

Research Shows Evolving Picture of E-Education

By [Debra Viadero](#)

Online classes may be a relatively young instructional practice for K-12 schools, but experts already generally agree on one point: Research shows that virtual schooling can be as good as, or better than, classes taught in person in brick-and-mortar schools. But that broad conclusion, which comes mainly from a couple of research syntheses published in 2001 and 2004, masks a lot of variation in the designs of online classes and in who takes them. A middle school student in a remote area of West Virginia, for example, might take his online Spanish class during 3rd period every day, in a classroom alongside his classmates, while in Detroit, a gifted high school student logs in to her forensic-science class at home and works alone and at her own pace.

“We know it’s ‘as good as, if not better,’ in terms of student achievement,” says Rick E. Ferdig, an associate professor of educational technology at the University of Florida, in Gainesville, who runs the [Virtual School Clearinghouse research project](#). The project enables states to analyze their own statistics and pool data, making it publicly available for researchers to conduct studies.

“Now,” continues Ferdig, “we’re trying to figure out under what conditions, what scenarios, in what content areas, and with what students.”

Studies of state-run virtual schools show, for instance, that the courses tend to draw students at the extremes of the academic spectrum—advanced, highly motivated students looking for academic acceleration, and students who are struggling in regular classrooms.

“What you have in virtual schools now looks like a bell curve that’s upside down, so you tend to have fewer students who are in the middle in terms of where they’ve been in traditional schools,” says Catherine S. Cavanaugh, an associate professor of educational technology at the University of Florida.

Statistics also show that the high-performing students tend to be younger, on average, than other students taking the same classes online or in traditional schools, according to Cavanaugh.

As a result, virtual classes often serve students from broad age ranges. “In an Algebra 1 [online] class,” Cavanaugh says, “we might have students from 11 to 18 years old.”

Who Succeeds?

Not surprisingly, the students with the best academic records in online classes tend to be in that high-ability group, according to experts in the field. But some new research also finds that online courses are beginning to score more successes with the lowest achievers—possibly because many are high school students who see the online courses as a last chance to earn enough credits to graduate.

Cavanaugh says some of the states that are starting to see good results are also using adaptive-intelligence technology that allows students to skip over content they’ve already mastered and move on to the concepts that give them trouble.

Ferdig says the large numbers of academic go-getters taking online classes could account for some of the rosy findings in the first wave of studies of online coursetaking, since highly motivated students are likely to fare well in any academic environment. But later studies controlled more carefully for students’ academic differences at the starting gate and continued to find learning gains.

Scholars also note that virtual school enrollments are becoming more diverse by attracting more low-achieving and less-affluent students. In a handful of states, researchers have found that the student population in state-run virtual schools now mirrors that of the regular school system.

“It isn’t something that’s only for bright kids or only for kids who are well below grade level, because it may not work for many of them, either,” says Saul Rockman, the president and chief executive officer of [Rockman et al.](#), a San Francisco research group.

Rockman says his research suggests that succeeding in an online course is “more a matter of learning style.” Is the student an independent learner, for instance? Does he or she struggle with reading and writing?

Building in student-support mechanisms helps keep less academically motivated students from failing or dropping out of online classes, according to researchers.

“Whether that’s 24-hour technical support, tutorial support, parental vigilance, or face-to-face site coordinators or mentors,” Cavanaugh says. Mentors and site coordinators seem to be especially linked to marked improvements in student results in large high schools, she adds.

“The mentor plays an important role in making sure Johnny or Susie logs in to the course on a regular basis and provides a point of contact for the instructor,” says Jamey Fitzpatrick, the president and chief executive officer of [Michigan Virtual University](#), which currently enrolls 15,000 students, mostly in middle and high school.

A 2006 state law requiring every student to take an online course to graduate from high school makes Michigan a laboratory for evaluating online coursetaking. And state officials can track when and how often students log in to their online classes to see how those participation patterns link to achievement.

Michigan’s virtual school and more than 20 other virtual schools also routinely dump the data they collect into the computers at Ferdig’s Virtual School Clearinghouse Research Project, which is being financed by AT&T.

Some of the early studies emerging from the database helped dispel some concerns about potential detrimental effects of online coursetaking on students’ social development, according to Ferdig. Very few online students, those studies showed, took electronic classes full time. Rather, they combined virtual schooling with traditional courses. The studies also showed that students communicated regularly online with teachers and classmates.

“You have contact with students on a daily basis,” says Lorri MacDonald, who was recently selected as Michigan’s first “online teacher of the year.”

“You pay attention to what’s going on,” she says, “and you respond to them as individuals.”

Cavanaugh, of the University of Florida, says there is also a “general consensus”—if not air-tight research findings—that the more interactive the courses can be, the higher their success rates.

Questions Remain

Ongoing studies are also beginning to look at whether so-called “hybrid” or “blended” courses—classes in which only 30 to 70 percent of the instruction takes place online and the rest is in person—are any more successful than all-electronic versions.

But research has far to go to identify exactly what factors make an online course effective.

“For the most part, what we have now are what I call low-cost, low-yield studies,” says Rockman. “They tell us that programs are ‘as good or better than,’ but there is a limited range of outcomes and limited generalizability.”

Ongoing research about online professional-development programs aimed at teachers may not be any more instructive for K-12 educators, says Michael K. Russell, an associate professor of educational research, measurement, and evaluation at Boston College.

Russell and his research partners tested four different versions of an online course meant to improve middle school teachers' algebra-teaching skills. The conditions ranged from a self-paced, mostly text-based class that was little more than a correspondence course to one that involved extensive feedback and support. In the latter version, an online facilitator guided participation in students' electronic interactions, a math expert provided feedback on student assignments and answered questions, and students took part in lively online discussions with their classmates.

Russell says the teachers learned, by about the same amount, under all four experimental conditions. The study is part of a three-year project that is being financed by the National Science Foundation.

"These were people who were interested in the courses or the research question, so they might have tried their best to get something out of it," says Russell. Whether the same pattern would hold up for a mandatory professional-development course or a nonelective precollegiate class remains an open question.

"In general," Russell says, "I don't think this body of research [on online education] is totally developed at this stage."

[follow on Twitter](#) | [friend on Facebook](#) | [forward to a friend](#)

Copyright © 2011 [Einstein Education Pvt. Ltd.](#) All rights reserved.

You registered for a course

Our mailing address is:

Einstein Education Pvt. Ltd

#6 D Main East End

Jayanagar 9th Block

Bangalore 560082

[Add us to your address book](#)

[unsubscribe from this list](#) | [update subscription preferences](#)