

Online Learning

Description of Request:

I am interested in the success of online learning courses for new instruction on high school completion and college completion. We are beginning to look at policies around online learning and its impact.

Question:

1. What does the research say about the impact of online learning programs and policies at the secondary and post-secondary levels?
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Report:

Following an established REL-NEI Reference Desk research protocol, we conducted a search for research reports as well as descriptive and policy-oriented briefs and articles in this area. The sources included federally funded organizations, additional research institutions, several educational research databases, and a general Internet search using Google and other search engines. We also searched for appropriate organizations that may act as resources on this issue. We have not done an evaluation of these organizations or the resources themselves, but offer this list to you for your information only.

Our researchers have found that “online learning at the k-12 level has grown so much in recent years that the main issue in most states is no longer whether or not online learning is occurring, but rather how it is being implemented” (Watson, 2007; see resource below). There is a plethora of resources, organizations and websites on the effectiveness of online learning programs, policies and practices and best practices for implementing online learning programs. Meta-analyses of online learning research found that “new online delivery models for teaching and learning are effectively increasing productivity; providing anytime/anyplace opportunities; bridging geographic distances between diverse societal groups; demonstrating new efficiencies affecting costs and time; and changing the structures of business, political, social and educational contexts” (Smith, 2005; see resource below). Cavanaugh, et.al suggest that “policy-makers and practitioners should continue to move forward in developing and implementing K-12 distance education programs when those programs meet identified needs and when they are designed and managed as carefully as traditional education program (2004; see resource below).

Question:

1. What does research say about the impact of online learning programs and policies at the secondary and post-secondary levels?

A. Effectiveness of Online Learning Programs

1.1. 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; 2009; U.S. Department of Education; 93 pages.

Source: Education Commission of the States

<http://www.ecs.org/html/offsite.asp?document=http%3A%2F%2Fwww%2Eed%2Egov%2Frschst%2Feval%2Ftech%2Fevidence%2Dbased%2Dpractices%2Ffinalreport%2Epdf>

“A systematic search of the research literature from 1996 through July 2008 identified more than a thousand empirical studies of online learning. Analysts screened these studies to find those that (a) contrasted an online to a face-to-face condition, (b) provided adequate information to calculate an effect size. As a result of this screening, 51 independent effects were identified that could be

subjected to meta-analysis. The meta-analysis found that, on average, students in online learning conditions performed better than those receiving face-to-face instruction” (Abstract). “The goal of the study as a whole is to provide policy-makers, administrators and educators with research-based guidance about how to implement online learning for K-12 education and teacher preparation. An unexpected finding of the literature search, however, was the small number of published studies contrasting online and face-to-face learning conditions for K-12 students” (Executive Summary).

1.2. A Synthesis of New Research on K-12 Online Learning. *Smith, R., Clark, T. & Blomeyer, R.L.; November 2005; Learning Point Associates; 96 pages.*

Source: iNACOL>North Central Regional Educational Laboratory
(<http://www.ncrel.org/tech/synthesis/index.html>)

“Section 1 of this document provides an overview of the field of online learning to establish the context within which the eight research studies were defined and conducted. Section 2 presents brief summaries of each of the eight studies, with an analysis of common themes, challenges, and issues in online learning. Section 3 presents specific implications for researchers, policymakers, and practitioners based on the eight studies” (p.6). Findings and recommendations are organized in six categories: “student academic performance; characteristics of successful online students; qualities of effective online teaching and learning; challenges of online learning; and online learning, school change and educational reform” (p.58). Overall, the authors found that “new online delivery models for teaching and learning are effectively increasing productivity; providing anytime/anyplace opportunities; bridging geographic distances between diverse societal groups; demonstrating new efficiencies affecting costs and time; and changing the structures of business, political, social and educational contexts” (p.57).

1.3. The Effects of Distance Education on K-12 Student Outcomes: A Meta-Analysis.

Cavanaugh, C., Gillan, K.J., Kromrey, J.: Hess, M. & Blomeyer, R.; October 2004; Learning Point Associates; 39 pages.

Source: North Central Regional Educational Laboratory
(<http://www.ncrel.org/tech/distance/k12distance.pdf>)

“This meta-analysis is a statistical review of 116 effect sizes from 14 web-delivered K-12 distance education programs studied between 1999 and 2004. The analysis shows that distance education can have the same effect on measures of student academic achievement when compared to traditional instruction” (p.4). “Among the benefits of distance education for school-age children are increases in enrollment or time in school as education programs reach underserved regions, broader educational opportunities for students who are unable to attend traditional schools, access to resources and instructors not locally available, and increases in student-teacher communication. Students in virtual schools showed greater improvement than their conventional school counterparts in critical thinking, researching, using computers, learning independently, problem-solving, creative thinking, decision-making, and time management” (p.5). The authors recommend that “policy-makers and practitioners should continue to move forward in developing and implementing K-12 distance education programs when those programs meet identified needs and when they are designed and managed as carefully as traditional education programs” (p.23).

1.4. Do Online Courses Work for Middle Grades and High School Students? Online Students Have Their Say. *Southern Regional Education Board; December 2008; Southern Regional Education Board; 6 pages.*

Source: EDC Colleague
(http://www.sreb.org/publications/2008/08T05_Onl_Student_Survey.pdf)

“In Spring 2008, the Southern Regional Education Board (SREB) asked online students in SREB states for feedback about their experiences through a voluntary, anonymous online questionnaire...More than 2,000 students completed the questionnaire at the end of the 2007-2008 school year” (p.1). Findings showed that students in SREB states taking online courses generally felt that their instructors were responsive, that they had opportunities to interact with other students, that they were prepared for the courses taken and the technology knowledge needed and that courses were organized. Many students did find that time-management was a challenge. “Online courses require time-management skills that many students are learning as they face competing demands on their time. This may be an issue that state virtual schools need to address by adequately informing students about course expectations” (p.3). Sixty-eight

percent of students “indicated that they liked the courses they took,” while, 59% “predicted they would take another online course” (p.3).

B. Policies, Practices and Implementation of Online Learning Programs

1.5. Keeping Pace with k-12 Online Learning: A Review of State-Level Policy and Practice.

Watson, J. & Ryan, J.; November 2007; North American Council for Online Learning; 148 pages;
Source: National High School Center>North American Council for Online Learning
(<http://www.inacol.org/research/docs/KeepingPace07-color.pdf>)

“Online learning at the k-12 level has grown so much in recent years that the main issue in most states is no longer whether or not online learning is occurring, but rather how it is being implemented. As of September 2007, 42 states have significant supplemental online learning programs (in which students enrolled in physical schools take one or two courses online), or significant full-time programs (in which students take most or all of their courses online), or both. Only eight states do not have either of these options, and several of these states have begun planning for online learning development” (p.7). “The Keeping Pace 2007 program survey explored the issue of course completion and student retention rates to attempt to determine the variability in how such rates are calculated... Survey results suggest that there is little consistency in how programs address these issues. Reported course completion rates vary from 50% to “approximately 99%,” with many responses in the range of 65% to 85%” (p.40). “Retention rates reported in the program survey were similar to course completion rates, in the range of 60% to 95%, with many programs reporting in the 70-85% range” (45). “While most programs appear to be offering a high-quality educational option for students and parents, the lack of transparency and data in many states, and questionable practices from a few programs- as shown by the state audits- may threaten the sustainability of online learning for all” (p. 46). The report provides profiles of state online programs across categories.

1.6. Guide to Elementary and Secondary Virtual Education. National Forum on Education Statistics; 2006; U.S. Department of Education; 149 pages.

Source: National Center for Education Statistics
(<http://nces.ed.gov/pubs2006/2006803.pdf>)

“Despite its limited history as an instructional path, virtual education is a promising and inevitable part of any future education system. This paradox of uncertainty and promise demands that policymakers use high quality data about virtual education to assess its past performance and determine its future direction. This guide proposes data management practices to help states, school districts, and schools gather, maintain, and use high quality data to manage virtual education initiatives” (p.6).

1.7. New Directions in Higher Education: Special Issue: Lessons Learned from Virtual Universities. Meyer, K.A (Editor); Summer 2009; New Directions for Higher Education; 110 pages.

Source: ERIC

Full-Text Available for Purchase From Wiley InterScience

(<http://www3.interscience.wiley.com/journal/122459637/issue>)

This special issue provides articles about state virtual university programs, lessons learned from individual state programs, comparative studies of state-level virtual universities, and issues of funding and academic advising (Wiley InterScience website). See the article titled, “Background: What the States Created.”

1.8. What Works in K-12 Online Learning. Blomeyer, R. & Cavanaugh, C.; 2007; International Society for Technology in Education; 180 pages.

Source: Internal Search Database>International Society for Technology in Education

Full-Text Available for Purchase from the International Society for Technology in Education

(http://www.iste.org/source/orders/isteProductDetail.cfm?product_code=k12oll)

“What Works in K-12 Online Learning provides a comprehensive overview of effective online teaching and learning practices. Based on extensive experience and research, chapters cover a full spectrum of topics including virtual course development, online learning in elementary classrooms, instructional assessment and differentiating online instruction, professional development for teachers of virtual courses, and the challenges that virtual schools will face in the future”

Additional Organizations to Consult

- **International Association for K12 Online Learning (iNACOL)**
(<http://inacol.org>)
iNACOL “is a non-profit organization that facilitates collaboration, advocacy, and research to enhance quality K-12 online teaching and learning.” The research section of their website provides “Reports and Publications,” “Research” and a series of white papers about “Promising Practices in Online Learning.” Click here for a direct link: <http://inacol.org/research/>.
- **National High School Center**
(<http://www.betterhighschools.org/default.asp>)
“The National High School Center serves as the central source of information and expertise on high school improvement for the Regional Comprehensive Centers” and “identifies research-supported improvement programs and tools, user-friendly products, and provides technical assistance services to improve secondary education.” Under the “Topics for High School Improvement Center” click on “Use of technology in High School” to find multiple resources about online learning. Or click here for a direct link:
<http://www.betterhighschools.org/topics/UseOfTechnology.asp>.
- **Southern Regional Education Board: Educational Technology Cooperative**
(<http://www.sreb.org/programs/EdTech/EdTechindex.asp>)
“The SREB Educational Technology Cooperative, comprised of state higher education and K-12 coordinating and governing boards, focuses on ways to help state leaders create and expand effective uses of technology in schools and colleges. This unique, multistate cooperative represents more than 3,300 school districts and nearly 800 colleges and universities in the 16 SREB states. It monitors and reports on a wide array of educational technology topics and works with states to use technology wisely.” The “Publications” section of the website provides electronic copies of multiple reports about online learning and virtual schools. Click here for a direct link: <http://www.sreb.org/programs/EdTech/pubs/pubsindex.asp>. Also visit the SREB’s electronic campus website for information about online college courses. Click here for a direct link: <http://www.electroniccampus.org/>
- **North Central Regional Educational Laboratory** (*Regional Educational Laboratory 2001-05. Learning Point Associates currently hosts REL Midwest*)
(<http://www.learningpt.org/>)
The former North Central Regional Educational Laboratory provided research on “Technology in Education,” including the major studies listed in the resources section, additional resources and a webcast about online learning research. Click here for a direct link: <http://www.ncrel.org/tech/>
- **State Educational Technology Directors Association**
(<http://www.setda.org/web/guest/home>)
“Founded in the fall of 2001, the State Educational Technology Directors Association (SETDA) is the principal association representing the state directors for educational technology. SETDA’s goal is to improve student achievement through technology.”
- **EdTech Leaders Online (ETLO)**
(<http://www.edtechleaders.org/>)
“ETLO works with school districts, state departments of education, regional education service centers, colleges and universities and other educational organizations to enable them to use online learning to meet critical teacher quality and student learning goals.” The “Our Research” page provides research and resources on online learning and professional development. Click here for a direct link: <http://www.edtechleaders.org/about/research/>
- **EDUCAUSE Center for Applied Research**
<http://www.educause.edu/>
EDUCAUSE is a nonprofit association whose mission is to advance higher education by promoting the intelligent use of information technology.
- **New York Comprehensive Center**
(<http://nycomprehensivecenter.org/>)

"The mission of the NYCC is to develop the capacity of the New York State Education Department (NYSED) and its networks and agencies to assist districts and schools in improving achievement outcomes for all students." Visit the eLearning section on the website to learn more about the eLearning team and view resources. "The goal of the eLearning team is to partner with the New York State Education Department (NYSED) to strengthen and support their leadership and build their capacity to make informed policy and implementation decisions in the arena of educational technology." Click here for a direct link:
http://nycomprehensivecenter.org/initiatives/inits_elearn

- **SUNY Learning Network**

(<http://sln.suny.edu/index.html>)

"The SUNY Learning Network (SLN) is a partnership in learning with SUNY SLN Campuses. SLN works with SUNY campus faculty and staff to provide unparalleled online learning experiences at accredited New York State Institutions. SLN supports campuses with educational training specifically created for online teaching and learning. SLN also provides helpdesk services for both students and faculty who participate in the SUNY Learning Network."

- **AccelerateU**

(<http://accelerateu.org/student/dspCourseListing.cfm>)

AccelerateU provides online professional development and student online courses. Their vision is "the provision of timely, NYS Standards focused, instructional support for educators, students and the community through the use of digital technologies." They partner with individual school districts and BOCES programs.

- **K12, Inc.**

(<http://www.k12.com/>)

"With a continuum of effective, inspiring online learning options from exceptional online courses to blended online/classroom school programs to a full-time online public and private school program, K12 has become the largest provider of online learning for grades K-12." K12 offers programs for struggling students, advanced learners, homeschooled and homebound students, students in military families or others living overseas, and elite athletes and performers. They also have partnerships with local public and private schools.

Key words and search strings used in the search:

"online learning/education" OR "distance learning/education" OR "virtual schools/learning/education" OR "web-based learning" OR "e-learning" OR "cyber schools" OR "technology"

Search databases and websites:

Institute for Education Science Sources: Regional Educational Laboratory Program (REL); What Works Clearinghouse (WWC); Doing What Works (DWW); National Center for Education Statistics (NCES); Institute for Education Sciences (IES); IES Practice Guides

Other Federally Funded Sites: The National High School Center; The Center on Innovation and Improvement; The Center on Instruction; Career/Technical Education Statistics (CTES); Center for Data-Driven Reform in Education (CDDRE); Access Center for Improving Outcomes for All Students K-8; Center for Comprehensive School Reform and Improvement; Education Commission of the States; Regional Comprehensive Centers

Additional Data Resources: The Campbell Collaboration; Education Development Center; WestEd; American Institutes for Research; ERIC; EBSCO Databases; Educator's Reference Complete; Government Executive; <http://www.google.com>; <http://www.gogolescholar.com>; general internet search

Criteria for inclusion:

When Reference Desk Researchers review resources, they consider, among other things, four factors:

1. **Date of the publication:** The most current information is included unless in the case of nationally known seminal resources
2. **Source and funder of the report/study/brief/article:** Priority is given to IES, nationally funded, and certain other vetted sources known for strict attention to research protocols);

3. **Methodology:** i.e. Random control trial studies, surveys, self-assessments, literature reviews, policy briefs, etc. Priority for inclusion is given generally to random control trial study findings; however, the reader should note at least the following factors when basing decisions on these resources: Numbers of participants (just a few? Thousands?); Selection (did the participants volunteer in the study, or were they chosen?); Representation (were findings generalized from a homogeneous or a diverse pool of participants? Was the study sample representative of the population as a whole?)
4. **Existing knowledge base:** Although we strive to include vetted resources, there are times when the research base is slim or non-existent. In these cases we have included the best resources we could find, which may include newspaper articles, interviews with content specialists, organization websites, etc.

REL Northeast and Islands

The Regional Educational Laboratory (REL) Reference Desk is a service provided by a collaborative of the REL program, funded by the U.S. Department of Education's Institute of Education Sciences (IES). This response was prepared under a contract with IES, Contract ED-06-CO-0025, by REL Northeast and Islands administered by Education Development Center, Inc. The content of the response does not necessarily reflect the views or policies of IES or the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.