

Draft Version

Key Word: Online Learning and Virtual Schools

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Online learning and virtual schools allow students to take classes anytime and anywhere. These emerging learning environments require school library media specialists to expand their thinking about their resources and services. Creation of a virtual library can provide access to remote materials that enhance the experience of online learners. However even more important is ensuring that students possess the information skills needed to be successful in this virtual learning environment.

Online Learning and Virtual Schools Defined

Online learning involves information, instruction, and/or interaction through the Internet or an Intranet using instructional materials and tools such as Web-based resources, e-mail, discussion boards, blogs, chats, and video. Schools are increasingly offering structured online learning programs as primary or supplementary learning opportunities. Students may select from individual courses or enroll in a virtual school. These cyberschools offer a complete range of courses for graduation. Some virtual schools are part of a traditional school system, while others are statewide programs.

Students are able to take online courses while sitting in a traditional classroom, the school library, at home, or any other location. One of the benefits of online learning is the potential for distance learning where students are able to take courses anytime from anywhere. For instance, distance learning allows students in rural areas to do much of their work at home rather than riding the bus to school every day.

In their 2004 report, "Keeping Pace with K-12 Online Learning: A Snapshot of State-Level Policy and Practice", John F. Watson from Evergreen Consulting Associates, Kathy Winograd from University of Denver, and Stevan Kalmon from Colorado Department of Education surveyed the online programs and approaches in twenty-two states and conducted in-depth studies of eleven states to gain insights into the current state of online learning.

Many states have well-established online education programs including California, Colorado, Florida, Idaho, Illinois, Michigan, Minnesota, Ohio, Pennsylvania, Texas, and Wisconsin. While some states have developed statewide programs, others are relying on district level initiatives. Most states focus on web-based online learning, however Alaska and South Dakota make extensive use of video conferencing.

While most programs supplement traditional schools, virtual schools are increasingly popular. For example, cyber charter schools can be found throughout the United States. Florida's Virtual School has a large and well-

established statewide presence including an online curriculum that partners with local school districts.

The opportunities for online learning are diverse and growing. Although most programs serve high school students, there are a small number of middle school offerings. Many schools offer hybrid courses that combine face-to-face with online learning.

Some virtual schools offer synchronous courses where students participate in live interactions through chat or video conferencing. However most online learning is asynchronous meaning that students and teachers interact using e-mail, discussion boards, and other Web-based resources.

While some school districts build their online curriculum and technology from scratch, most use existing software tools such as Blackboard or entire virtual high school systems such as eClassroom.

The Purpose and Goals of Online Education

Although a major of students still attend traditional K-12 schools, an increasing number of students are exploring online learning options. From online AP courses to entire school curriculums, a wide range of distance learning opportunities are available to today's students.

Online education programs are being developed for a number of reasons:

- ❖ Accommodate more students in less space
- ❖ Address individual learning styles and needs
- ❖ Offer wider course offerings, particularly advanced courses
- ❖ Provide opportunities for students at risk for dropping out because of pregnancy, high mobility, disciplinary problems or other reasons
- ❖ Reduce long bus rides for rural students
- ❖ Address scheduling conflicts
- ❖ Accommodate the needs of accelerated learners
- ❖ Extend local offerings with outside experts and resources

Most virtual high schools share some of the following goals:

- ❖ Provide high-quality online courses aligned to standards
- ❖ Use qualified teachers and e-mentors to facilitate learning
- ❖ Expand the boundaries of space and time
- ❖ Extend course offerings
- ❖ Accommodate individuals with special needs
- ❖ Use technology for content delivery and interaction

Online learning and virtual schools face many issues including:

- ❖ Quality assurance

- ❖ Competition between cyber schools and physical school districts
- ❖ Adequate access to technology, resources, and support for remote students
- ❖ Involving online students in traditional school activities

According to Annette Lamb, professor in the School of Library and Information Science at Indiana University - Indianapolis, virtual schools can provide a diverse environment that reflects a range of cultures, opinions, and ideas promoting cultural understanding, global awareness, and international perspectives. Although most students attend virtual schools in their local area, many online classes are using technology to provide virtual experiences beyond their local geographic base.

Building an Online Social and Learning Community

Often cited as a short-coming for online learning, students may not have the array of social communication activities normally available in traditional learning situations. Many virtual schools have been founded on basic drill tutorials that may help students practice routines in spelling, math and grammar, but do little to challenge students to develop group learning abilities. Practicing communication skills through discussion, team projects, and oral presentation all seem at first to be difficult to establish in virtual school settings.

While not identical to face-to-face interactions, online learning can create new modes for social performance, often more precisely monitored for feedback and assessment than what can be done by one teacher in a classroom where they must observe many conversations at once. Online communication provides a concrete interactive trail.

Social communication skills are essential for the student to mature in his or her role to select and use information effectively. Inquiry-based learning becomes most effective when the student matures in information selection and communication skills to the levels that involve less interaction with the teacher and more interaction with other students. The student becomes a collaborative colleague with other students to determine the value of questions, argument, evidence, and problem-solving strategy options.

Online postings, for example, can include pieces of evidence with proper citation, that serve to link to previous evidence posted by other students in order to illustrate, argue or confirm an event, issue, opinion, question or thesis statement. In such online posting strands, students clearly have their name associated with meaningful contributions both in terms of frequency and quality.

Rena Palloff and Keith Pratt online educators from the School of Education at Capella University believe that online learning reaches high levels of social learning and reflective practice when most of the students are engaged in:

- ❖ Active interaction involving both course content and personal communication.
- ❖ Collaborative learning evidenced by comments directed primarily student to student rather than student to instructor.
- ❖ Socially constructed meaning evidenced by agreement or questioning, with intent to achieve agreement on issues of meaning.
- ❖ Sharing of resources among students.
- ❖ Expressions of support and encouragement exchanged between students, as well as willingness to critically evaluate the work of others.
- ❖ Highest levels of online contribution include inference, judgment and strategy: conclusions – solutions – ideas for implementation – evaluation of success or failure.

Of course, this level of mature interaction may not emerge until young adult and adult situations, but teachers of information inquiry, in either the traditional or online learning mode should seek to establish opportunities for each student to practice social communication as a contribution to the learning of others as well the student's own learning.

To this end, Palloff and Pratt have identified and recommended many instructional techniques to facilitate an online learning community. Among their more effective techniques, the online instructor should:

- ❖ Post introductions and bios.
- ❖ Create a social space in the course (for more informal conversations so that students can "get acquainted").
- ❖ Encourage judicious use of chat for socializing.
- ❖ Model openness, honesty and humor.
- ❖ Involve learners in co-creating some learning opportunities.
- ❖ Orient students to the realities (opportunities and limitations) of online learning.
- ❖ Be willing to allow learners to take charge of the learning process as much as possible.
- ❖ Rotate leadership in small group activities.
- ❖ Establish minimum posting requirements and monitor compliance.

Depending on the online age group and expected performance, online participation can be evaluated based on rubrics that identify high performance in terms of frequent and meaningful contributions that are relevant to the issues and contributed opinion, insight, facts, observations or other levels of evidence that moved the discussion along. Ultimately, regardless of the online audience level, participants who tend to draw useful conclusions from the discussion and who participate in offering reflections that evaluate both the process and the group product are most likely to receive the highest grades for online discussion.

Netiquette

Online instructors often share stories about managing student behavior, often similar to situations found in traditional classrooms but usually a slightly different twist is involved in the online situation.

Online students can be noisy and rude. Online environments provide a little more room and time to address such students through personal e-mail and to show specifically where the student may be preventing e-classmates for learning.

Quiet students can be guided individually as to how to contribute more and to build their contributions into a meaningful chain that reflects their learning pattern. This individualized assistance is often accomplished through personal chats and emails rather than through public forums that can be embarrassing for some students.

Other typical “problem students” can include the “know-it-all,” the procrastinator, and the “must-have-an-A” student. In each case, as long as the student will engage in online conversations with the instructor, there can be time for personalized communication.

Plagiarism and cheating can be issues in online courses just as in the traditional classroom. The key to reducing plagiarism is the development of quality assignments. Palloff and Pratt give useful advice again as they suggest the instructor:

- ❖ Be alert to changes in student online behavior, differences in writing styles used for posting in chat areas and completion of longer written assignments.
- ❖ Modify and revise assignments from one online course offering to the next.
- ❖ Grade for evidence of process participation and self-reflection as well as the product.
- ❖ Require the use of and consideration of recent sources of information. Very recent data and opinions have not found their way into most of the online papers that can be purchased or electronically cut from the Internet.

Use of an acceptable online communication mode can be a sign of a student being on their best online behavior. Introduction to and modeling of proper “netiquette” by the instructor may serve to reduce some online behavior difficulties. Netiquette for online communications and more effective learning include these practices:

- ❖ Focus on one subject per message and use pertinent and understandable subject titles.
- ❖ When posting a long message, inform readers at the beginning that there is more content than normal; or divide the posting into two or more messages.
- ❖ Check in to the discussion frequently. Online participation means that the student “attends” online class on a regular and frequent basis and does

- not wait to unload contributions at the end of the discussion period or end of the course. Making up for “lost time” only costs all other class members additional time to read such late comments.
- ❖ Give proper credit to quotations, references and other sources of information not only because such is proper but because this will provide guidance to fellow students to get more information relevant to the data or opinion presented. Links to relevant websites from which the information was taken or summarized are expected.
 - ❖ Capitalize words to highlight a point, or perhaps to show the title of a resource. Otherwise a message in all-caps is considered SHOUTING!
 - ❖ Get permission to forward or use a classmate’s message to further discussion.
 - ❖ Humor is helpful, but there is sometimes a fine line between humor and criticism that is considered an insult. Emoticons such as ☺ and ;) help to signal agreement, approval, and light-hearted contributions.

Orientation

The success of online learning, for both the instructor and the student, may depend on the quality of the orientation to the online environment and the collegiality among the participants. Key elements of orientation to an online course have been detailed by Susan Ho and Steven Rossen in their very practical guide to teaching online. Supported with practical examples from other online instructors, they offer these important suggestions:

- ❖ Provide an introduction, including your expectations for online students. Online courses require extreme self-discipline. A great deal of time will be spent visiting and reading relevant websites and print resources. Technology has its frustrations, and the cyberdog may “eat your homework.” Student success is often tied to flexibility, patience, determination, motivation, and self-confidence on the part of the instructor as well as the student.
- ❖ Provide requirements for computer equipment and software. Basic expectations for modem speed, hard drive capacity, optional freeware and software are typical “need to know and understand” items.
- ❖ Describe the basic computer skills needed. Basic expectations may involve electronic cut and paste, sending attachments, use of a browser, and how to download from the Internet.
- ❖ An introduction to the course management software used to deliver the course. This can include a growing number of areas as the software has grown more sophisticated. Access points to assignments, class rosters, chat areas for different purposes, evaluation and feedback sections are all common. Links to resources such as libraries and local area experts are being added to these management tools and can provide students with portals to a fast array of resources that will demand their time to contact and to make wise selection of the most relevant resource. Online

- reference librarian services, grade school to college or through the public library, are being added as well.
- ❖ Provide either a first assignment or a preliminary practice exercise that will require the student to use many of the online software options as possible. This may provide demonstration of strengths and weaknesses that need to be addressed early, both to help the deficient student and for the instructor to consider higher level interactions should the online group prove to have online learning experience and sophisticated online abilities.
 - ❖ Provide a site for typical responses to “frequently asked questions” (FAQs). A “student services website” should provide links to institutional contacts that contain such information as names with e-mail addresses for resource and administrative staff, institutional policies, and a virtual library system that is maintained for the school.
 - ❖ The best virtual school library websites acts as a portal to relevant state or national virtual information sites. Thus providing access to the growing electronic information base, often free to the online user enrolled in online education. Virtual school library media websites also provide links to WebQuests (online links collections selected for relevance to specific academic topics), online public and academic catalogs, reading lists, study guides, homework help, and most of all – how to ask a librarian either online or in person! More details are provided below.

School Library Media Services Supporting Online Learning

Like virtual schools, today’s school library media center is not bound by place or time. Increasingly school libraries are offering online services to support both traditional and distance learning courses. Teachers offering online courses expect the library to provide the same services available in the place-based library in a virtual environment such as journal articles and videos. According to Kathleen Craver, cyber libraries naturally complement online learning. Without a well-organized, readily available virtual library, online students will resort to poor quality materials often found using search engines on the Internet.

Students taking online courses need access to quality information and resources. Many school library media specialists have designed virtual libraries to meet these needs. Beyond links to web resources, many of these virtual libraries include reference assistance, tutorials, and access to subscription-based educational resources. Many virtual schools integrate online educational subscription services such as BrainPop, World Book, and NetTrekker.

According to the National Association of State Boards of Education, to enrich the online curriculum, resources should be grade-level appropriate. Students should deeply explore content from online libraries, museum holdings, primary documents, real data, and experts in the field.

The following list highlights some of the services provided for online students through a virtual school library:

- ❖ **Instructional resources** such as online tutorials, WebQuests, practice/testing environments, instructional modules, virtual labs, and simulations
- ❖ **Informational materials** such as pathfinders, electronic databases, reference resources, streaming video, and digitized primary resources
- ❖ **Virtual adventures** such as web-based tours and virtual field trips (i.e., museums, zoos, historical places, science expeditions)
- ❖ **Live interactions** using video conferencing such as special events, expert interactions
- ❖ **Collaborative online learning** such as e-mail, blogs, discussions, project sharing, collaborative science experiments, collaborative writing, online books discussions, online author visits, and expert discussions
- ❖ **Online assistance** such as technical support, reference questions, mentoring, and peer tutoring
- ❖ **Sharing space** such as virtual galleries of student work, online newspapers, and collaborative writing areas
- ❖ **Online requests** such as interlibrary loans and multimedia ordering that can be sent through the mail to students

Many states are providing resources that support these endeavors. For example, Indiana's INSPIRE provides pathfinders, electronic databases, and other subscription services free to schools. The Kentucky Virtual Library was designed as a statewide online library to support online learning. The Kentucky Virtual Library offers selected links to electronic databases, library catalogs, self-paced tutorials, digital collections, virtual reference desk, and access to government information.

Many schools use virtual reference assistance from outside resources. For instance, AskColorado is a service provided by the Colorado libraries and used by many of the Colorado cyberschools.

Noleen Fleming, Liz Blumson, and Deborah Turnbull work with the University of Queensland Cybrary that is used to provide a virtual connection between high school and university online collections. In addition to online electronic information materials, they also coordinate AskaCybrarian, an online reference service from the University of Queensland, Australia that is available to high school students.

Gary Hartzell, Professor of Educational Administration and Supervision at University of Nebraska at Omaha, explored implications of school reforms such as distance learning on school library media services. He notes that online learning challenges the idea that going to school means interacting with an instructor in a specific building and classroom. This offers new opportunities and challenges for school library media services in three areas. First, cooperation and networking are essential in distance education program development. The function of the library media center broadens to include contacts and resources beyond the school. Second, teacher librarians become instructional consultants

matching resources to learning needs. Third, because online learning is technology intensive, the media specialist must be ready to deal with hardware and software issues.

Elements of Information Inquiry

Successful online students are self-directed, disciplined, and willing to ask questions. They are organized, good readers, and able to work independently. Because online courses generally attract students from the low and high ends of academic achievement, a wide variety of online resources and materials are essential. However even more important is the preparation of students for this learning environment.

Patricia Deubel, an educational consultant found that effective cognitive-based learning models for online learning include apprenticeship, incidental, inductive, deductive, and inquiry-based.

Mary Ann Fitzgerald and Chad Galloway, both from the University of Georgia, observed high school students using virtual library resources and identified ways to help them use these materials more effectively. They emphasized the importance of collaborating with teachers to integrate information inquiry into resource-based projects. Students need opportunities to use an information search process within the context of online resources. In addition, teachers need to become dedicated virtual library users so they feel comfortable integrating resources into the curriculum.

In their report "Keeping Pace," Watson, Winograd, and Kalmon have expressed concern that strategies be identified for meeting the needs of students with disabilities, highly mobile students, at-risk students, and other students not in the mainstream of education.

Many teachers are not aware of the electronic resources available for use in online courses. The school library media specialist must work collaboratively in planning online courses to ensure that adequate online resources are available including digitizing materials, acquiring permissions, purchasing subscriptions, and organizing web resources. In addition, the teacher librarian can work with the teacher to ensure that students have the information skills needed to be successful in using these materials.

Teresa Williams, a Library Science graduate student, Bonnie Gimble, a media specialist, and Marilyn Irwin, a professor at the IU - Indianapolis School of Library and Information Science examined teachers' awareness of electronic resources and found that although teachers encourage student Internet use, most do not direct students to use databases. The researchers recommended developing instructional methods to teach teachers to integrate electronic resources into the curriculum.

Holly Gunn, a teacher librarian in Halifax, Nova Scotia, Canada emphasized the importance of designing a virtual library to support student learning by

considering how users access and use the information in the virtual space. Consider how students interact with the teacher librarian in the face-to-face environment and how online resources can be constructed to facilitate online collaboration. For example, many virtual school libraries provide tutorials and reference services online. Fitzgerald and Galloway also noted the importance of configuring the virtual library to facilitate effective use and providing online mini-lessons, job aids, or tutorial to address common problems.

Delia Neuman, professor of Library and Information Science at the University of Maryland studied the potential of digital libraries as an environment for higher-level learning in schools. He found that electronic information resources provide a critical venue for helping students learn to access, evaluate, and use information to solve problems. However to maximize the learning benefits, educators must draw on research from a variety of fields including reading comprehension, interface design, and problem solving to build the types of online learning environments that will promote information fluency.

Carol Kuhlthau, professor of Communication, Information, and Library Studies at Rutgers University recommends a theory for creating learning environments in digital libraries based on the concepts of acting and reflecting, feeling and formulating, predicting and choosing, and interpreting and creating. She suggests that by taking a constructivist learning approach in the digital library environment, students are able to develop skills and strategies that transfer to situations in the real world.

Information inquiry is a critical component of engaging, virtual experiences. As most schools consider providing online learning opportunities, it will be increasingly important to work collaboratively with teachers to provide quality virtual library services.

For Further Reading

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Copyright and Plagiarism Check Websites

Copyright Clearance Center
<http://www.copyright.com/>

Copyright Management Center
<http://www.copyright.iupui.edu/index.htm>

TurnItIn.com
<http://turnitin.com/>

Plagiarism.com
<http://plagiarism.com/>

Virtual Reference Websites

AskaCybrarian
<http://www.library.uq.edu.au/askcyb/>

AskColorado
<http://www.askcolorado.org/>

Virtual Platform and Training Resource Websites

ALN Web
<http://www.aln.org/>

APEX Learning Systems
<http://www.apexlearning.com/>

Blackboard
<http://www.blackboard.com/k12/index.htm>

eClassroom
<http://www.eclassroom.com/>

Illinois Online Network
<http://www.mvcr.org>

MERLOT (Multimedia Educational Resource for Learning and Online Teaching)
<http://www.merlot.org>

OnlineLearning.net
<http://www.onlinelearning.net/>

Rubrics for WebLessons
<http://webquest.sdsu.edu/rubrics/weblessons.htm>

Tapped In
<http://www.tappedin.org/>

WebBoard
<http://www.akiva.com>

WebCT.com
<http://www.webct.com/>

Sample Virtual School Websites

Alaska, Delta Cyberschool
<http://www.dcs.k12.ak.us/>

Arkansas Virtual High School
http://arkansashigh.k12.ar.us/avhs_main.htm

Colorado Online Learning
<http://www.col.k12.co.us/>

Connections Academy
<http://www.connectionsacademy.com/>

Florida Virtual School
<http://www.flvs.net/>

Hawaii, E-School
<http://www.eschool.k12.hi.us>

Idaho Digital Learning Academy
<http://www.idla.k12.id.us/>

Illinois Virtual High School
<http://www.ivhs.org/>

Kansas, Basehor-Linwood Virtual Charter School
<http://vcs.usd458.k12.ks.us/public/>

K12 Virtual Academy

http://www.k12.com/virtual_academy/

Maryland, Virtual High School

<http://mvhs1.mbhs.edu/>

Michigan Virtual High School

<http://www.mivhs.org/>

Minnesota Department of Education – Online Learning

http://education.state.mn.us/html/intro_online_learning.htm

Oklahoma, Advanced Academics

<http://www1.advancedacademics.com/>

Texas Education Agency – Web-based Learning

<http://www.tea.state.tx.us/technology/wbl/index.html>

University of California College Preparatory Initiative (UCCP)

<http://www.uccp.org/>

Utah, Electronic High School

<http://www.ehs.uen.org/>

Wisconsin Virtual School

<http://www.wisconsinvirtualschool.org/>

Sample Virtual Library Media Center Websites

Arkansas, Fayetteville High School

<http://fayar.net/east/library/>

Arizona, Arcadia High School

<http://www.susd.org/schools/high/arcadia/library.htm>

California, Chico High School

<http://dewey.chs.chico.k12.ca.us/>

California, Redwood High School

<http://rhsweb.org/library>

Georgia, Lovett School of Atlanta

<http://www.lovett.org/libraryweb/library.htm>

Georgia, Paideia School of Atlanta

<http://www.paideiaschool.org/library/default.htm>

Illinois, Bartlett High School

<http://www.u46.k12.il.us/bhs/library/>

Indiana, Goshen High School
<http://www.goshenhs.org/media/index.html>

Pennsylvania, Springfield Township High School
<http://mciu.org/~spjvweb/>

School Libraries on the Web
<http://www.sldirectory.com/index.html>

School Library Websites
<http://www.eduscapes.com/arch/archschool.html>

Texas, Mesquite High School
<http://www.mesquiteisd.org/mhs/library/>

Maryland, Springbrook High School
<http://www.mcps.k12.md.us/schools/springbrookhs/media.html>

Washington, Erie Elementary School
<http://mte.asd103.org/library/library.htm>

Washington, D. C., National Cathedral School
<http://207.238.25.30/library/upperlowerlib.htm>

Wisconsin, Jefferson Middle School
<http://www.madison.k12.wi.us/jefferson/lmc/>

Selected Virtual State Library Websites

Alaska
<http://sled.alaska.edu/kids.html>

California
<http://www.cln.org/home/>

Connecticut
<http://www.iconn.org/>

Delaware
<http://www.state.lib.de.us/>

Florida
<http://www.firn.edu/>

Indiana
<http://www.inspire.net/inskid.html>

Kentucky
<http://www.kyvl.org/>

Maryland
<http://www.sailor.lib.md.us/>

Minnesota
<http://www.pals.msus.edu/webpals/>

North Carolina
<http://www.nclive.org/>

Ohio
<http://www.infohio.org/>

Oklahoma
<http://www.odl.state.ok.us/kids>

Pennsylvania
<http://www.powerlibrary.net/>

Washington
<http://www.librarysmart.com/>

Wisconsin
<http://www.wiscat.lib.wi.us/>

Wyoming
<http://gowyld.net/wyoming/wykids.html>