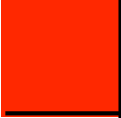
Students “attend” class by having their parents log attendance minutes online. The computer is also the location for class management tools, learning schedules, assessment exams and interactive lessons. Each student is assigned to a credentialed California teacher who grades student work, monitors student progress and administers all standardized tests. The teacher is also available to help with questions or problems that the student or learning coach may have.

The CAVA program consists of three primary elements: the on-line K¹²-developed curriculum, or On Line School (OLS); CAVA teacher-designed lessons distributed via Elluminate Live!, an interactive web-based conferencing program; and Study Island, a video game-like website that is built directly from the California Content Standards that helps with CST preparation and to reinforce lessons.¹⁶ CAVA also offers a 10-lesson course-for-success prior to state testing which offers students test-taking strategies, etc.

Teachers monitor students’ attendance and progress through the curriculum via the CAVA on-line database. CAVA administrators describe the CAVA program as “dummy proof” for the learning coaches—every lesson is scripted and every lesson is assessed.¹⁷ They also point out that the K-8 program is mastery-based, which gives kids the time to mature so that by the time they are 8th graders they are independent learners. CAVA teachers offer an “educational prescription” tailored to each student. The virtual environment gives them an opportunity to more easily individualize or, in educational parlance, “differentiate” instruction.

¹⁶ Elluminate Live! communication tools include integrated voiceover IP and teleconferencing, public and private chat, quizzing and polling, emoticons, and a webcam tool. The software incorporates several visual tools, including whiteboard, application sharing, file transfer, and web tour. The software also includes a record feature that allows the moderator to record the class for others to watch later, as well as a graphing tool, breakout rooms for group work, and a timer. The whiteboard supports the uploading of presentations for viewing on the whiteboard for classes or meetings. See <http://www.illuminate.com>.

¹⁷ Abelson, Katrina, personal communication, February 4, 2010.



In the K-8 program, students are assigned to their teachers based on where they live, rather than by a particular grade level. Teachers are usually assigned 25-30 students, but they can have as many as 35. Students work with teachers according to their identified academic levels, which are broken down into three levels or tiers. Tier I means the student is working at grade level and teachers primarily monitor their progress. Tier II students are identified as being below grade level and are given extra support services as appropriate. Students at the Tier III level receive intensive support that may include targeted special education services.

CAVA is a full inclusion program. Students enrolled in CAVA's Special Education program participate in the general education program from their homes. In addition, a team consisting of a Special Education Administrator, Special Education Teacher, and General Education Teacher, along with various specialists (Speech Pathologist, Occupational Therapist, Psychologist) work together to support a students' Individualized Education Plan (IEP) via monthly conference calls. This includes reviewing student progress, and developing strategies to help the student achieve academic goals.¹⁸

CAVA also has a school-wide Title I program based on the percentage of students who qualify for free or reduced lunch. Eligible students who are in need of remediation can receive additional academic supports using Title I resources. The Title I program utilizes Elluminate to offer student group work and one-on-one tutoring. Specially designated Title I teachers work with the General Education teachers and parents to determine how to address areas of academic weakness. Title I teachers also offer daily lessons on basic skills via Elluminate, which students can attend in real time or review a recorded session at a later time.

The CAVA K-8 curriculum is described by parents and teachers alike as “well-rounded and rich.” Unlike many bricks and mortar public schools that have responded to the pressures of testing and accountability by stripping down curricula to focus primarily on reading and math skills, the K¹² curriculum is comprehensive, including such subjects as history, science, art and music.

In approximately ten communities throughout the state, families also have the option to participate weekly in Community Day—a face-to-face gathering of CAVA teachers and students who are enrolled in the home-based program. Community Day provides an opportunity one day a week during the school year for direct instruction, electives, physical activity, field trips and socialization. CAVA teachers report that the families who elect to participate in Community Day tend to have the highest degree of success in the CAVA program.

¹⁸ California Virtual Academies, “Focus on Learning Self Study,” 2009-2010, p. 378.

Trust but Verify: Assessment and Accountability

In addition to daily on-line assessments, teachers meet with students face-to-face on a quarterly basis, and these meetings are mandatory. At these meetings, teachers have students complete a writing analysis, academic assessment and read aloud. Teacher accountability for student progress is not taken lightly by CAVA administrators, nor by the teachers themselves. As one administrator put it, “They have a moral responsibility to make sure students are learning.” And CAVA teachers have gotten this message loud and clear: “It’s our responsibility to make sure students are learning,” said one teacher, who further noted that, “CAVA has really raised the bar as to what we are accountable for.”

In the past several years, CAVA and K¹² have intensified the use of assessment data to help drive instruction. In 2008, K¹² introduced CAVA to the Scantron Test series developed by the Scantron Corporation. The Scantron Assessments, known as the Performance Series and the Achievement Series, are a combination of on-line standards-based formative assessment and computer-adaptive diagnostic testing.¹⁹ The Performance Series test is computer-adaptive and quickly and efficiently identifies the proficiency level of a student. According to CAVA, this test is aligned with the California Content Standards and helps to provide an accurate diagnosis of a student’s instructional needs. The Achievement Series is a benchmark test that identifies a student’s progress on grade specific skills, and provides a list of standards on which the student needs work.

After Scantron testing is completed at the beginning of the year, teachers are provided with a detailed report identifying which standards each student has mastered and which standards have not been met. This information is also shared with students’ parents. CAVA teachers take this assessment information and determine appropriate subject grade levels, which specific skills students need to work on, and which of the available tools are best utilized. This may mean assigning a student to participate in specific Elluminate sessions, or setting up tutoring. Scantron also provides study guides that can be emailed directly to learning coaches and students.

CAVA has partnered with K¹² to provide training for teachers in how to utilize assessment data, and most importantly, how to relate this data to specific lessons and instruction. For the most part, teachers find the process to be “user-friendly,” and “doable.” One teacher acknowledged that initially she found it difficult to use the data, but now that it is tied more directly to the lessons she finds it quite helpful. She commented: “I would love to have had this data in the [regular school] classroom; I would have met the needs of my students better.”

¹⁹ <http://www.scantron.com/k12/>. Accessed October 21, 2010.



Day-to-day assessment is also built into the CAVA instructional model. Since the curriculum is mastery-based, students must demonstrate 80% comprehension of a lesson or unit before moving on. Teachers can also monitor how many times a student takes an assessment: multiple times means a “red flag” and that they are struggling.

“I am really pleased with the day-to-day mastery of the lessons,” said one CAVA teacher. “I can see if the kids get it and if not, there is an opportunity to go back and immediately review. I couldn’t assess every kid every day when I was in the classroom.” Said another, “If I see that a student is having a problem with something I can hop on line with them to review or get them some tutoring.”

Despite all of the technological bells and whistles, some CAVA teachers rely on face-to-face contact to confirm student progress: “The assessment tools are fabulous, however, some families aren’t compliant. In the land of virtual you have to trust they are being honest.”

Outcomes

The majority of CAVA students are White, and they are not learning English as their second language. Statewide, White students made up 27% of public school enrollment in 2009-10, yet for CAVA schools, that percentage ranged from 45 to 62 (see Table 2 below). While English Language Learners represented nearly one quarter of all public school students enrolled in 2009-10, at the nine CAVA schools there were only a total of six English Language Learners system wide. However, over a quarter of all CAVA students are low-income, with an average of 28% qualifying for free or reduced lunch. At three CAVA schools nearly one third of students qualify. In 2009-10, the statewide percentage of students qualifying for free or reduced lunch was 56%.

As a public charter school organization, CAVA must also ensure that its students and “campuses” meet state and federal performance benchmarks. This has become an increasing challenge as CAVA has grown, and most of the CAVA campuses have been struggling to make the grade.

In 2009-2010 eight CAVA schools did not make AYP or Adequate Yearly Progress, the federal accountability measure instituted by No Child Left Behind, and seven of the nine are in their second year as PI or Program Improvement schools.²⁰ As Table 3 below demonstrates, in general, CAVA students did as well as or better in reading than students throughout California, but performed substantially below in math, and generally below in science. CAVA schools also evidenced a significant achievement

²⁰ The Federal Elementary and Secondary Education Act requires schools and local educational agencies receiving Title I funds to be identified for Program Improvement if AYP criteria are not met for two consecutive years in the same content area or on the same indicator.

gap between low income students and students overall in their score on the 2009-10 Academic Performance Index (see Table 4 below).

Table 2: CAVA 2009-10 Enrollment Data by Ethnicity

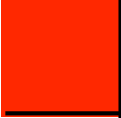
	Percent American Indian	Percent Asian	Percent Pacific Islander	Percent Filipino	Percent Latino	Percent African American	Percent White	Percent Multi- Ethnic/ No Response
State	.7	9	.6	3	50	7	27	3
Jamestown	2	4	.5	3	17	3	62	8
Kern	1	.8	0	.8	15	5	64	13
Kings	9	2	.7	.8	18	5	63	2
Los Angeles	.9	3	.6	2	18	15	48	12
San Diego	.4	3	1	3	16	8	57	12
San Joaquin	3	1	1	3	16	13	55	8
San Mateo	12	9	2	4	12	14	45	2
Sonoma	12	3	1	2	9	13	57	3
Sutter	2	6	1	2	9	11	55	14

Source: <http://dq.cde.ca.gov/dataquest> (Accessed October 13, 2011)

The CAVA administration is candid about the challenges they face as a public virtual school and, with their partner K¹², they have begun to implement strategies to help teachers and students focus on the California Standards. Nonetheless, they have experienced very rapid growth (an estimated 20-25% per year since their founding. This growth may be due in part to the aggressive marketing campaign that K¹² mounts, which sometimes can leave the CAVA organization racing to keep up with demand.

With growth have come increasing issues with compliance and fidelity to the program. Teachers use a variety of tools and communication methods to work with students and their learning coaches to ensure that they stay on track, including e-mails, phone calls, written contracts, and sometimes even certified mail. CAVA is working with teachers to help them be more effective in helping parents, something that classroom teachers aren't always accustomed to doing. Noted one teacher, "We have been trained how to professionally deal with the parents, especially at-risk families."

CAVA also faces a high student turnover rate, particularly in their Special Education population. Reasons for this turnover include acceptance into a preferred school, moving out of the area served by the school, and issues with school attendance and



progress.²¹ CAVA staff note that time of entry into the program is key. If a student starts at the beginning of the school year, then he or she has a high likelihood of success. If a student starts mid-year, that usually means the he or she has been unsuccessful or unhappy at their previous school or may have had negative behavioral issues. Such students typically perform much less well in CAVA.

Finally, funding presents an ongoing challenge. California charter schools receive 9.2% fewer total dollars per pupil than non-charter district schools receive to educate the same students.²² As a result, K¹² has had to “backfill” a loss of more than \$5 million.²³

CAVA 9-12

The CAVA program is well developed at the K thru 8 level, but CAVA has only been offering a high school curriculum since the 2005-06 school year. At the high school level, the curriculum is no longer mastery-based and becomes more fast-paced and demanding. Students face greater organizational challenges in managing their own academic schedules more directly and in meeting external deadlines for completing their work. While there is still some room for flexibility, students are expected to move at a more consistent pace with the other members of their “class.” Like traditional high schools, each course is taught by a different teacher who grades students’ assignments, reviews assessments, responds to student questions via e-mail or phone, conducts online full-class discussions and tutorial sessions and offers online “office hours”

Increasingly, students have come to enroll in CAVA’s high school as a “last ditch effort at receiving a diploma.” They arrive at CAVA as “at-risk” students with few credits.²⁴ Not surprisingly, overall, CAVA’s high schools experience a higher drop-out rate than the average public high school, with four-year derived dropout rates ranging from 72-100%. Students are also struggling to pass their classes, and less than half receive a passing grade.²⁵ “In high school, the challenges become more organizational,” say CAVA staff. “Some kids ‘get’ self-organizing, start to learn their own learning styles, and learn to understand what drives them.” But for the majority, this is still a work in progress.

²¹ California Virtual Academies, “Focus on Learning Self Study,” 2009-2010, p. 12.

²² Batdorff, M.; Maloney, L., May, J. (2010). *Charter School Funding: Inequity Persists*. (Muncie, IN: Ball State University. Available at <http://cms.bsu.edu/Academics/CollegesandDepartments/Teachers/Schools/Charter/CharterFunding.aspx>

²³ Abelson, Katrina, personal communication, February 4, 2010.

²⁴ California Virtual Academies, “Focus on Learning Self Study,” 2009-2010, p. 29.

²⁵ California Virtual Academies, “Focus on Learning Self Study,” 2009-2010, pp. 28, 29.

**Table 3: California Virtual Academies:
2009-2010 Results on California
Standards Tests**

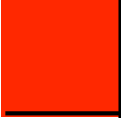
School, Grades & Enrollment	Percent Proficient or Above English Language Arts (All grades)	Percent Proficient or Above Math (All grades)	Percent Proficient or Above Science (Grades 5, 8, 10)	API	Made AYP	Percent Free/Reduced Lunch
State K thru 12	52	48	54	754	No	56
Jamestown K thru 12: 204	56	28	44	711	Yes	34
Kern K thru 12: 517	45	22	38	703	No	26
Kings K-12: 738	54	31	49	749	No	32
Los Angeles K thru 12: 4,222	57	32	48	744	No	25
San Diego K thru 12: 2,253	59	34	55	750	No	41
San Joaquin K thru 12: 360	44	18	29	703	No	33
San Mateo K thru 12: 908	57	33	46	769	No	22
Sonoma K-12: 975	53	25	42	715	No	26
Sutter K thru 12: 607	50	29	45	715	No	26

Source: <http://dq.cde.ca.gov/dataquest> (Accessed October 15, 2011)

**Table 4: Academic Performance Index
2009-2010**

	All Students	Socially Disadvantaged
State	754	695
Mean of CAVA schools	729	671

Source: <http://dq.cde.ca.gov/dataq>, accessed October 15, 2011



“Dedicated Moms”: The Key to Success in CAVA

It is 9:00 a.m. on a weekday morning and Mary has just sat down with her daughter to start their school day. In a specially designated alcove of their home, Mary has set up a mini classroom complete with old-fashioned school desks and a piano. Brightly colored plastic crates of materials are stacked on shelves, and there are several bookcases filled with books. As Mary gets her daughter Anna settled down for her math lesson, her two younger pre-school aged children, one still in his pajamas, come running in. While the littlest one clings to his mother’s legs, the older of the two watches wide-eyed while her sister works with plastic math manipulatives. “She will be ready to start CAVA Kindergarten next year,” says Mary, “And she can’t wait.” Mary leads the younger two into the family room to watch a video so she can work on her daughter’s math lesson.

Anna’s morning math lesson on “place value” includes on-line instruction followed by a brief assessment. Her mother then leads her in the use of brightly colored manipulatives, which Anna uses to further demonstrate that she has mastered the concept. In addition to on-line instruction, CAVA families receive an array of materials found in a traditional bricks and mortar classroom including workbooks, textbooks and other hands-on learning materials.

“It gets a little crazy, sometimes,” Mary acknowledges. But she has good family support, and CAVA is a family affair. Her mother-in-law often watches the youngest two and likes to be on hand when it is time for history lessons. They often save the science lessons for Mary’s husband who really enjoys the hands-on labs and experiments. When their daughter began studying the Middle East in World History, the family sought out a restaurant featuring Middle Eastern cuisine. They are looking forward to exploring Greek food sometime during the next unit on Ancient Greece.

At the beginning of each week, Mary downloads the weekly lesson plan. She can choose to follow the daily schedule exactly as offered, or she can rearrange the lessons to fit with their family’s schedule and with her daughter’s preferences. Whenever possible, Mary has Anna “work ahead” on the on-line school so that they can take a day off for a field trip or family outing. They also keep a clipboard in the car with worksheets on it so her daughter can use travel time to complete her schoolwork.

Mary loves the flexibility and home/life balance that CAVA offers, and she says that she loves being connected to what her daughter is learning. She can also use strategies specific to her daughter’s learning style that wouldn’t be possible in the classroom. For example, Mary uses a timer to help keep Anna, whom she describes as a bit of a daydreamer, on track. “That would probably be a bit disruptive in a traditional classroom,” she laughs.

For many parents, running a household with three children and homeschooling would be daunting. But for those families who are dedicated *and* organized, the

trade-offs are worth it. “Parent commitment is ‘huge’ to making this program work,” says Katrina Abelson, CAVA’s Head of Schools. CAVA teachers report that there are wide discrepancies in learning coaches (parents). “In a nutshell, CAVA is best for self-motivated students, and organized and committed families,” says one teacher. It is also important that they are literate in English and have basic computer skills.

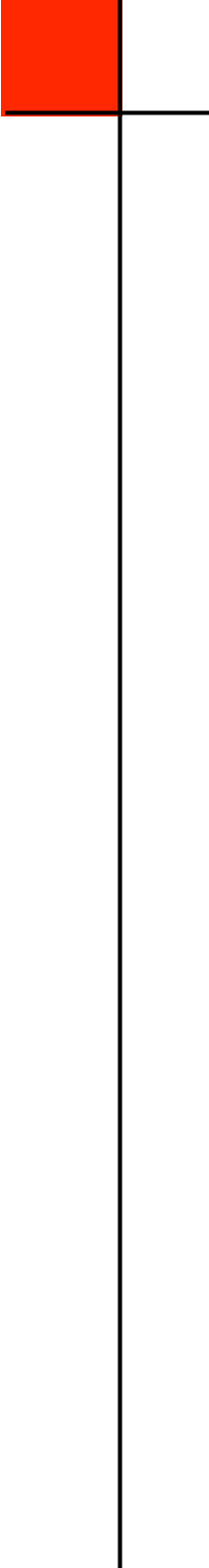
Families use a variety of strategies to make CAVA work for their children and to demarcate the transition from “home” to school.” Some families designate a specific room or area of the house for school activities. CAVA staff members shared that one mother wears a hat when she is “the teacher” and takes it off when she is back to being “mom.” Some parents establish a reward system, while others do the most difficult subjects first and save the “fun” subjects for the end.

In the beginning, the typical CAVA family was one who was committed to homeschooling, for religious or other reasons, and was attracted to the structure, well-organized curriculum and plentiful materials that CAVA provides. CAVA aside, many of these parents perceive homeschooling as a “safer” option than public school and one in which their children will be protected from negative peer influences. A number of parents also believe that their children will get a better education through CAVA than that offered in their local public schools. However, the traditional homeschooling family has become a smaller part of CAVA’s clients. Increasingly, CAVA is enrolling students for whom public education has not worked either for social or academic reasons.

Parents of children with learning disabilities, or those who have fallen behind in public or private school, are especially attracted to CAVA. In the K-8 program, kids can go at their own pace and transition to another activity when they are ready. The CAVA program also gives learning coaches access to a variety of specialists who help develop an individualized plan of instruction. Several teachers commented that the flexibility of a program like CAVA is ideal for students with Attention Deficit Disorder. “Students with ADD/ADHD can do work in 20 minute increments and be offered incentives; parents know their students and can figure out the best way to work with them.” Another teacher was of the opinion that bricks and mortar schools don’t push special education students enough, noting that these students “need a lot of attention and a lot of patience, which parents may be more committed to providing.”

Giving up Control, Gaining Flexibility: CAVA Teachers

The majority of CAVA teachers are initially attracted to the job because of its flexibility and the ability to work from home. Many have small children and half of the CAVA teaching force has had their own children in the program. However, learning to teach in a virtual classroom brings substantial challenges and adjustments.



One big challenge is the loss of control. “It was hard to give up control over instruction,” recounted one CAVA teacher. “It’s now a partnership, but it took a long time for me to be comfortable with the new role.” “In a bricks and mortar classroom I was more in charge of their progress,” said another. “Five days a week I knew exactly what everybody was doing.” CAVA teachers are still responsible for student progress, but now they must rely on the parents, who are referred to as “learning coaches,” to implement the day-to-day instruction, and they don’t get to see their students on a daily basis. Teachers who participate in the Community Day program relish the opportunity for regular face-to-face interaction, and to get their “classroom fix.”

CAVA teachers must also learn new strategies to work with parents, and to acclimate to teaching the adults rather than the children. Teachers are charged with giving parents the tools to help motivate students and to equip parents to be the teachers. This can often take an entire school year. One CAVA teacher estimates that 75% of her time is spent working with parents. All agree that monitoring the families is the biggest challenge.

It takes a lot of self-discipline and organization to be a successful CAVA teacher. For one thing, CAVA teachers wear a lot of hats: they are attendance clerk, registrar and administrator. “We are the front office!” said one. CAVA teachers also have a lot more paperwork than teachers in conventional schools. Since CAVA students are considered to be doing Independent Study by the state, CAVA teachers must keep careful work records and submit samples of student work to the main office once a quarter. And then there are the e-mails from administrators, parents and students—lots and lots of e-mails.

CAVA teachers develop their own ways of organizing time and completing tasks. Some organize their daily work schedule by task (e.g. checking lesson completion one day; making phone calls to families the next, etc.); some do a little bit of everything every day. And since most have small children at home, they have found ways to carve out uninterrupted time, particularly when they need to be on-line with students or conducting Elluminate sessions.

CAVA teachers are required to be available from 8 a.m. - 5 p.m., Monday – Friday. In recent years, teachers have also been assigned to design and teach specific subject lessons on Elluminate a couple of times per month. A typical Community Day CAVA teacher has 30-35 students of various grade levels plus teaching once a week at Community Day as well as conducting lessons via Elluminate.

Teachers who have been around since the early days of CAVA remark that the expectations and time requirements have changed almost yearly. “In the beginning it was more like a part-time job, it was easier,” said one. Since CAVA teachers earn less than those in the classroom, some feel that the pay has not kept up with the requirements of the job. There is a reluctance to complain, particularly in this economy. But teachers are quick to note that they feel, in general, that they are listened to and that they have good support from their regional teams. CAVA and

also K¹² offer an abundance of high-quality professional development. Plus the job is flexible and can be done from home.

Beyond CAVA

In addition to marketing and distributing its curriculum through the California Virtual Academies, K¹² has also contracted directly with a number of other school districts and independent charter schools in California. Two of the districts, Covina Valley Unified and Placentia-Yorba Linda are using the K¹² virtual on-line curriculum in their independent study programs.²⁶

Placentia-Yorba Linda is planning to use the K¹² curriculum in its independent study program at La Entrada High School, which serves students in grades 9-12 **in Los Angeles, Orange, San Bernardino and San Diego counties**. Covina Valley Unified is also using the K¹² program in its independent study program as well as for credit recovery. Covina Valley students can access the program both from home and school.²⁷

Two public school districts, Charter Oak Unified in Los Angeles County and Elk Grove Unified in Sacramento County, are offering the home-based CAVA model using district teaching staff and administrators. Like the CAVA schools, their web sites are hosted by K¹² and they offer enrollment to students from outside the district in surrounding counties. The districts provide the administrative oversight and administer state testing. They market this virtual model as offering “Individualized Learning” and “Public School Accountability.”²⁸

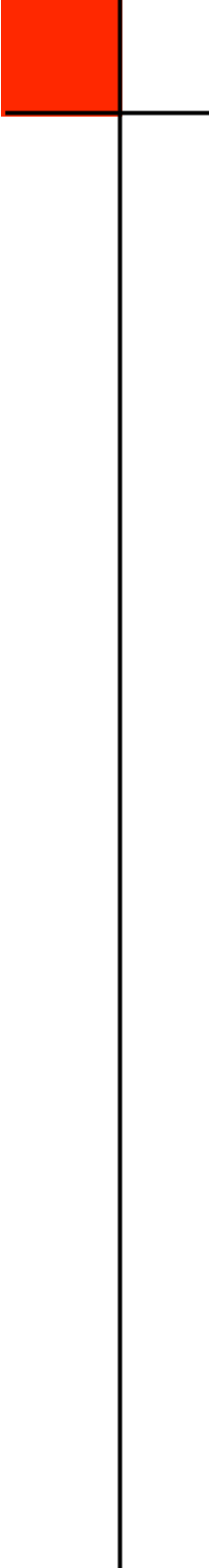
Blended Learning: The Future of Virtual Education?

Clearly CAVA or virtual K thru 12 schooling as currently offered is not for everyone. The CAVA model is dependent on organized and committed parents who are fluent in English. In a state where 25% of the students are English Language Learners and many more come from homes where English is not the primary language, this is

²⁶ K-12 web-site,
http://www.k12.com/curriculum_and_products/participating_schools_in_california/.
Accessed November 4, 2010.

²⁷ Port, Stella K., Covina Valley Unified School Districts, personal communication, November 4, 2010.

²⁸ K-12 web-site, <http://k12local.com/oakknoll/who-we-are/how-it-works>. Accessed November 4, 2010.



a clear barrier. Moreover, many families need two income earners to make ends meet, so having one parent dedicated to homeschooling is simply not feasible.

CAVA believes that their program is a good fit for approximately 25% of students statewide and they would like to see every school district offer some virtual education programs. Many districts in the state and throughout the U.S. are beginning to offer a variety of on-line courses in classroom lab settings or physical classrooms—a configuration that has come to be known as “blended learning.”²⁹

While the term “blended learning” can have different meanings depending on the context, in general, blended learning refers to the combination of on-line and face-to-face instruction. According to a 2008 report on blended learning, a growing number of on-line schools and programs are combining on-line teaching and face-to-face teaching instruction some way:

The blending may be at the course level, combining both online and non-online instruction within one subject. The blending may be at the institutional level, for example online schools gathering their students on a regular, scheduled basis, with the teacher physically present or remaining at a distance. Finally, some students are taking one or more fully online courses and attending a traditional classroom for one or more face-to-face courses, another type of blended model.³⁰

Whatever the exact mix, blended learning can offer new opportunities and a new approach to on-line education. As Dziuban, Hartman and Moskal note in their 2004 research brief on blended learning:

Blended learning should be viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities. In other words, blended learning should be approached not merely as a temporal construct, but rather as a fundamental redesign of the instructional model....³¹

Not surprisingly, K¹², which markets its on-line curriculum to bricks and mortar schools as well as for use in home-based settings, has also been considering the

²⁹ Watson, John et al (2009). *Keeping Pace With K-12 Online Learning: An Annual Review of State-Level Policy and Practice*. Evergreen Education Group. Available at <http://www.kpk12.com>. Accessed October 6, 2010.

³⁰ Watson, John (2008). *Blended Learning: The Convergence of Online and Face-to-Face Education*. Evergreen Consulting Associates, p. 6. Available at http://www.inacol.org/research/promisingpractices/NACOL_PP-BlendedLearning-lr.pdf. Accessed October 25, 2007.

³¹ Dziuban, Charles, Hartman, Joel and Moskal, Patsy., “Blended Learning,” *EDUCAUSE Review*, Volume 2004, Issue 7, 2004, p. 3.

possibilities and opportunities of blended learning. In their design, virtual education and bricks and mortar join forces to create what they describe as “hybrid.”

Bricks and Clicks

In September 2010, K¹² partnered with the nonprofit Flex Public Schools to open California’s first “hybrid” high school. Named the San Francisco Flex Academy or SF Flex, the school offers self-paced on-line learning with a structured five-days-a-week schedule, face-to-face interaction with teachers and peers, sports and social activities. SF Flex is a charter school authorized by the state Board of Education and is located in downtown San Francisco in the grand setting of the former San Francisco Press Club building. The school offers grades 9 thru 12 and opened its doors with 65 students, but eventually hopes to enroll 400-500 students with plans to add a middle school. The Academy purchases the K¹² on-line high school curriculum and leases its computers from K¹².

Unlike many blended programs, the San Francisco Flex Academy requires students to physically be on the campus full-time, five days a week. SF Flex promises a customized learning plan for each student, greater freedom to progress at one’s own pace, and ***individual attention from highly skilled teachers.***

Flex Public School was founded by K¹² Vice President Mark Kushner who is also a state charter commissioner and a lecturer on school choice at Stanford University. Kushner has plans to open a chain of hybrid “flex schools” across the nation.³²

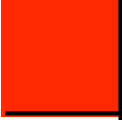
Lessons from the Land of Virtual

Taken together, the CAVA schools and K¹² provide valuable lessons that can help shape one’s thinking about the applicability and growth of virtual education. Where virtual may not always be virtuous, it can often be very helpful. Short reflections and comments follow:

High-tech is not necessarily all tech. As is the case with the majority of bricks and mortar charter schools in California, one could describe the educational program that CAVA offers as “the traditional model of education done well.”³³ Despite being Internet-based, CAVA students also receive a shelf full of textbooks, workbooks and other standard issue educational materials. For the most part true to the vision of K¹²’s early chairman, William Bennett, the CAVA curriculum

³² Tucker, Jill, “Kids show up for online classes at high school,” September 20, 2010, *San Francisco Chronicle*. http://articles.sfgate.com/2010-09-20/bayarea/24012319_1_virtual-schools-online-peers-and-teachers. Accessed October 12, 2010.

³³ Kerchner, Charles Taylor et al. *Learning From L.A.: Institutional Change in American Public Education*. Cambridge, MA: Harvard Education Press, 2008, p. 197.



emphasizes “old-school academic achievement,” yet it does so arguably with more breadth and variety than in many public schools. World history, for example, is introduced in the first grade. And now that many of California’s brick and mortar schools have begun incorporating multi-media resources into the classroom and state-approved textbooks have gone on-line, CAVA’s on-line curriculum is not particularly unusual. However, K¹² is moving forward with an Online School platform that is adaptive, intuitive and web-based.³⁴

Virtual is not magic. K¹² has promoted its curriculum as an answer to the growing demand from parents for more choice and options in the education of their children, and as one that can “provide any child access to exceptional curriculum and tools that enable him or her to maximize his or her success in life, regardless of geographic, financial, or demographic circumstance.”³⁵ It has delivered a highly integrated package of instruction and testing that seems to have many strong elements. It incorporates world history and art, and it offers a complete science curriculum, even in the early elementary years. Professional development is built in, not added on.

But a curriculum is not a school, and K¹²—like conventional public schools—finds that when the mix of students changes, so too does the challenge of educating them. With CAVA, as is the case with more conventional charter schools, we have a demonstration that there is nothing magic in the method, and this should give us pause when virtual schools are being presented as a place to which families can flee if their children are failing in traditional public schools. In particular, the learning system requires two dedicated teachers: one from CAVA and one from home. The “school of mom” requirement, along with the requirement that the home teacher must be fluent in English, limits the applicability of CAVA to many California families.

Virtual is data-driven. Compared to most traditional public school districts, CAVA appears to have done an excellent job of integrating timely assessments into its curriculum and providing them to teachers. Its benchmarking system gives teachers a head’s up about the location of learning problems *and* what to do about them. A combination of powerful diagnostic tools and effective professional development has created an efficient and explicit way for teachers to identify what specific content standards students need to learn and to determine which instructional tools will best accomplish this. In traditional schools, teachers frequently complain that results of students’ tests don’t tell them what to do next. The CAVA system appears to, and school districts should take note.

³⁴“K12 Inc. Reports Fourth Quarter and Full Year 2010 Results,” <http://www.marketwatch.com/story/k12-inc-reports-fourth-quarter-and-full-year-2010-results-2010-09-13>. Accessed October 13, 2010.

³⁵ http://www.k12.com/about_k12/. Accessed October 29, 2010.

Virtual is nimble. The lack of magic should not obscure the extent to which CAVA and K¹² have been quick to respond to problems and fast to seize opportunities. In California, K¹² is moving swiftly into the development of blended learning through its involvement in the establishment of the Flex brand of bricks and mortar “hybrid schools.” K¹² has also become a direct provider to several California public school districts offering independent study high school programs.

Learning at home is not homeschooling. CAVA students can learn at home, but they are not homeschooled in the traditional sense of students being taught a curriculum that their parents create or adopt. CAVA’S strong point is that it has a very structured curriculum that is aligned with state standards. The most traditional of the homeschoolers—those who decry any government involvement in their children’s education—understand the difference, and some of them view CAVA as government in disguise. But CAVA serves as a valuable test-bed for the notion that parents are their children’s first educator. If one can get beyond ideological blinders, one can learn a great deal about how traditional schools can utilize educational resources delivered into homes.

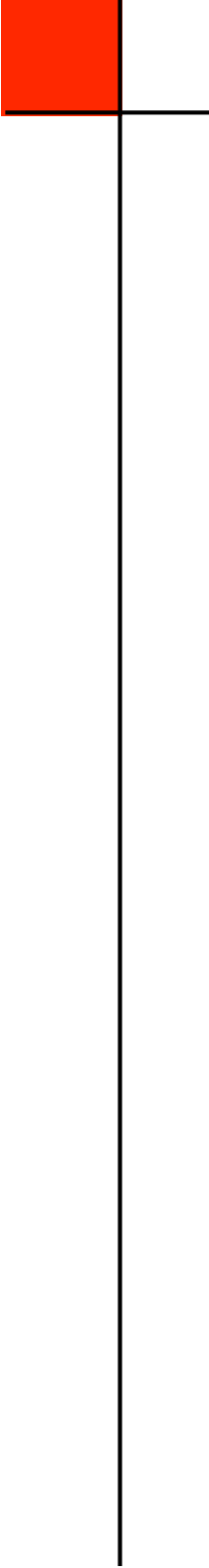
The Public Policy Dimension

CAVA may be creating its own winnable solution, a way around the inherent limitations of a home-located model, and a way of merging its pedagogy with the economics of either charter or district schools. Thus, the public policy challenges that it poses are similar to those of any disruptive technology.

Because CAVA is relentlessly traditional, its curriculum does not challenge conventional norms about what should be taught. It intensifies the normal. But the means by which learning is produced places CAVA in conflict with restrictions designed to curb abuses in long-standing non-campus schooling programs, such as correspondence schools.

The first of these challenges is to have work done at home or in a blended setting accepted by colleges and universities. The University of California, which certifies individual courses as having met its list of seven entry requirements (thus what is called the A-through-G curriculum), has been slow to approve CAVA courses. The university has approved many courses, but there has been no resolution of issues about virtual lab science courses or those in the performing arts. Progress toward approval of Advanced Placement courses has been termed “arduous but moving forward.”³⁶

³⁶ Abston, Katrina, personal correspondence, October 12, 2011.



The second public policy challenge is to have CAVA and other forms of on-line learning applied in ways that create economic efficiency for the education system as a whole. Except as experimental or enrichment activities, school districts cannot economically invest heavily in on-line programs within their standard curriculum. Without acceptance as part of the standard curriculum, developers cannot invest the necessary venture capital in creating new learning systems.

One framing of this problem is as a classic capital-labor substitution. When viewed in this way, work rule restrictions are simply job protection, a mild form of featherbedding that will be worn down over time. These restrictions appear in two forms: the requirement of the same teacher-student ratio for supervising students studying on-line as those who are taught in a conventional class, and the requirement of certification for each subject area being overseen. In the terms of current federal regulations, can on-line learning be considered as a “highly qualified” form of instruction, or do the qualifications flow from the human teacher who facilitates the student?

However, another way of looking at the same problem is to consider it as an instructional design and delivery problem that uses technology and the resources of an external provider, such as K¹². The design aspect of the problem has to come to grips with the increasingly diverse way in which the CAVA curriculum is actually built. On the surface, CAVA is highly engineered with a tightly designed program of teaching and assessment in which the traditional scope and sequence model of curriculum is reinforced with computer monitoring of student work and an assessment system that is tightly linked to the lessons themselves. The curriculum itself was to drive learning, as opposed to having an inspired teacher in every classroom. But when examined in practice, CAVA exhibits the same in-the-field redesigns that are found in traditional school districts.

Teachers tweak CAVA in part by designing Elluminate sessions to help students with the lessons that they fail to understand. They change the pacing to move students ahead or hold them back. They check for understanding directly with the students rather than relying only on the tests. What is starting to develop, but is not yet officially recognized, is a practice of CAVA teaching that treats the curriculum as something that undergoes continuous refinement.

As a design process, this aspect of continuous improvement changes the model from a curriculum that is engineered at the factory and delivered in a sealed case with the designation “no user serviceable parts inside,” to something that is modifiable in the field, essentially a user interface. The trend in technology is toward the latter. Products are either explicitly modifiable by the end user—in the case of CAVA some combination of the teacher and the student—or they contain an explicit feedback loop to the corporate designers, thus creating continuing improvement in response to results, what Google calls “permanent Beta.”

As on-line programs are applied in a larger variety of circumstances in blended learning situations, the need for any or all of them to be the product of field

improvement increases. Relatively few curricula are built this way, an exception being the Japanese tradition of lesson study, where teachers collaborate in presenting lessons and improving them, but technology increases the capacity of teacher collaboration in this way.

The delivery aspect of instructional design is in some way the mirror of how the curriculum is designed. Technology gives school authorities or corporations the capacity for very tight monitoring of teaching practice. It is no longer the case that the teacher is “in charge when the classroom door is closed.” The design questions are, thus, how much of the capacity for monitoring and inspection of teaching work does the system want to use, how does the system provide formative feedback to teachers, and how do teachers provide formative feedback to the system?

CAVA has the capacity for being even more compliance oriented, and its teacher management of being more rule driven than that of conventional school systems. It also has the capacity for being much more collaborative than conventional school employment. Finding the balance will be an important part of the teaching-learning system design.

The central lessons of CAVA are, thus, lessons of systems design. Part of the teaching-learning system design will be a function of decisions made by K¹² and CAVA itself; but the majority of the designing will or should be done by the school districts and charter management organizations that utilize K¹² products or partner with them in their development. Two different designs for teaching and learning are present in CAVA. One is highly flexible: craftlike and artistic, situational and responsive. The other is tight and prescriptive: lessons done in sequence, tests at end of units, numbers of minutes logged onto the system counted. Getting the balance between the freedom and agency of individual learners and the inherent boundedness of schooling to co-exist represents the educational design problem of the 21st century, and thus is the problem to be solved as schools and districts blend instruction between that provided by teachers in traditional class settings and that delivered virtually.