# CASE STUDY

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# VIRTUAL BLENDED WITH TRADITIONAL LEARNING CAN CUT COSTS AND HELP STUDENTS

**By Audrey Spalding**

## INTRODUCTION

During the 2012 legislative session, Missouri lawmakers failed to pass public school funding reform and failed to do much to address the increasing number of students trapped in failing districts. Education funding continues to consume a large share of the state budget, and public school districts receive billions in local property tax revenues. Meanwhile, student academic achievement in Missouri remains low when compared to other states.

As innovation continues to change the way we work and communicate, forms of virtual education are beginning to take hold in Missouri and elsewhere. Virtual education has been shown to reduce the costs of educating public school children, increase course diversity, and help students graduate.

If implemented correctly, virtual education has the potential both to mitigate Missouri's education costs and help serve students who do not have access to high quality educational options.

The challenge facing Missouri educators and legislators is how to make use of forms of virtual education without limiting them. For too long, K-12 education has generally followed the same model, with mediocre results. Technology makes it possible to "flip the classroom" and can allow students to work through material at their own pace. It can increase the capacity for individual attention.

Online schools can bring a world of opportunity to children and young adults who have specialized learning needs best met in an online system.

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*The full case study titled "Virtual Learning: Beyond Brick and Mortar" can be viewed at www.smiinfo. org/virtualschools*

Finally, it can help teachers better measure the impact of their instruction.

This paper explores the academic performance of Missouri public school students and the promise of virtual education. It explores the availability, the potential savings, and some existing state and local barriers to virtual forms of education for Missouri students. Broad solutions to Missouri's funding and school choice standoffs are also discussed.

## WHAT IS VIRTUAL EDUCATION?

The phrase "virtual education" can be used to describe methods of educating students that make use of technology and diverge from the traditional classroom model, where the teacher lectures and students listen.

In a 2011 paper for the Show-Me Institute, Caitlin Hartsell detailed three types of virtual education that are available in Missouri: Interactive television (I-TV), correspondence courses, and virtual schools. These forms are reiterated below, with the addition of blended learning:

**I-TV** is used in rural areas where it is difficult for small school districts to provide a diversity of courses. Districts in nearby areas of the state often form consortiums in order to collaborate to provide a larger variety of courses to their students. One small district in western Missouri uses I-TV to provide courses for the entire senior class, with about half of the district's junior class receiving course instruction through I-TV.[1]

Other forms of virtual instruction have arisen in Missouri from traditional **correspondence courses**. The University of Missouri High School (MU High) evolved from a correspondence program that began in 1911.[2] Instead of waiting for

course materials to arrive in the mail, students now receive those materials electronically. Thousands of students from Missouri and elsewhere take MU High courses, and 94 students earned a full diploma from the school in 2012.[3]

**Virtual schools** offer complete modular courses that allow students to work through material at their own pace. Missouri has a virtual school known as the Missouri Virtual Instruction Program (MoVIP). MoVIP offers courses that are broken into separate units, requiring students to master one component of the course before moving onward. Due to funding changes, MoVIP course enrollments dropped from nearly 16,000 two years ago to approximately 1,300 course enrollments for the 2010-11 school year.[4]

**Blended learning** is the combination of online learning and in-person instruction. The use of blended learning can allow more specialized teachers to teach more students, and can allow students to work through course instruction at their own pace.[5] Blended learning can be as simple as students accessing course materials on a website outside of class, or more complex, with students in a computer lab working through education modules at their own pace with a teacher available to help those who are struggling. As of late 2011, the Evergreen Education Group reported that blended learning options were available to some students in all 50 states.[6]

All forms of virtual education listed previously are available within the state of Missouri. However, their use depends primarily on the discretion of individual school districts and teachers. For example, many parents are likely unaware that MoVIP classes are available, and many districts do not set up a consortium to share courses. The North Kansas City School District (discussed in detail on page 13) makes blended learning tools available to teachers, but teachers choose how to use those tools.

## WHO CAN VIRTUAL EDUCATION SERVE?

A wide variety of students can benefit from virtual education. Online schools, in all of their various formats, can bring a world of opportunity to children and young adults for whom the primary education system is not working. This includes children and young adults who:

- Attend low-quality schools where they are unable to get a decent education.

- Attend very small schools in rural areas where education opportunities are limited by geography and transportation.

- Have had behavior difficulties in mainstream schools where their best interests (and perhaps those of other students) are best served by being educated at home.

- Have learning disabilities that are either not served by their own school district or are best served in a virtual school system.

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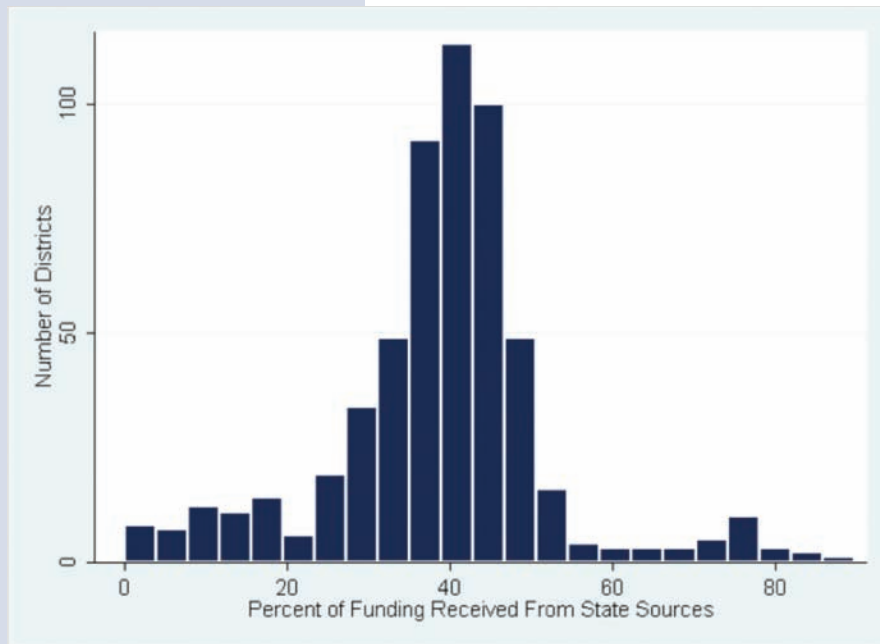
**FIGURE 1 Sources of school district funding.
Data provided by DESE.**

*Many parents are likely unaware that MoVIP [Missouri Virtual Instruction Program] classes are available, and many districts do not set up a consortium to share courses.*

• Have health issues, either temporary or permanent, where online learning from home is in their best interest.

• Are interested in unusual subjects that the local school district is unable to provide.

• Have specialized learning needs best met in an online system.

• Have lifestyle needs (such as working high school drop-outs) where their education needs are best met by a virtual schedule.

These different systems of education may benefit many other unique students in Missouri.

## MISSOURI EDUCATION SPENDING

In the past 12 years, total current expenditures at Missouri's public school districts have increased from $5.3 billion to $8.1 billion.[7] When adjusted for inflation, the increase comes to 17 percent. The increase in education spending is not attributable to an increase in public school enrollment. In fact, enrollment in Missouri's public school system during the same time period has dropped slightly.[8]

Current expenditures per student have increased over this time period, from $5,859 to $9,500. When adjusted for inflation, the increase in per-pupil funding in current expenditures comes to more than 24 percent.

Total expenditures, which include building costs, have increased from $7,593 in 2000 to $11,371 in nominal dollars. When adjusted for inflation, the increase in total per-pupil expenditures comes to a 14.65 percent increase. The greatest increase in the costs of educating students comes from current expenditures (cost of teachers, supplies, etc.), while per-pupil capital costs have actually decreased in real dollars.[9]

### State Funding Formula
Generally, Missouri school districts have three sources of funding: State, local (raised through the local property tax levy), and federal. Some wealthy districts receive the majority of operating funds from the local property tax levy. For example, the Brentwood and Clayton school districts, wealthy suburban districts in Saint Louis County, both received more than 95 percent of operating funds from local sources during the 2011 school year.

The way Missouri directs funds to local school districts has changed in recent years. In 2005, the Missouri Legislature passed Senate Bill 287, legislation that slowly moved state public education funding from a model that focused on equalizing revenues among districts with similar property tax rates to a model that attempts to equalize funding among districts with similar enrollment, and to ensure "adequate" per-capita funding.[10]

As shown in Figure 1, this formula has resulted in nearly a majority of Missouri school districts receiving at least 40 percent of operating revenues from state sources.[11] As of the 2011-12 academic year, Missouri public school districts reported receiving a total of more than $2.2 billion in state funding.[12]

## MISSOURI EDUCATIONAL QUALITY

### NAEP

In recent years, Missouri student scores have marginally improved on the National Assessment Education Program (NAEP) mathematics test.[13] Missouri student scores on the eighth-grade NAEP mathematics test have increased over the long term, up 11 points from a score of 271 in 2000.[14]

Figure 2 shows Missouri student mathematics scores on the eighth-grade NAEP, as compared to the national average, Illinois, and Kansas. Missouri's scores were not statistically different than the national average (282, compared to 283). The trend of Missouri's scores is generally upward, though the state is behind Kansas, and in 2011, fell behind Illinois.

When it comes to the NAEP reading test (Figure 3), student scores have increased in recent years, but only from a drop during 2005 through 2007. In 2011, Missouri eighth-grade students scored 266.8 on the NAEP reading test, a score not much different from the score of 267.4 reported in 2003.

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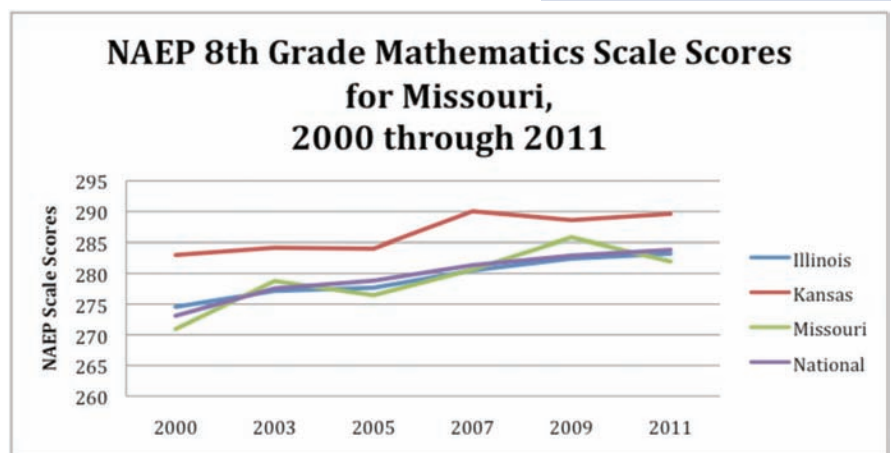


**FIGURE 2 NAEP Scale Scores for Missouri, compared to Illinois, Kansas, and the national average for years 2000 through 2011.**
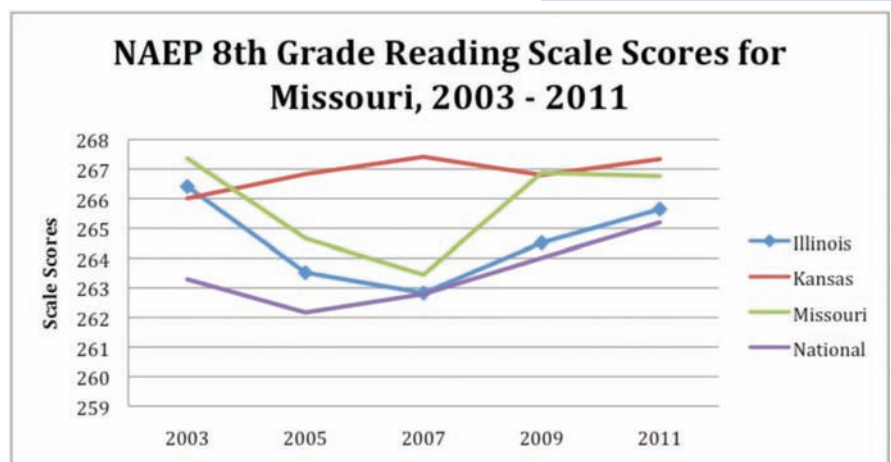


**NAEP Scale Scores for Missouri Reading Scores, compared to Illinois, Kansas, and the national average for years 2003 through 2011.**

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

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Moreover, achievement gaps remain in the eighth-grade scores. The performance gap on the NAEP mathematics test between black students and white students is not significantly different than in 1994. The gap between students eligible for free or reduced-price lunch and those not eligible is also not significantly different than that same gap in 1994.

Though scores from Missouri eighth-grade students on both the NAEP mathematics and reading tests have improved in recent years, it is unclear whether this gain continues through high school. A nationwide study of student mathematics scores on the 12th-grade NAEP have not increased since 1973.[15] Because NAEP scores are not available at the state level for grade 12, it is unclear whether the state's increase in student achievement persists through 12th grade.

*Accreditation*

The Missouri Department of Elementary and Secondary Education (DESE) grades school districts on a variety of indicators, including student academic achievement, student attendance rates, student graduation rates, and student scores on college readiness exams, such as the ACT.[16] These indicators are used to determine whether the school district is deemed "accredited." If the district fails to improve its overall performance on those indicators for several consecutive years, the district is classified as unaccredited.

In late 2011, DESE reported that 510 school districts were accredited, nine were provisionally accredited, and three were unaccredited. The unaccredited districts are Saint Louis Public Schools (SLPS), Kansas City Metropolitan School District (KCMSD), and Riverview Gardens. Approximately 44,000 students attend schools in Missouri's unaccredited districts.[17] Although this number is a small fraction of the total enrollment in Missouri's public school system, there is reason to believe that more districts will be declared unaccredited. Indeed, the nine other districts classified as provisionally accredited have underperformed over a number of years, and the state board of education is closely monitoring their progress.

Missouri law stipulates that any student in an unaccredited district can choose to attend a different district, with the unaccredited district paying the tuition and transportation costs at the accredited district.[18] The interpretation of this law has come under question recently, as Missouri's large, urban

districts have become unaccredited, leading some area parents to sue to be able to send their children to better school districts.[19]

One lawsuit, in which parent Jane Turner sued SLPS for the tuition paid to send her children to an accredited district, reached the state Supreme Court. In July 2010, the Missouri Supreme Court ruled in *Turner v. Clayton* that accredited school districts in the same or neighboring county as an unaccredited district must accept students who choose to transfer to their district, and tuition is owed to the accredited district from the unaccredited district.[20]

The *Turner* case was sent back to a lower court to address issues that were not addressed in the Supreme Court's ruling. Most recently, a Saint Louis Circuit Court judge ruled that SLPS does not have to pay to transfer students to a better district, despite the district's unaccredited status. Judge David Lee Vincent III found that the school choice law amounted to an unfunded mandate, citing a 2011 study that estimated that more than 15,000 students who live in Saint Louis City would transfer to a school in a neighboring county if given the chance.[21]

The survey, conducted by Terry Jones of the University of Missouri-St. Louis, estimated that about 8,000 of those students would come directly from SLPS, with the remainder coming from a mix of charter schools and students participating in a voluntary transfer program. Jones estimated the total cost to SLPS would be nearly $224 million each year.[22]

Vincent's ruling is being appealed and may be overturned. In the meantime, more than 15,000 students will continue to be denied public school choice. An alternative to ease some of the demand for educational options may be forms of virtual education. Students in unaccredited school districts could take courses from accredited virtual course providers. Moreover, the state's charter school law (discussed on page 12) could be revised to allow for the operation of online charter schools that students in any district could attend remotely.

## THE PROMISE OF VIRTUAL EDUCATION

Because of a budget shortfall, the state of Missouri is not providing the total amount of expected funding to school districts. The state funding formula allocates how more than $3 billion in state aid is sent to school districts. However, for the 2012-13 school year, state funding for schools is expected to be approximately $700 million short.[23]

If the state Supreme Court's ruling in Turner is allowed to be implemented, then costs to already struggling districts will likely increase. In the coming years, state officials also are unlikely to embrace education programs that will increase state costs. More importantly, increased education funding alone has not been shown to increase student outcomes in Missouri.[24]

Virtual forms of education, however, provide an alternative that could increase student outcomes while saving districts money. The following section discusses academic findings of student outcomes in virtual education programs; the section titled Potential

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for Educational Savings on page 10 discusses the potential virtual education has to reduce district costs.

### Educational Outcomes

In its eighth annual report about online learning, the Evergreen Education Group reported that, as of late 2011, online learning options existed for some students within all 50 states, and that most district programs are blended, rather than entirely online.[25]

A 2009 meta-analysis by the U.S. Department of Education of more than a decade of empirical studies of online learning for K-12, undergraduate, and older learners found that "students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction," with larger positive effects associated with blended learning.[26] The meta-analysis considered 50 rigorous studies that compared online learning to face-to-face education that measured student outcomes.

Authors of the U.S. Department of Education study stress that the positive effects are not attributable just to the online medium, but rather the time spent, curriculum, and teaching methods associated with online learning options. Essentially, the virtual learning medium (taking courses via computer, participating in a classroom remotely) will not guarantee better educational outcomes. Rather, these mediums change the way teachers teach, and that can result in increased student success. The study did not find a significantly positive effect associated solely with K-12 students.

In a 2011 study for the Innosight Institute, a nonprofit that Harvard Professor Clayton Christensen founded, Michael Horn and Heather Staker wrote that "online learning has the potential to be a disruptive force that will transform the factory-like, monolithic structure that has dominated America's schools.[27]

Horn and Staker argue that the strengths of blended learning include the ability to allow students to work at their own pace and the potential to facilitate productive new school models that require fewer and more specialized teachers. For example, Carpe Diem Collegiate High School (Arizona) and Rocketship Education (California) are schools that serve a large population of students eligible for free or reduced-price lunch that use blended learning to reduce costs and to encourage and reward student achievement.

However, a risk exists that the conventional educational system will nominally adopt blended learning options without the potential for real reform. A conventional district posting websites with course material may not be enough to reform student learning, especially if the online options simply mimic the way the course has been presented in the past. Horn and Staker suggest that new charter schools are the best place to pursue blended learning thoroughly.

A survey of students who had taken online courses through Washington State's Digital Learning Commons program found that the online courses helped students graduate and take advanced courses. Based on a review of student transcripts and graduation requirements, the authors found that

more than two-thirds of students in the program would not have graduated without taking online courses. Nearly 45 percent of students needed the extra credits to graduate, while more than 26 percent of students used online courses to make up for a failed class. More than three-quarters of the courses, such as AP physics and AP chemistry, were not otherwise available to students.[28]

In a 2009 meta-analysis of open-access literature regarding virtual learning, Cathy Cavanaugh, Michael Barbour, and Tom Clark wrote that though virtual schools contain the promise of better instruction, "there is no guarantee that this will occur."[29] The authors also conclude that there is a need to identify characteristics necessary for students to be successful in virtual courses and how best to bring students lacking these characteristics up to speed.

Benefits associated with virtual learning, the authors wrote, include higher levels of motivation, expanded educational access, high-quality learning opportunities, improved student outcomes, increased educational choice, and increased administrative efficiency. They wrote that challenges include higher start-up costs, access issues, approval of virtual schools, and student readiness and retention.

Barbour, who has studied virtual education extensively, wrote that "in almost all of the available literature on student performance, students enrolled in virtual school courses do as well or better than their classroom counterparts," but that several of those who have studied virtual education are concerned that students who do poorly

in virtual courses drop out prior to assessment.[30] Barbour's observation may be true for Missouri. Students who listed MU High as their primary school when taking the ACT had an average ACT score of 24.6, above the state average of 21.6; however, the number of MU High students taking the ACT was small.[31]

***Potential For Educational Savings***
**National Surveys:** There are a wide variety of reasons to pursue virtual or blended learning. The educational outcomes and the ability to reach otherwise disenfranchised students were discussed on pages 8-9. Another reason to consider expanding virtual and blended learning options in Missouri is the promise of decreased costs.

Tamara Butler Battaglino, Matt Haldeman, and Eleanor Laurans, in a study for the Fordham Institute, found that schools using blended learning, or even entirely virtual schools, had lower operating costs than traditional schools. The primary source of savings, the authors wrote, comes from reduced labor costs. The Fordham study estimates that per-pupil expenditures within the traditional classroom model are approximately $10,000, while blended learning costs approximately $8,900 per pupil and full virtual education costs approximately $6,400 per pupil.[32]

The Fordham study's findings fit with the 2009 U.S. Department of Education meta-analysis of virtual education, which found that blended learning may be more costly than education delivered entirely through online methods.[33]

Cavanaugh wrote that while online programs can entail large initial

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infrastructure costs, virtual schools tend to be cheaper than in-person alternatives.[34]

**Florida:** The Florida Virtual School (FLVS), a statewide virtual education program that enrolls more than 120,000 students, has been a cheaper educational alternative.[35] The Florida TaxWatch Center for Educational Performance and Accountability found that the per-student cost of the FLVS program was consistently lower than the per-pupil costs of traditional public schools. For the 2006-07 school year, educating a student through FLVS was estimated to be more than $1,000 cheaper than doing so in the traditional public school system — a savings of 16.7 percent.[36]

**Pennsylvania:** A 2011 study by the Pennsylvania-based Commonwealth Foundation found that the per-pupil cost of cyber charter schools was three-quarters that of per-pupil costs in traditional public schools, a savings of approximately $3,400 per child. Moreover, there is evidence that students and parents are opting out of public schools with a track record of low student academic achievement. Students living within the boundaries of the School District of Philadelphia, the largest district in the state and one of Pennsylvania's lowest-performing districts, accounted for the greatest number of cyber charter school students, with 3,363, in the 2010-11 school year.[37]

**Michigan:** Both the state's virtual school (Michigan Virtual School) and a virtual course provider that the Genesee Intermediate School District (GenNET) administers appear capable of educating students more cheaply than traditional

brick-and-mortar schools.[38]

**Kansas:** Nearly 5,000 students (or the equivalent of nearly 59,000 course enrollments) attended online programs in Kansas during the 2010-11 school year.[39] Online schools receive Kansas' "base state aid per pupil" (BSAPP), plus an additional 5 percent of that funding, and 25 percent more for each at-risk student enrolled in the school.[40] However, online schools do not receive additional state, local, and federal funding. This additional funding, on average, amounts to more than a majority of per-pupil funding in Kansas.[41] Because online schools do not receive this additional funding, learning costs are likely much smaller than per-pupil costs in traditional brick-and-mortar districts.

**Wisconsin:** A 2009-10 state audit found that 10 of Wisconsin's 15 virtual charter schools spent less per-pupil to educate students than their chartering school districts.[42] Six of those schools had per-pupil education costs that were at least 30 percent cheaper than their chartering school district. The more expensive charter schools had low student enrollment.

Virtual education has the potential to offer educational savings, with blended learning appearing to offer smaller savings. There is some indication (see pages 12-13 discussing the Hope Academy) that virtual education saves Missouri education funds as well.

## STATE FUNDING OF VIRTUAL COURSES AND SCHOOLS

The Missouri Virtual Instruction Program (MoVIP), the state-run virtual

school for kindergarten through 12th grades, can receive state per-pupil funding that would otherwise go to the student's resident district. Any Missouri resident student may take MoVIP courses. State law passed in 2007 provides that parents of students attending an unaccredited or provisionally accredited school district have the option of enrolling their children in MoVIP.[43]

According to state law, if a school district has students attending MoVIP, the district will receive 15 percent of the state funding associated with that student, with the remaining 85 percent of state funding sent to MoVIP.[44]

However, state funding for MoVIP is subject to appropriation. When MoVIP began, the legislature appropriated approximately $5 million. But in 2009, Missouri Gov. Jay Nixon announced that state funding for MoVIP was cut, saying that students could continue to attend if their parents or resident district paid the cost.[45]

This year, state appropriations for MoVIP were limited to $350,000.[46] Due to changes in funding, MoVIP has imposed a per-course fee of approximately $300, and student enrollment in MoVIP has declined dramatically. During the 2010-11 school year, MoVIP had 1,335 course enrollments, down from nearly 16,000 just two years earlier.[47]

### District Contracting

Many public Missouri school districts choose to contract with private companies or other state-run programs for virtual course options. Some districts, such as Lebanon R-III and Puxico R-VIII, contract with Missouri State University; others, like the Center 58 School District, have contracted with programs in other states.[48]

The ability of Missouri school districts to contract with outside providers is certainly a positive step to ensuring more virtual educational options for Missouri students. However, districts have control over which educational options are offered, if they are even offered. Paul T. Hill, a fellow at the Hoover Institution at Stanford University and at the Brookings Institution, has written that district control of online educational options can serve to limit what courses are offered, and that course decisions may be made in the best interest of preserving the district's funding, instead of in the best interest of public school students.

Hill writes in his survey and recommendations for virtual funding options that:

> …no arrangement provides public financial support for parents who wish to assemble unique mixes of instructional experiences for their children. Parents might persuade their child's school to pay for an online course or a course provided by another institution. But schools control the funds and have no incentive, other than the desire to satisfy a parent, to make such arrangements.[49]

### Virtual Charter Schools

Missouri's virtual education laws are permissive, but the state is by no means a leader in allowing for digital forms of education. Missouri law does allow for the operation of online charter schools,

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and in a fairly permissive way. Charter schools offering a virtual course or a full-time virtual program can receive 94 percent of per-student state aid.[50] Missouri law also follows the method used in funding the Florida Virtual School – online charter schools receive funding only upon half and full course completion by the student.[51]

However, enrollment in Missouri online charter schools is small. The Hope Academy in Kansas City (discussed on pages 12-13) appears to be the only charter school in the state to offer course work through a primarily virtual program.

Until recently, Missouri has limited the creation of charter schools to the boundaries of Saint Louis City and Kansas City, severely hindering the opportunity for online charter schools to be created. This year, the legislature passed, and the governor signed, Senate Bill 576, which, when it goes into effect, will expand the use of charter schools throughout Missouri. Charter schools can be opened anywhere in Missouri if the school district is unaccredited, has been provisionally accredited for three consecutive years, or is fully accredited but the local school board sponsors the charter.

However, so few districts fit into those categories that the potential for more online charter schools is slim.

House Bill 1629, which Missouri Rep. Jay Barnes (R-Jefferson City) proposed during the 2012 legislative session, would have dramatically increased access to virtual education. The bill would allow any student, regardless of where he or she lives, to take virtual

courses or attend a virtual school that a charter or public school district offers. If passed, Barnes' bill would have allowed 72.5 percent of the student's resident district's per-student expenditures to follow a student to the virtual school.[52]

### Hope Academy

The Hope Academy Charter School in Kansas City is the only charter school to offer course work through a primarily virtual program.[53] Students generally work on course work at their own pace in a classroom with teachers present to answer questions, or to stop the class if numerous students are having difficulty with the same material. The school provides flexibility for students to work through courses remotely.

Hope Academy has taken on an especially difficult task. The school's mission is to provide dropout recovery by helping high school students who are at least one year behind in their course work.[54] The school has had significant success in helping at-risk students: In 2011, the school was inducted into the Mid-America Education Hall of Fame, and the school's graduation rate of 93.1 percent surpassed that of both the Kansas City School District and Missouri's statewide average.[55]

Hope Academy opened in 2009, and in recent years, the charter school has enrolled more than 200 students, with at least 80 percent of those students eligible for free or reduced-price lunch.[56] The school reported 81 graduates for the 2011 school year.[57] Hope Academy hopes to enroll 300 more students during the 2012-13 school year, when it opens a new campus in northeast Kansas City.[58]

Blended learning can allow more specialized teachers to teach more students, and can allow students to work through course instruction at their own pace.

Because many of Hope Academy's students have jobs, the school integrates service learning into its curriculum. Each student is required to spend two hours a day participating in some kind of hands-on experience, be it career shadowing, working, interning, or undertaking community service.[59]

Hope Academy's operating expenditures per student was $4,728 for the 2011 school year, the lowest expenditure per student that any district or charter school in Missouri reported for the 2011 school year.[60] In comparison, the Kansas City Metropolitan School District (KCMSD) spent more than $14,500 per student.

Zachary Bassin, director of operations and development for the school, says that the school measures success by monitoring end-of-course assessments, whether students are graduating, and where students are going after graduation.

## NORTH KANSAS CITY

North Kansas City School District's (NKCSD) eCampus program is the largest online public education program in the state of Missouri. The eCampus program offers more than 30 courses that students may take online.[61] The program is not focused on dropout retention, but rather on providing flexible course offerings for high school students to supplement their in-class education. Most students take one or two virtual courses per semester.

eCampus Coordinator Marla Walker says that the program has grown from 20 course enrollments in 2004 to a range of 600 to 750 course enrollments during the fall, spring, and summer semesters.[62] The district, which creates its own courses, provides courses for free to in-district students, and for a fee to students outside the district or the state of Missouri.

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Some of NKCSD's most popular online courses are its personal finance and health courses (which are graduation requirements) and its career internship course. Students taking the eCampus career internship course spend time online building their resume and researching career options, and then shadow a professional in their field of interest.[63]

The district also has formed an online course consortium with the nearby school districts of Platte County and Park Hill. Students from those three districts can take an online course for free from any of the other participating districts.

The online courses offered through the eCampus program allow students some flexibility to move at their own pace, but it is not without structure. Students can move within a learning module, but the overall pace of the course is generally matched to the pace of the course's in-person analogue. In many online courses, PowerPoint presentations have replaced the lecture portion of an in-person class, with many teachers recording their voice for those presentations.

With an expansion of technology, Walker says that she hopes teachers move toward integrating video into their online courses. One math teacher, she said, has done this already when he explains problems with a video showing him working through an example algebra problem.

The district will add six more classes in fall 2012, primarily Advanced Placement (AP) courses. Some of these new courses, such as AP World History, AP Government Politics, and AP Statistics, can be hard to fill in a single school, Walker said.

Though NKCSD has contracted with online course providers in the past, all of its current online courses are developed and taught by district teachers.

NKCSD also has implemented a blended approach in many of its courses. All high school teachers in the district are asked to set up what is known as a Blackboard site for their course, with basic information about the course and makeup work. Depending on the initiative of the teacher, some high school teachers make greater use of blended learning, using online sites to post and manage larger student projects.

The district has also explored implementing blended learning in lower grade levels. Walker said that the district has investigated expanding into elementary and middle school. "We're in very beginning planning stages," she said.

## WAYS TO EXPAND VIRTUAL EDUCATION IN MISSOURI

Virtual education and blended learning can facilitate innovation, help more students access a larger diversity of courses, and provide an opportunity for educational savings. Missouri has relatively lenient virtual education laws, but limitations on charter schools and the education foundation formula restrict the ability for widespread use of virtual education outside of the traditional public school system.

### Allow Expansion Of Charter Schools

One way to allow for more implementation of forms of virtual learning is to allow charter schools to be created anywhere in the state, and to allow those schools to enroll students virtually. Charter schools, which have more freedom to pursue innovative forms of education, were previously limited to the boundaries of Kansas City and Saint Louis City. This limitation may be marginally lessened with the new legislation expanding charter schools in the state when it goes into effect.[64]

Passing legislation similar to Rep. Jay Barnes' 2012 virtual charter school legislation is perhaps the quickest way to increase virtual school choice in Missouri.

Expanded online charter schools provide an alternative to the *Turner* debate.

As the case winds its way through the court system, students whose parents are unable to pay for private school and are unable to homeschool are stuck in school districts that are not able to serve them. Allowing students to enroll in virtual charter schools established outside of Kansas City or Saint Louis City could enable some students to access a better education in the short term. This option could also reduce the number of students flowing to nearby suburban school districts if the courts determine that those districts must allow city students to enroll.

### Reduce Regulation Of Virtual And Blended Schools

Public school districts face constraints — some legal, some regulatory, and some stemming from collective bargaining agreements — which can restrict their ability to provide the best education to students.

As discussed earlier, the greatest savings associated with blended and virtual learning come from labor, although there is some increase in initial costs to train teachers and acquire needed software and equipment. If districts strictly adhere to DESE's classroom guidelines, regardless of whether those guidelines result in increased student academic achievement, then blended and virtual learning could be more costly. DESE's published desirable class size standards range from 20 for kindergarten through second grade to 29 for seventh through 12th grade.[65] These guidelines may not be well suited for virtual and blended programs.

In "Teachers in the Age of Digital Instruction," Bryan Hassel and Emily Ascue Hassel suggest that blended

*Missouri has relatively lenient virtual education laws, but limitations on charter schools and the education foundation formula restrict the ability for widespread use of virtual education outside of the traditional public school system.*

*One way to allow for more implementation of forms of virtual learning is to allow charter schools to be created anywhere in the state, and to allow those schools to enroll students virtually.*

learning can extend the reach of high quality-teachers. It is an established finding in the educational literature that a high-quality teacher can dramatically improve the amount a student learns, compared to what that student would have learned from a low-quality teacher.[66] Hassel and Hassel propose a model that would extend the teaching reach of high-quality teachers, while employing lower-quality teachers in new roles. For example, high-quality teachers could give lectures to a greater number of students via digital means; lower-quality teachers could provide supervision while the students are receiving the digital instruction.

Missouri districts pay teachers based on salary schedules, which generally result in teachers with the same level of experience and education being paid the same amount, regardless of ability or performance. This practice will hinder district attempts to attract the very few teachers Hassel and Hassel refer to as "mediagenic" — teachers who are capable of using virtual media to reach many students in a very effective way.

Moreover, both salary schedules and teacher certification requirements ignore the specialization that can occur with strong implementation of blended learning. Some new roles may entail less teaching and more oversight of behavior as students work through online programs.

### Ensure That State Dollars Follow Students To Virtual Schools

When legislators revisit the education funding formula, it will be prudent to reconsider the way virtual education is funded. As a state, public education is funded with a model that emphasizes the district, instead of students. A lack

of state-funded seats in MoVIP has greatly reduced the number of students making use of the state virtual school program.

Hill writes that it is rare for parents to have much control over public dollars spent to educate their child:

> Except for parents whose children are eligible for Title 1 supplemental education services, families that buy particular supplemental courses for their children are on their own.[67]

He suggests that a more "technology-friendly" system would not focus on funding institutions, but rather would allow money to follow students to the courses or schools chosen. In order to encourage innovation rather than stifle it, Hill suggests that states should withhold funding for programs that are found to be ineffective, instead of refusing to fund new programs.[68]

To move toward a more technology-friendly education system in Missouri, parents should be allowed to directly enroll students in virtual courses or virtual schools, with state per-pupil funding passing directly to the virtual course provider. To accomplish this, the state would need to allow a portion of per-pupil funding to automatically flow to MoVIP.

Allowing state funding to follow a student to a virtual school or course can result in educational savings. For example, if 70 percent of state aid follows a student to a virtual school (or a proportional amount if the student takes a single class), with 5 percent of state aid remaining at the student's resident district, the remainder (25 percent) can be saved. The scenario outlined above

could be an improvement over how state aid is currently allocated to MoVIP, and could result in a reduction in state education funding.

Blended learning and other forms of virtual education are diverse enough that it would be irresponsible to attempt to calculate statewide savings if more students were to make use of virtual educational options. Past research has shown that there can be savings associated with virtual education, and in many cases, the savings are substantial. Some savings could be assured if state funding for students attending virtual courses were set at some fraction of total funding, as done in current online charter school law, and as suggested in Barnes' proposed bill.

The following is a simple calculation designed to illustrate the potential for education savings in Missouri. This is not a promise of savings; it is impossible to know just how many Missouri students will choose virtual education or blended learning if those options are made available.

More than 880,000 students attend either a traditional public school or a publicly funded charter school. If just 1 percent of current Missouri students moved from a traditional brick-and-mortar school to a virtual school, the savings to the state alone (excluding local district savings) could be significant. If the per-pupil savings were similar to those seen in Pennsylvania, Florida, or Wisconsin, state education costs could drop by an estimated $13.5 million to as much as $24.3 million. This calculation is based on Missouri's average per-pupil cost of students attending conventional public

school districts or public charter schools and the percent reduction in per-pupil costs seen in Florida (16.7 percent) and Wisconsin (30 percent).[69]

Virtual education has the potential to reduce educational costs and to help improve student academic achievement. Legislative reform could expand the access students have to virtual education alternatives and perhaps ease state financial woes in the process.

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*Virtual education has the potential to reduce educational costs and to help improve student academic achievement. Legislative reform could expand the access students have to virtual education alternatives and perhaps ease state financial woes in the process.*

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