SHOW-ME INSTITUTE

WHERE LIBERTY COMES FIRST

CASE STUDY

NUMBER 10 JULY 2011

VIRTUAL LEARNING:
BEYOND BRICK AND MORTAR

By Caitlin Hartsell

INTRODUCTION

In recent years, federal, state, and local governments have spent increasing amounts of taxpayer money on Missouri's public schools. Analysis of Missouri spending and test data, however, finds no relationship between increases in per-pupil expenditures and increases in student achievement.[1] While many well-intentioned reform efforts have been unsuccessful — such as decreased class size and adopting a uniform set of curriculum standards — a few reforms have been effective.[2]

A better education reform strategy, say education experts Rick Hess, director of education policy studies at the American Enterprise Institute, and Eric Hanushek, senior fellow at the Hoover Institution at Stanford University, is to allow free competition among schools for students. Such competition would allow schools that provide a quality education to flourish while punishing schools that provide a poor education.

A review of all available empirical studies of school voucher programs — a school choice policy that allows students to take public dollars with them to schools that they choose — found that the majority of studies showed that voucher programs improved student outcomes and public schools.[3] Unfortunately, education vouchers are not a viable option in Missouri because they might violate the state constitution's Blaine Amendment.[4]

Increased choice frequently produces cost savings. In Washington D.C., for example, charter school students are outperforming traditional public schools while operating at a per-pupil cost of $11,000, compared to the $17,000 per-pupil expenditure of traditional public schools.[5] Again, options are limited in Missouri because state law restricts the creation of charter schools to the cities of Saint Louis and Kansas City.[6]

Furthermore, Missouri has many rural areas without a critical mass of students to support the infrastructure of multiple schools. In fact, two thirds of Missouri's school districts have fewer than 1,000 students.[7]

Virtual schools offer a completely online education and modular courses that allow students to work through the material at their own pace with the teacher acting as a tutor or mentor instead of a traditional lecturer.

For students whose educational choices are limited by geography, restrictive laws, financial constraints, or some combination of the three, a new approach is necessary to give them the benefits of educational competition and course diversity. Virtual schools and distance learning can offer these benefits to nearly all of Missouri's students.

AN OVERVIEW OF VIRTUAL LEARNING

Virtual learning includes many different methods for delivering educational information. For purposes of this essay, the term refers to all courses that use technology to deliver courses in an alternative manner. There are some courses that simply transmit a standard lecture to multiple classrooms via interactive television (I-TV), and others that are traditional correspondence courses employing technology to transmit course work. On the other end of the spectrum, virtual schools offer a complete online education with modular courses that allow students to work through the material at their own pace with the teacher acting as tutor or mentor instead of traditional lecturer. There are also hybrid models that combine live courses with computer-based instruction.

In some ways, virtual schools are preferable to traditional schools because students can choose the best programs from other districts or states.

Although these options differ in their methods and approaches, the purpose is the same — to deliver coursework to students without the limitation of location.

Virtual schools offer every student school choice because they liberate students from spatial barriers. Teachers do not need to be in the same building as their students — or even the same state — to provide a high quality educational experience. For sparsely populated rural areas, this offers an immediate blessing because virtual courses provide students a greater diversity of courses. They offer more courses than any one school could offer, with more flexibility as to when and where the course is taken. A homebound student can take courses from her home, and a student with an inflexible schedule can take a particular course in the evening after the traditional school day has ended.

In some ways, virtual schools are preferable to traditional schools because students can choose the best programs from other districts or states. Students can take courses from an existing and successful school, such as Florida Virtual School (FLVS). Missouri schools need not build a virtual school system from scratch to offer high quality courses immediately. The breadth of potential courses offers more competition than traditional schools.

School districts with multiple high schools can use virtual learning to offer courses across the district. Students from multiple schools who are unable to meet at the same time or location can still participate in virtual courses.

Virtual courses provide direct competition in rural areas that may not have sufficient students to support multiple schools. Through virtual school courses, students may take specialized courses, such as language course or Advanced Placement (A.P.) courses, courses their school cannot offer directly due to a lack of capable teachers or low student interest.

Although only 1 percent of K-12 courses were taught online in 2007, Harvard business professor Clayton Christiansen forecasts 50 percent by 2017.[8] At a 2010 conference, Microsoft founder Bill Gates predicted that

"[f]ive years from now on the web for free you'll be able to find the best lectures in the world… It will be better than any single university."[9] Whether the move toward online learning is as dramatic as these experts believe, education is moving toward virtual schooling.

Virtual schools have the potential to revolutionize schooling. This potential can be seen in the innovative techniques some courses use to engage students. In virtual courses, students must actively engage the material and prove competency before continuing. By working at their own pace, students can spend more time on difficult material and speed through material they find more intuitive. As the software develops, virtual schools may customize their content to the varied learning styles of students.

Traditional schooling has not integrated technology into learning to the extent that virtual schools have. Most traditional schools use technology as a supplement to their established curriculum, not as a means of revolutionizing same. Clayton Christiansen argues that this reflects an inability to innovate within a structured system. In *Disrupting Class*, he and his coauthors explain the dilemma of reforming schools from within and show that every groundbreaking innovation has arisen from outside traditional systems.

FORMS OF VIRTUAL LEARNING AVAILABLE IN MISSOURI

In Missouri, virtual learning may be grouped into three main categories:

Distance learning: Internet based courses that evolve from correspondence programs.

Interactive television: Teleconferences of live lectures provided to multiple school locations.

Virtual school: A complete internet- or software-based program that involves more interaction between the student and technology. The communication takes place entirely via technology or by combining live interaction in a classroom with software components.

DISTANCE LEARNING

The University of Missouri High School (MU High) evolved from an initial correspondence program offered by the university's Extension Division. The distance-learning program was created in 1911 to educate Missouri's rural and military students.[10] The school has offered high school courses since 1913.

As virtual schools transition away from postal-based correspondence programs, they often keep the same format but change the delivery method. Instead of waiting for the courses via mail, the student receives coursework electronically. Often, the courses maintain their independent study format, with the instructor acting as a grader instead of a teacher. The courses normally allow for asynchronous study, so students may start courses at any point in the school year. At MU High, students can complete courses in as little time as six weeks or as many as nine months, with most finishing in a semester's length of time.[11]

The University of Missouri Extension Division was renamed the Center for Distance and Independent Study (CDIS) and began offering online courses in 1997. The program was accredited in 1999 by the North Central Association of Colleges and Schools to confer diplomas, then became known as MU High.

During the 2010–11 school year, MU High offered nearly 240 courses to approximately 7,000 students from around the world.[12] Approximately 10 percent of its students were enrolled full-time.[13] The rest took one to three courses as a supplement to other learning. MU High has traditionally been an option for students pursuing other activities, such as amateur sports or acting, as well as students trying to recover credits or take courses not offered at their current school.[14]

MU High commissions teachers to write courses and hires teachers to teach them and grade material. The teachers are encouraged to respond to students within three days, though this time-period is flexible. The process is similar to a traditional correspondence course except that the turnover for feedback is much shorter. Since 2009, all MU High courses are delivered online by default. Students must pay extra to receive paper correspondence.

Teachers do not need to be in the same building — or even the same state — as their students to provide a high quality educational experience.

Sen. Jane Cunningham, winner of the 2006 "Cable's Leaders in Learning Award for Policymakers," said that virtual schools "provide a beneficial — and often very rigorous — alternative schooling option for students."

MU High is not directly subsidized by the university, although its offices are located on the campus. Principal Kristi Smalley explained that they cover the cost of providing courses with the standard $160 course enrollment fee and $25 administrative fee. Including the cost of textbooks, MU High courses typically run between $250-275.[15] The student normally pays these costs, but some school districts offer MU High courses in lieu of their own courses and assume the costs. This arrangement is most common for courses such as Personal Finance, which recently became a requirement for graduation in the state of Missouri.

Students in Missouri are not limited to MU High for distance learning. Some Missouri school districts elect to offer distance-learning courses from other states. A small district in northwestern Missouri has 10 students enrolled in Kansas State's distance-learning program for Spanish.[16] Students in a medium-sized district in southwestern Missouri participate in Kansas State's Spanish program "due to shortage of certified teachers in the area," the district's superintendent explained in an e-mail.[17]

I-TV

Interactive television uses consortiums of high schools and universities to provide courses to multiple schools via teleconferencing of live lectures. I-TV allows rural schools to pool resources and offer a wider variety of courses.

MIT-E (pronounced "mighty"), one of Missouri's largest consortiums, was founded in 1993 with six schools working closely with Central Methodist University (CMU).[18] As of 2010, the consortium included 17 high schools working with CMU, subdivided into MIT-E North, South and Central. The schools have an average of fewer than 200 students each, making course diversity difficult.[19] Typically, each school will provide one or more teachers to deliver a course that is then televised to other school locations. A number of students may receive the lecture live while others teleconference. The schools elected to have the same calendar and bell schedule to provide the courses at the same time across the state, though they have taped the courses before for students who were homebound by illness.[20]

Educators involved with I-TV tend to speak highly of the experience. The superintendent of one small district writes, "[the] system works extremely well."[21] Another explains the benefits of I-TV to his district more fully:

> We send out one class per semester and receive on the average five to six classes per semester. Overall, we have an average of 20 to 25 students enrolled per semester. We will continue to be a part of this network as it saves our district annually in terms of not having to hire additional staff for such things as foreign languages and upper level math classes.[22]

The Western Missouri Educational Technology Consortium (WeMET), founded in 1993, is another I-TV option that is run by the University of Central Missouri. One of the fifteen districts that participates WeMET received a grant to pay for the startup equipment and pays $4,000 each year to retain membership in the consortium.[23]

Some school districts rely on their I-TV networks for a substantial portion of their high school curriculum. According to the superintendent of a very small district in western Missouri, "100% of the senior class and 50% of the junior class us[e] the I-TV network every year."[24]

VIRTUAL SCHOOLS

The term "virtual schools" now refers more narrowly to online or computer-based courses. Most virtual schools use a modular approach in which courses are broken into separate units that require mastery of one to move onto the next. This allows students to move at their own pace, which can benefit both gifted and special-needs learners. Classes that follow a schedule may feature discussion groups and group projects that give students opportunities to interact with each other. Regardless of which method a course employs, virtual schools are distinguished from traditional schools because they transform the interaction between student, material, and teacher.

Missouri's Department of Elementary and Secondary Education (DESE) runs a statewide virtual school program, known as the Missouri Virtual Instruction Program (MoVIP).[25] MoVIP

was created in 2006 by an act of the state legislature.

Many school districts find MoVIP economically beneficial because MoVIP students take 85 percent of state aid (money the state provides to school districts on a per-pupil basis) and leave the resident school district the remaining 15 percent.[26] In essence, the district receives some state money without any of the financial burden of educating the MoVIP student.

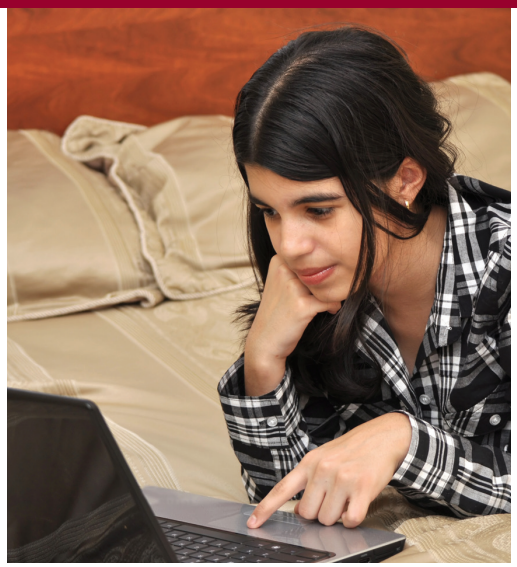
A state statute provides that any Missouri student is eligible to attend a virtual school.[27] Furthermore, although MoVIP itself cannot confer a diploma, any course that a Missouri student takes through MoVIP must be accepted for credit by the student's school district.[28]

Rep. Brian Baker sponsored the House version of the Senate bill, and it passed with "overwhelming bipartisan support." According to Rep. Ed Emery, the bill did not receive any initial opposition on the House floor. Instead, the largest opposition came from representatives of the home school association, who worried the virtual school would challenge their autonomy.[29]

On June 12, 2006, Gov. Matt Blunt signed the bill into legislation, making Missouri the 24th state with a state-sponsored virtual school.[30] The legislation required DESE to launch the program by July 2007.[31] Sen. Jack Goodman, the bill's sponsor in the Senate, released a statement, saying that MoVIP was not meant to replace traditional schools: "This program is specifically designed to make sure Missouri's public education system is doing everything possible to provide a first-class education to those who need a comfortable alternative to the traditional classroom setting."[32]

Sen. Jane Cunningham, winner of the 2006 "Cable's Leaders in Learning Award for Policymakers," said that virtual schools provide a beneficial – and often very rigorous – alternative schooling option for students.[33]

Officials initially expected MoVIP to enroll 500 students its first year.[34] However, MoVIP vastly surpassed expectations and enrolled about 3,000 students that year. In comparison, Florida Virtual School taught 77 students in its opening year.[35] That first year, MoVIP was open to grades K-5 and 9-12, but the following year MoVIP expanded to include all grades K-12, including part-time and private school students.[36]



Virtual schools help make sure Missouri's public education system is doing everything possible to provide a first-class education to those who need a comfortable alternative to the traditional classroom setting.

Although some states, such as Florida, write and run their own courses, Missouri contracts with providers. For the 2011–12 school year, MoVIP contracted with Aventa Learning, Connections Learning, FLVS, the Missouri Council on Economic Education, and North Kansas City Schools. Each provider employs Missouri-certified teachers.[37]

During the 2011–12 school year, MoVIP offered more than 100 courses for elementary, middle, and high school students. Courses include standard requirements, honors courses, Advanced Placement courses, and courses, such as Chinese, that are difficult to support within small school districts.[38]

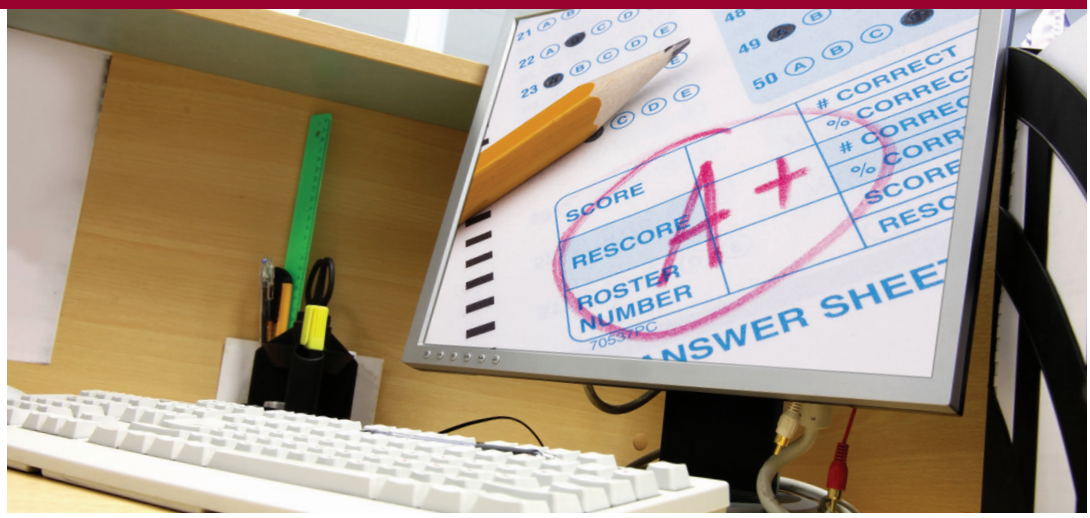
According to DESE Coordinator of Educational Support Services Curt Fuchs, a team of Missouri educators regularly evaluates courses to decide what to provide, based on how they conform to Missouri state education standards, how they assess students, and how they use technology. The team evaluated over 400 courses in the 2009–10 school year but only chose to offer 172 of those courses the next year.[39]

During the enrollment period for MoVIP's first year in June 2007, almost every state-funded seat in the program was filled. Of the approximately 2,500 students who had signed up, two-thirds were high school students. The first round of MoVIP students came from across the state, representing 334 of Missouri's 524 school districts.[40] More than a quarter of the students who initially enrolled planned to attend full-time.[41]

A survey of virtual school usage sent to each of the 524 Missouri school districts by the

For students whose educational choices are limited by geography, restrictive laws, financial constraints, or some combination of the three, a new approach is necessary to give them the benefits of educational competition and course diversity.

A meta-analysis of online learning studies found that students did better in online learning courses than in traditional brick-and-mortar classrooms.



North Kansas City School District, for example, has been so successful with its virtual courses that it contracted courses out to MoVIP in the 2010-11 school year.

Show-Me Institute elicited 90 district responses and showed a variety of uses for virtual school programs. Many of the school districts that responded had minimal involvement with MoVIP, with only two or three students enrolled in a MoVIP course at any point. In many cases, school administrators said, if state-funded seats were not available, the student's parents paid the course fee.

Many schools in the state used MoVIP to offer language courses to students. For example, a district in southwestern Missouri has used MOVIP for more than two years to offer Spanish to six to ten high school students. "Most struggle [with the MOVIP delivery method]," wrote the district's high school principal in response to the Show-Me Institute's survey.[42]

Some of the school districts that responded to the survey said their students "struggled" with the online courses and technical problems. Another problem may have been inappropriate expectations about virtual courses. Students who struggle in traditional classrooms may still struggle in virtual ones. This is not an indictment of virtual schools, though it may suggest that other delivery methods may be needed in order to engage these students.

Local school district use

Many local school districts contract with private companies or other state programs to provide their students with a variety of courses. Some schools, such as the Springfield School District, have contracted with statewide virtual education options, and some schools contract with colleges for dual credit courses.[43] Some use college courses for credit recovery, such as a western Missouri district, which contracts with Brigham Young University.[44]

Other schools have developed their own virtual school programs using learning management software. North Kansas City School District, for example, has been so successful with its virtual courses that it contracted courses out to MoVIP in the 2010–11 school year.[45]

As of summer 2010, a Kansas City–area district was planning a virtual school for the 2010–11 school year for credit recovery and acquisition. In 2009–10, they offered courses through NovaNet for credit recovery to about 25 students. "We will begin at the high school level and expand to middle and elementary school in subsequent years," wrote the district's director of instructional technology, via email. "We will plan to offer coursework to enrolled students as a first priority as we expect our offerings to be hybrid in nature with substantial face-to-face support. As the program develops we will offer coursework to other students."[46]

In fall of 2008, a suburban Kansas City–area district began offering three courses of their own to 126 students: Personal Finance, Health, and Modern Global Issues, all required for graduation. The district's director of instructional technology wrote, "We did not purchase or use content from another provider as we wanted the content to mirror that of the face/face classroom." By 2010, the district had expanded their offerings to seven courses, and continues to expand the program.[47]

There are also many smaller, private companies and providers offering virtual courses in Missouri. Students are not limited to in-state providers, and home school and private school

students may be using any number of other programs to supplement their education. Some school districts contract with private companies such as PLATO, Odysseyware, and Anywhere Learning System to provide courses to their students.

Anywhere Learning System, for example, has a variety of formats available for the 446 titles it offers. It works directly with the school district, allowing the district to reorganize courses to fit their specific learning requirements.[48] The courses can be used to supplement a live class, allowing students to work at their own pace.[49] Using this customizable software, students can engage with the material directly without the stigma of being either "slow" or "gifted."

OUTCOMES AND EVALUATION

Many academic studies have examined the effectiveness of online learning in recent years. A meta-analysis of online learning studies found that students did better in online learning courses than in traditional brick-and-mortar classrooms.[50] One example of higher academic achievement by students in virtual schools relative to their peers in traditional schools can be found in Florida, where FLVS students averaged 3.05 out of 5 on advanced placement courses, higher than the 2.49 state average.[51] Other studies show that students have similar outcomes in both online and traditional lecture courses.[52]

However, if virtual education results in the same academic outcomes as traditional forms of education but at a lower per-student cost, that is still an improvement over the status quo. Furthermore, because virtual courses compete with each other as well as traditional methods, we should expect stronger programs will emerge as course designers and teachers refine their methods.

With virtual school courses readily available across the country, Missouri's schools need not design their own programs. MoVIP's adoption of multiple courses through multiple providers shows the potential to utilize established programs.

Not all virtual courses are equal, and each course should be subject to oversight. What form that oversight should take is not well-established, though there are more options for evaluating virtual courses compared to traditional ones. Traditional schools are most commonly evaluated through test scores, but this may not be appropriate for virtual schools. Discovering what method is appropriate — whether it is skill acquisition, course progress, student-teacher communication, or some combination of these methods — is a necessary step towards institutionalizing virtual courses as legitimate alternatives.[53]

There are a number of problems with using test scores alone to compare virtual and traditional courses. For instance, certain types of students gravitate toward virtual courses, introducing selection bias. Most virtual students find the normal classroom experience inadequate, suggesting that they either struggled or were not sufficiently challenged. Test scores are also a problematic measure of the effectiveness of virtual schools versus traditional schools because many students take virtual courses as a supplemental part of a traditional education. Regardless of these difficulties, MoVIP tracks its students' Missouri Assessment Program (MAP) scores and has found no significant difference between online and traditional learning.[54]

MU High is not required to assess its students via MAP tests, and does not collect the scores from its part-time students. However, the school does keep track of ACT scores. While only 12-17 students listed MU High as their official school on the ACT exam from 2005–09, these scores averaged 24.6, above the state average of 21.6.[55] Unfortunately, the low-sample size and selection bias make this number difficult to put into context.

The MIT-E interactive television network tracks student grades. They have found no difference in the grades of students in the room with the teacher and those teleconferencing elsewhere in the state.[56]

Course completion is another method for evaluating virtual schooling. Selection bias is once again a problem because many students using the program for credit recovery have already demonstrated a problem with completing courses. When MU High evaluated its own program, Smalley estimated that students completed 73 percent of their courses.

Teaching staff and building space, two of the largest expenses in education, are still required. However, these spaces can be better utilized in the virtual school setting.

With classes averaging between $250 and $275, educating a full-time MU High student costs substantially less than teaching the average public school student in Missouri.

In MoVIP's first year, flaws in the program's design resulted in two-thirds of students failing to complete their courses.[57] Nevertheless, MoVIP met most, but not all, of the Standards of Quality for Online Courses set by the International Association for K-12 Online Learning (iNACOL).[58]

FUNDING AND COST-EFFECTIVENESS IN MISSOURI

Funding for virtual schools is often contentious, and availability of funds will play a major role in determining their long-term potential. Some state funding formulas penalize school districts for utilizing virtual school courses, hindering the growth of virtual schools. For instance, Pennsylvania school districts sued a group of virtual charter schools in 2001, claiming that they were a financial burden to the districts.[59] Even when the districts are not successful, these clashes slow the growth in virtual schooling.

At the same time, giving the classes away for "free," as MoVIP offered for the first few years, is not a sustainable or effective model. When the school opened, it had "free seats" funded by the state lottery at no cost to the student or their school district. The state created 3,000 seats that students applied for, and a lottery decided who would receive the seats. This created a "moral hazard" for the schools and students, as there was no cost to them to "try" as many courses as they would like. They may have been "window-shopping," as Fuchs postulated, or students may have underestimated what a virtual course would require. Technical problems may also have discouraged some students. In any case, two thirds of the initial students dropped their courses. In the second year, measures were implemented to minimize dropout rates.[60]

FLVS pays only for successful completion of the course, which seems to be an effective funding model. This compels the program, which is already guided by Florida learning standards, to provide the optimal educational experience possible to students.[61]

In 2009, the state legislature modified funding mechanisms for virtual education options with an omnibus education bill. The new statute, RSMO 162.1250, allows school districts to keep nearly all of the allotted state funding for students who take virtual courses. School districts receive 94 percent of a student's state-funded seat time if the student is taking a virtual course or program offered by the district.

As such, school districts can allow students to take virtual courses without losing school funding. In the long run, teacher hiring can adjust to allow school districts to focus hiring on areas they will not cover through virtual courses.

Although his district did not use virtual schools when he made this statement, the superintendent of a small southwestern Missouri school district said that "[i]n light of recent legislation allowing schools to count the students for enrollment we would try to work with students who may want or need this service."[62] Many other school districts, however, did not seem to be aware of the new legislation or were uninterested.[63]

Virtual schools are also dramatically cheaper than the brick and mortar alternatives. After start-up costs — such as course development and management — costs per full-time equivalent student range from $3,650 to $8,300.[64]

Teaching staff and building space, two of the largest expenses in education, are still required. However, these spaces can be better utilized in the virtual school setting. Virtual schools can aggregate students from across a relatively large geographic area, so they can fill courses that most traditional schools could not. This allows teachers to instruct more students at the same time. The academic literature shows that a low student to teacher ratio has a minimal effect on academic achievement that is overshadowed by the effect of teacher quality.[65] With virtual classes, one excellent teacher can reach more students.

The MU High School's funding comes from the students and school districts that offer its courses. With classes averaging between $250 and $275, educating a full-time MU High student costs substantially less than teaching the average public school student in Missouri.[66] This is a viable option for students sufficiently motivated to work through the independent learning course. I-TV courses are normally funded by the consortium of schools, with teachers coming from the member schools.

Virtual schools compete against "free" public school courses as some school districts make

Sen. Jane Cunningham, an active proponent of virtual schools, has spoken with numerous parents and school board members who were not aware that virtual courses were available through their school districts.

parents pay for their students to take virtual courses. While $200 for a course is lower than the cost to educate a student in a traditional classroom, parents do not directly pay the cost for the latter. Theoretically, a student can take a full course load at MoVIP for approximately $5,000 a year.[67] The average per-student expenditure in Missouri during 2010, on the other hand, was $9,257.35.[68] However, the public school per-student spending may be even higher than reported. A 2010 Cato study found that five major metropolitan areas underestimated their per-student spending by an average of 44 percent.[69]

Some school districts license courses through outside vendors, giving the district flexibility depending on what courses students need at the time. One large district offers courses through PLATO. They offer about 90 licenses each year, which means that 90 students can take a course at any one time. The software costs the district approximately $225 per student per semester, and it has a curriculum facilitator coordinating and supervising the courses.[70]

POTENTIAL PROBLEMS

A number of school administrators are wary of virtual schooling. The superintendent of a small district in northwest Missouri was especially adamant about his concerns. In an email, he wrote, "I am shocked that there is any money still being appropriated by legislators for this purpose while they are cutting money for things that apply to a proper education."[71] He expressed that the district would only use virtual courses if there was no way it could provide the course on its own. "The only way we will likely use it here is if we simply cannot find a teacher or in an area that does not affect the quality education we offer."

Some students struggle in the traditional learning environment, and some will struggle with virtual learning. The delivery method of virtual school courses is an issue for some students. Many students initially experienced technical problems with courses when MoVIP began. Other private software providers, such as PLATO, have struggled with technical "glitches" that frustrated students.[72]

Virtual schools also require a level of self-motivation that is unnecessary for most high school courses. This can help students prepare for college-level courses, but many students underestimate the amount of work a virtual course entails. Students who take the course expecting easy credits quickly find that most virtual classes require just as much effort as a traditional course.

Another reason that more students do not take advantage of virtual courses may be that many do not know it is an option. Sen. Jane Cunningham, an active proponent of virtual schools, has spoken with numerous parents and school board members who were not aware that virtual courses were available through their school districts. Even when these parents were interested, many encountered difficulties with reluctant school districts. Some had to demand the virtual courses be provided before their district would comply.[73]

A lack of socialization is one potential drawback discussed in studies about virtual schools. Some studies indicate that students in online courses do not have significantly different levels

Even when these parents were interested, many encountered difficulties with reluctant school districts. Some had to demand the virtual courses be provided before their district would comply.

Given the relatively low costs of virtual schools, virtual education is a win-win solution: The state can save taxpayer dollars while giving students and parents more choice about what educational options work best for them.

of socialization than their peers in traditional schools.[74] Despite these studies, some virtual schools have addressed this issue by planning activities and field trips. Other virtual courses are integrated with face-to-face courses that provide socialization.

Certification

MoVIP courses must be taught by a Missouri-accredited teacher, which creates a barrier to the expansion of virtual schooling in Missouri. In an increasingly globalized world, state accreditation is outmoded as it limits the number of high-quality courses students can take. Competent teachers in Illinois and Kansas, for instance, could teach classes through MoVIP, but Missouri certification rules limit who can deliver course material. This barrier may not be easily overcome, in large part because of the tremendous power wielded by teachers unions.

Teachers unions

Teachers unions have undermined the implementation of virtual schools. Most virtual-school teachers are not unionized and thus provide direct competition to those who are. Some superintendents are reluctant to pursue virtual schools because of potential conflicts with their teachers unions. Some states, such as Oregon, have caps on the number of students in virtual courses, limiting their potential scope.[75]

Furthermore, teacher contracts in most school districts make it difficult to fire teachers, so adopting any labor saving technology, such as virtual programs, is difficult. The 2009–10 Mehlville School District collective bargaining agreement required the district to add any savings "exceeding $70,000 … resulting from teacher staff changes" to base salary.[76] The provision essentially precluded the district from dismissing any of their teachers over the summer in order to restructure the budget. Mehlville, a large school district, is not unique; many collective bargaining agreements across the state include provisions to protect teacher positions.

Teachers' salaries are a fixed cost that most school districts cannot negotiate by offering courses virtually. This limitation is a barrier for virtual programs, but it is not insurmountable. Districts could use current teachers to create and teach some of the virtual courses and then contract with other districts if there is insufficient demand locally. Obviously, flexibility in hiring and firing is preferable, but this strategy may be more feasible in the short run.

A large suburban school district in the Saint Louis area introduced a virtual school of its own in 2009. "We try very hard to offer virtual versions of most of our core courses as well as some electives," wrote the program's supervisor.[77] District level courses can more fully utilize the teachers already on the payroll.

CONCLUSION

Traditional classrooms are limited in what they can provide students. Even with increased funds, many courses cannot be offered, and many students' schedules and needs cannot be accommodated. As remote interaction becomes more common and dependence on computers increases, education should incorporate those changes and advances in technology.

One of the largest challenges will be socializing administrators to the idea of virtual schools and classes. Although many have embraced it as an option, others are leery. Some of the superintendents whose districts did not use virtual schools said the only time they would use a virtual course would be for credit recovery. With continued exposure, school administrators may embrace the idea of virtual courses, especially in cases where traditional methods have not been successful.

Research has shown that virtual education can be at least as effective as a traditional classroom education, if not more effective. Furthermore, virtual education could allow students in all corners of the state the opportunity to take classes currently unavailable in all but the largest school districts. Virtual education also addresses the needs of many students who struggle with the traditional classroom experience.

Given the relatively low costs of virtual schools, virtual education is a win-win solution: The state can save taxpayer dollars while giving students and parents more choice about what educational options work best for them.

NOTES

[1] Podgursky, Michael, James Smith, and Matthew Springer, "A New Defendant at the Table: An Overview of Missouri School Finance and Recent Litigation," Peabody Journal of Education (2008), pp. 185-194.

[2] Hanushek, Eric, "The Evidence on Class Size," In Earning and Learning: How Schools Matter, Susan Mayer and Paul Petersen, Brookings Institution Press, 1999 and Greene, Jay. "One Size Fits None," Arkansas Democrat, Apr. 11, 2010. Online here: http://tinyurl.com/3g4yf4e.

[3] Forester, Greg, "A Win-Win Situation: The Empirical Evidence on School Vouchers," The Foundation for Educational Choice, 2011.

[4] Blaine Amendments prohibit state governments from aiding educational institutions that have a religious affiliation.

[5] Allen, Jeanne, Alison Consoletti, and Kara Kerwin, "The 2009 Accountability Report: Charter Schools," The Center for Education Reform, 2009, p. 19. Online here: http://tinyurl.com/33vhg5r and Schaeffer, Adam, "They Spend WHAT? The Real Cost of Public Schools," Cato Institute. Online here: http://tinyurl.com/y8v8478

[6] Mo. Rev. Stat. 160.400

[7] Spalding, Audrey, "Actual Pay: A Survey of Missouri Public School Superintendent Salary and Benefit Packages," Show-Me Institute Policy Study 24, pp. 4-5.

[8] Christensen, Clayton M., Michael Hom, and Curtis W. Johnson. Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns, 2008, p. 98.

[9] Siegler, M G. "Bill Gates: In Five Years, the Best Education Will Come From the Web." TechCrunch, August 6, 2010. Online here: http://tinyurl.com/2cdoh33

[10] University of Missouri High School, "A Century of Distance Learning," Center for Distance & Independent Study. Online here: http://tinyurl.com/4xpqgnr

[11] Kristi Smalley (principal of MU High), interview by author, July 14, 2010.

[12] University of Missouri High School.

[13] Smalley, interview.

[14] University of Missouri High School.

[15] Smalley, interview.

[16] E-mail message to author.**

[17] E-mail message to author.

[18] Missouri Interactive Telecommunication-Education Network. Online here: http://www.mitenetwork.org/

[19] Average was 195, based on DESE information on school demographics. Does not include Sacred Heart, a private school.

[20] Phone conversation with author.

[21] E-mail message to author. July 7, 2010.

[22] E-mail message to author , July 7, 2010.

[23] E-mail message to author, July 7, 2010.

[24] E-mail message to author, July 7, 2010.

[25] Another short-lived attempt at virtual schooling in Missouri was Missouri Virtual School (MVS). It was a hybrid between interactive television and online virtual schools and operated through the 2009-2010 school year before closing due to a lack of funding.

[26] Mo. Rev. Stat. 161.670

[27] Ibid.

[28] "MoVIP 2011–12 School Year Frequently Asked Questions." Online here: http://tinyurl.com/3slxm4b

[29] Emery, Ed. "Will Virtual School Encroach upon Homeschool?" Joplin Independent, February 23, 2006. Online here: http://tinyurl.com/3qul3gm

[30] "Blunt Signs Bill Creating Virtual School," Jefferson City News-Tribune, June 13, 2006.

[31] "State Officials Begin Work to Make Virtual School a Reality," Jefferson City News-Tribune, July 30, 2006

[32] Section: News

[33] Office of Jack Goodman, "Governor Signs Goodman's Bill Creating Virtual School," June 19, 2006. Online here: http://tinyurl.com/3sfrq2k

[34] Shelton, Missy, "Lawmakers Send Virtual School Legislation to Governor," KSMU, May 9, 2006. Online here: http://tinyurl.com/3q4j3v3

[35] Mackey, Katherine and Michael B. Horn. "Florida Virtual School: Building the first statewide, Internet-based public high school," Innosight Institute, October 2009. Online here: http://tinyurl.com/3cxljfj

[36] Shelton.

[37] Missouri Virtual Instruction Program. Online here: http://tinyurl.com/3slxm4b

[38] Missouri Virtual Instruction Program, 2011-2012 MoVIP Course List. Online here: http://tinyurl.com/3slxm4b

[39] Curt Fuchs, interview by author, July 14, 2010.

[40] The Associated Press, "Almost all free spots filled in virtual school." St. Louis Post-Dispatch. June 24, 2007.

[41] Ibid.

[42] E-mail message to author , July 2010 and Engle, Tim. "Virtual kids: Actually they're real, but they go to school online," The Kansas City Star, Oct. 10, 2009.

[43] Interview by author, July 2010.

[44] E-mail message to author.

[45] Fuchs, interview.

[46] E-mail message to author, July 8, 2010.

[47] E-mail message to author , July 7 and 8, 2010.

[48] Interview by author, July 26, 2010.

[49] Durley Tiarina, interview by Ken Royal, American Education Corporation. Online here: http://tinyurl.com/44na69y

[50] Means, Barbara, Yukie Toyama, Robert Murphy, Marianne Bakia, and Karla Jones, "Evaluation of Evidence-Based Practices in Online Learning: A Meta Analysis and Review of Online Learning Studies"

, U.S. Department of Education, Office of Planning Evaluation, and Policy Development, 2010.

[51] Mangu-Ward, Katherine, "Teachers' Unions vs. Online Education," Reason, August 2010.

[52] Frederickson, Norah, Phil Reed, and Viv Clifford, "Evaluating Web-Supported Learning versus Lecture-Based Teaching: Quantitative and Qualitative Perspectives," Higher Education 50, no. 4 (2005), pp. 645-664. Outcomes, judged quantitatively and qualitatively, were equal for two groups in a graduate level statistics course where half the class was assigned to online-based classes for the first half of the course and lecture-based the second half. The other half of the class started with a lecture-based course then switched to online.

[53] Florida Virtual School uses skill acquisition.

[54] TA Consulting Evaluation Team, "Annual Evaluation Report 2007-2008 Missouri Virtual Instruction Program." October 2008.

[55] Department of Elementary and Secondary Education, "Missouri's Average ACT Score Stays the Same – Again; Nicastro Voices Concern about Students' College Readiness." Online at: http://tinyurl.com/3fwwhvn and Kristi Smalley, e-mail message to author. Composite average determined by number of students (12-17) multiplied by each year's average ACT composite, then averaged together.

Year	Students	ACT Composite	State Ave
2005	14	23.2	21.6
2006	15	25	21.6
2007	12	24.8	21.6
2008	17	24.8	21.6
2009	14	24.9	21.6
	AVERAGE:	**24.55**	**21.6**

[56] Hackman, interview.

[57] TA Consulting Evaluation Team.

[58] Ibid.

[59] Sam Dillon, "Online Schooling Grows, Setting off a Debate," New York Times, Feb. 1, 2008. Found via Disrupting Class, p. 104.

[60] TA Consulting Evaluation Team.

[61] Mackey and Horn.

[62] E-mail message to author, July 7, 2010.

[63] Comments from survey emails suggest they are uninterested. The "disinterest" may result from the sunk costs in schools. Districts already pay for a certain number of teachers and space, and it is easier to reshuffle these fixed costs in the short-term while adding virtual courses requires technology.

[64] Augenblick, Palaich, and Associates. "Costs and Funding of Virtual Schools." Bell South (2006). Online here: http://tinyurl.com/3lldlxa

[65] Rivkin, Steven G., Erik A. Hanushek, and John F. Kain, "Teachers, Schools, And Academic Achievement," Econometrica 73, no. 2 (2005), pp. 417-458. Online here: http://tinyurl.com/433bwco

[66] Kristi Smalley, interview.

[67] This does not take into account any administrative or technological costs the student might incur if they take these courses in a school building.

[68] Missouri Department of Elementary & Secondary Education, "Annual Reporting of School District Data - FTP Downloading Site." Online here: http://tinyurl.com/44hhfxx and Missouri Department of Elementary & Secondary Education, "Current Expenditure Per Average Daily Attendance (ADA)." Online here: http://tinyurl.com/3ggyr5l

[69] Schaeffer.

[70] Interview with author.

[71] E-mail message to author.

[72] E-mail message to author, July 2010.

[73] Cunningham, interview with author, August 13, 2010.

[74] Sivin-Kachala, Jay, and Ellen Bialo, "IESD Comprehensive Technical Report: Evaluation of the Social Skills of Full-Time, Online Public School Students," (2009).

[75] Mangu-Ward, p. 48

[76] Mehlville R-IX School District, "Board/Teacher Discussion agreements 2009-2010," Section 2.4, May 26, 2009.

[77] E-mail message to author, July 8, 2010.

Caitlin Hartsell is a law student at Washington University in St. Louis. She is a former research assistant at the Show-Me Institute.