Journal of Advances and Scholarly Researches in Allied Education

Vol. IV, Issue VIII, October-2012, ISSN 2230-7540

REVIEW ARTICLE

STRATEGIES AND MODELS OF ONLINE TEACHING

www.ignited.in

Journal of Advances and Scholarly Researches in Allied Education
Vol. IV, Issue VIII, October-2012, ISSN 2230-7540

Strategies and Models of Online Teaching

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REVIEW OF LITERATURE

Online learning is synonymous to web based learning where learning is targeted through website only in internet or intranet. It has been identified as the new generation in the evolutionary growth of flexible, open and distance learning (Mishra, 2001). Armitage & O'Leary (2003, p 4) defined that online learning can also be defined as the use of digital media and technologies to support, distribute and enhance learning, assessment, teaching and evaluation. Contrary to that Naidu (2003, p 5) defined that online learning defines the systematic use of communication technology and systematic use of networked information in learning and teaching. Online learning is also defined as the enabled, mediated and delivered by electronic technology for the explicit need of learning (Rossen and Hartley, 2001, p 2). W R Hambrecht & Co. (2000, p 8) described that in the corporate online learning report online learning is defined as the large collection of processes and application consisting of computer based le+arning, digital collaboration, virtual classroom and web based learning (Mishra, 2001; Armitage & O'Leary (2003, p 4); Naidu (2003, p 5); Rossen and Hartley (2001, p 2); and W R Hambrecht & Co. (2000, p 8) cited in Sharma and Mishra (2007, p 3-4).

ASPECTS OF ONLINE LEARNING TO BE ACCESSIBLE

Online learning accessibility practitioners and researchers are assuming each online learning aspect including technologies of mobile learning and web collaboration such as PDAs and ubiquitous computing. However several attentions is presently focused on courseware, websites, content and the library resources contained within them (MacDonald, Stodel Thompson, 2004).

a) Courseware:

The term courseware is used to mean any application or software that consists of instructional modules that distributes a gathering of learning tasks focused on particular concept and includes Managed learning environment, Learning Management Systems and Virtual Learning Environments. The use of courseware is so prevalent in higher education that it has led some to conclude that it is probably the better place to initiate in terms of developing the online learning experiences accessibility. Several studies have explored the courseware environments accessibility and although they have not been capable to generate a league table of which environments are more accessible than others they have highlighted several accessibility issues which vendors and others have initiated to denote:

- Difficulties in passing to and from links or pages which are established from central courseware (Stiles, 2001).
- Unclear, lack of or help messages.
- Absence of clear and stable functions similar to components within the courseware.

Present systems of courseware are teacher centric but moves forward electronic portfolio systems where there is a bigger learner level authoring of material as well as participation and collaboration of learner is likely to raise various set of issues of accessibility that requires to be thought through. For instance, complex accessibility problems are likely to arise when a document within e-portfolio system requires to be edited at various times by varied people all of whom have varied access needs.

b) Library Sources (Digital collections and electronic reserves):

The proof suggests that the library resources accessibility is a problem that are required to be denoted. For instance the 4 proprietary databases of online accessibility and predicted that the way they were configured made them critical for disabled students to use. The features of poor design consisted lack of brief text on screen to offer directions to use of frames and users. The outcomes of an assessment of 8 web based databases including OVID, Medline and Pub MEd are represented by some authors. They denotes that whilst tables, images, animations, colors, forms, frames, fonts and graphics make indexes simple to read and immigrate they also serve as barriers for users with mobility and vision disabilities. Their assessment of accessibility predicts that none of the

databases were wholly accessible to adaptive software components users. Schmetzke (2000) conducts a review of 24 studies which evaluates the websites accessibility including 10 websites for library. The average accessibility in different data sets of library ranges between 19% to 75%.

c) Text Documents:

The Portable Document Format has become the standard for documents transformed and used on online because it offers an paper documents and electronic visual representations. In some instances PDF files are either wholly or partially unreadable to the visually impaired using assistive technology and that alternative accessible formats must often acquire PDF files (Keegan, 2004). The major cause why PDF documents created using early versions of Adobe Acrobat were inaccessible to scan reader users is that in the process of generating the document and transforming it to a PDF file the underlying information on the document framework was not made tagged or explicit. When Adobe released a plug-in for Acrobat Reader version 4.0, it enhances tagged PDF files to be created from untagged PDF files. A tagged PDF file has the content of page consisting in a logical read order and the word boundaries explicitly recognized and font encoding mapped to a standard encoding of font. For Version 5.0 Acrobat Reader accessibility was combined into the product without the requirement for a plug-in. However Downie denotes that files prepared with older versions still not be read by screen readers and that the default setting for version 5.0 was not to permit access by screen readers. The resulting features of new generation Acrobat software consists of an accessibility Wizard that assists in configuring preferences of Acrobat for disabled users and a built in read out load functionality that offers a text to speech feedback on systems without AT installed.

MODELS OF ONLINE TEACHING:

The below figure shows the model of online teaching:

Online Teaching Model				
Analyze	**Design**	**Develop**	**Implement**	**Evaluate**
• Online learners • Course goals • Student learning outcomes • Support • Academic dishonesty • Accessibility • Accreditation • Copyright • Intellectual property • Plagiarism • Privacy • Student identity	• Instructional objectives • Activities and assessments • Scope and sequencing • Pacing	• Syllabus • Community • Interaction • Strategies • Activities ◦ Instructor presentations ◦ Discussions ◦ Group work ◦ Research ◦ Assessment • Course Materials • Student orientation • Administrative issues	• Courseware features • Site set-up • Delivery	• Online • Formative • Summative • Quantative • Qualitative • Course components

Table 1: Online teaching model

Source: Website, Onlineteaching.lsu.edu

ANALYZE:

The **Analyze** phase offers a foundation for the course to build the instruction schedule. The instructor examines excess of queries based on online environment, such as online-learner possible support, special assumptions and their characteristics, before work initiates on the design of course. During the phase of analyze, the learner investigates the environment within which they will develop their online course by:

- During the development of course establishing the available institutional constraints and support which the learners will face.
- The online learners must have general student characteristics, environmental and resources, entry competencies and motivational factors.
- Learning about special assumptions for online courses, such as accessibility, academic dishonesty, fair and copyright use, accreditation, student identity, intellectual property, privacy and plagiarism.

DESIGN

The Next step in the online teaching model is design phase. For online course the Design phase uses the analyze phase outcomes to create an instructional schedule. This phase consists of the production of assessment strategies, instructional objectives and the course contents pacing, scope and sequence. The teacher develops an instructional schedule for their course during the design phase by finishing the following tasks such as:

- Arranging the components of assessment with the objectives.
- Writing the objectives of instruction.
- Outlining the content of course.
- Pacing and sequencing the instruction.

DEVELOP

The third step in the online teaching model is develop phase. The teachers have analyzed the requirements of their course and class and configured their course at this point in the process of instructional-design process accordingly in terms of tasks, objectives and teaching strategies targeted at gaining desired results of learning. The d**evelop** phase uses the design and analyze phases outcomes as the foundation for the creation

of course materials, syllabus, assessments and tasks. The teachers have created the important materials for successful execution of their course during the develop phase by finishing the following activities such as:

- For any course the course syllabus is a difficult document regardless of the learning and teaching venue. Syllabus is considered as the higher necessity in online courses than in other courses.
- Determining the strategies for creating proper tasks and online environment.
- Offering the orientation for students.
- Producing course materials including assessment methods.
- Representing administrative problems regarding the development phase.

IMPLEMENT

The **Implement** phase involves organizing materials on the course site building on the design phase, making final adjustments to pacing of course and delivering the course. During the implement phase, it is necessary to gauge objectively how successful and productive the course is for the students and instructor and to make significant adjustments for improvement. The teachers have set up their online course during the Implement phase by finishing the following tasks:

- Establishing and organizing areas of their course site.
- Achieving familiarity with the limitations and features of their software of course management.
- Delivering their online course.

EVALUATE:

The e**valuate** phase measures the efficiency and effectiveness of instruction through the processing, systematic collection, interpretation and analysis of data to represent whether the course has met their objectives. For an instructor it is necessary to evaluate throughout the whole process of instructional-design and to consist of several methods of evaluation and several sources of data. The outcomes of this phase are recommendations for developing all of other phases of the process of instructional-design such as design, analyze, design, implement and develop. The teacher have explored ways to collect information during the evaluate phase to revise and improve their course:

- Acquiring several techniques and methods of formative evaluation possible for online learning.
- Examining the online learning evaluating challenges.
- Utilizing multiple methods and techniques of summative evaluation applicable to online learning.

HYBRID LEARNING MODEL:

The below figure shows the hybrid learning model:

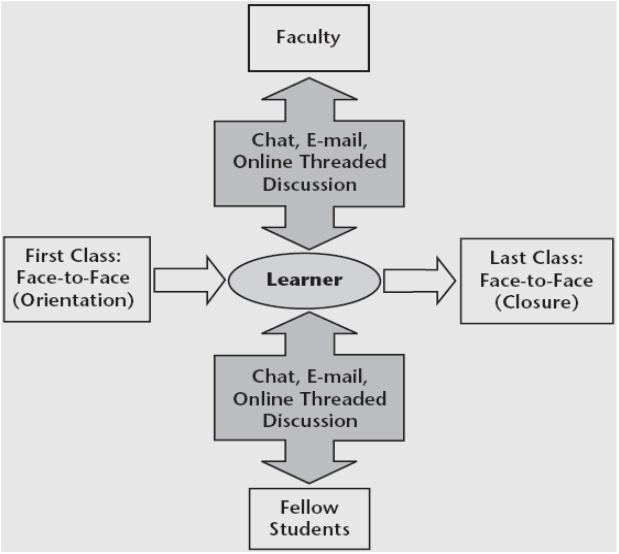

Figure 1: Hybrid Learning Model

Source: Website, depts.Washington. edu

The hybrid model circumscribes synchronous chat and weekly online assessment, first class face-to-face meeting, electronic mail, asynchronous online threaded discussion and final face-to-face exam offers a wonderful way for institutions to enter the arena of online and still assures quality courses. The above model represents the adult learner's effectiveness at small colleges for the past 2 years. With the pressure to enter the arena of online education the hybrid online model may be a wonderful to fit for several institutions.

Adaptive Learning Model:

The below figure shows the adaptive learning model:

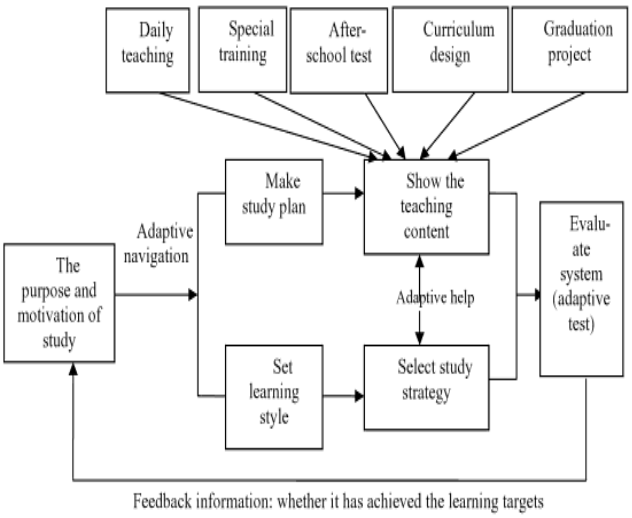

Figure 2: Adaptive learning model

Source: Wang F L, Fong J and Zhang L (2009), Hybrid Learning and Education: 2nd International Conference, ICHL 2009 Macau, China, August 25-27, 2009, Proceedings, Springer, Germany, p 416-417

Wang, Fong and Zhang (2009, p 416-417) described that adaptive learning model offers learning support system suited to individual characteristics for the variations in the process of individual learning. It can offer student's view which is suited to the personalized features such as personalized view of study not only consists of personalized resources but also consists of personalized learning strategies and process. Adaptive model can offer adaptation according to the requirements of individuals of various learners such as adaptation of learning content, adaptation of diagnostic study and adaptation of self learning strategies of students. Though the contents of learning may be similar among the students, adaptive learning offers various ways to several students and many students learn similar knowledge through the Adaptive learning system there will be varied paths of learning, learning content and learning strategies. The adaptive learning system is individual differ from student to student and is in line with student's individual. The learners can learn quickly and more effectively under its support. The 3 modules needs implementations of this model are adaptive test, adaptive navigation and adaptive show of teaching content.

ADAPTIVE TEST:

Through the students analysis, practice history and their study history a new test of questions is determined so that repetition practice of the obtained omission of unknown knowledge or knowledge is avoided. After testing, it is important to give the test outcomes such as the knowledge grasp extent and give the next stage of study recommendations such as the review and study in the next stage.

ADAPTIVE NAVIGATION:

Adaptive learning model can make the adaptive navigation to establish their own favorite styles of learning and selects various study strategies according to varied students study motives and objectives. Since every study efficiency and process of student is varied it is a very difficult step to every student to make their varied programs of learning. This model can realize adaptive show of teaching content by accept learners plan dynamically.

ADAPTIVE SHOW OF TEACHING CONTENT:

Adaptive show of teaching content defines to when a student chooses a unit of study; the system can show proper content of page according to the occurring knowledge level of learner. In accordance with learners historical records and capability to denote, chose the testing content which they don't have or have not been learning and present to the learners. Therefore if the teachers needs to solve adaptive show of teaching content the teacher must require to be aware of students evaluating their cognitive ability and studying history in real time. The students can select various modules of teaching to finish their own schedules of teaching according to their own requirements.

ONLINE TEACHING STRATEGIES:

Some of the strategies for online teaching are:

a) Electronic Mail:

Electronic mail is the best friend for an instructor. Several components of courses provides either an internal electronic mail where the students can enter into the program and acquire electronic mail which was received by them. The disadvantage here is that they have to enter into the program. The instructor sends the course details to students e-mail more effectively. The discussion list of an electronic mail provides several ways for students to share and interact information in class, and by asking them to join other lists outside big conversations and classes.

b) Bulletin Board:

The important component for online learning is bulletin boards. The online teacher must post information necessary for whole members of class to view and refer throughout the course. They can also motivate learners to discuss major concepts and share their information and experiences. The postings of bulletin boards can be a part of their needed writing assignments, optional opportunities for sharing ideas or both. If you need learners to post information they must owe to them to read the posts at least every few days. They must read the bulletin board a few less frequently that they read electronic mail but visits the bulletin board at least 3 times a week more if needed postings are due. Every time when they read the bulletin board they can reply or post comments to the entries within every folder or

thread. The learners can also join the discussion and can offer their insights about a concept not only may help guide learners to new materials or perspectives for future study but can also help them to develop a learning community among the members of class. If the learner needs bulletin board postings they may require to set up cutoff dates for posting information so that the learners can keep track of a discussion and meet the needs for the assignment. Although the bulletin boards provides only asynchronous communication among teachers and their learners the posts can create a lively discussion forum and a well written history of class tasks. The learners can also post informative and interesting messages in response to their lead in discussion threads or to meet the needed assignment. The messages of bulletin boards are a permanent record of a comment and the responses to it. The learner's ability is to read messages many times or out of context can intensify the responses of readers to messages. A spoken message is given in context time and is more critical to analyze thoroughly. The posts of bulletin boards not only shows written comments and a name and it is specifically faceless one (Porter, 2004, p 139).

c) Virtual classrooms:

The below figure shows the virtual classroom:

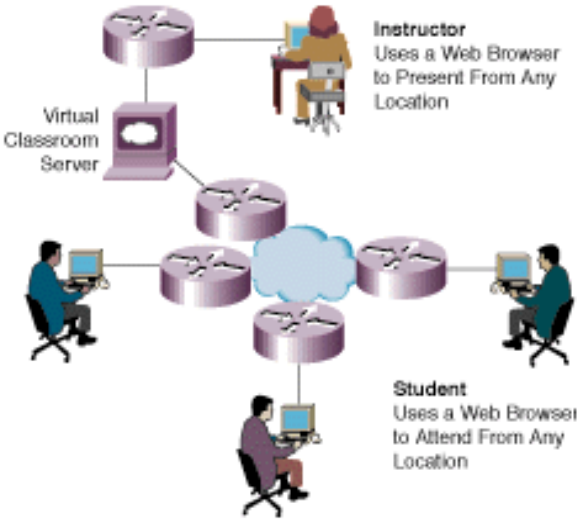

Figure 3: Virtual Classrooms

Source: Website, www.eno.com

A virtual classroom stands for classes that are provided through online. After having bought course the students may log on to the virtual classroom through their own online access. Virtual classrooms bring the medieval classroom into the 21st century. Virtual classroom uses the tools of collaboration to recreate the learning and structure experiences of a physical classroom. When well configured they preserve classroom's organized framework and rich interaction while removing the need for everyone to be in similar place. The programs of virtual classroom can be as easy as one shot, as complex as formal, ad hoc webinars, semester long academic courses. In either case the teachers leads a class of learners through an explicit syllabus of material on a predetermined plan. While these programs may consists of several tasks the virtual classrooms also offers new possibilities and needs extra management and design. Virtual classrooms are a special application of online learning. Virtual classrooms offers the students with online learning exercises, materials, trainer and as classmates both not being virtual but real although they have their workplace at varied locations. The virtual classrooms usually work with videoconference components i.e. video cameras that transmit at least the instructor over the network. Another most necessary technology is the whiteboard. The program of whiteboard enhances varied places to discuss tables or charts on which they can comment directly on screen the changes are visible immediately on all the monitors of students (Horton, 2011, p 539; Ebner, 2007, p 21.

d) Online discussion boards:

Online discussion needs careful scheduling of needs and structure as well as active supervision of instructor. Online discussions are always few value and students shows little enthusiasm for them. Online discussion is assumed as the major part of the course not an add on and not busywork. Online discussions offer practice in writing. They can facilitate cooperative learning. The electronic mail impersonality may lower down the inhibitions of those who are shy in the classroom but may lower down inhibitions against rudeness. Thus in starting an online discussion the students must give respect to the online instructors just as they respect the teachers in classroom. Online discussion helps students to understand the kind of thought they expect from them in the discussions. The online instructors are also emphasized the necessity of creating a sense of community for students in courses that relies heavily on online discussion. They have been learning the social presence issues in virtual classrooms the idea that there is a real person behind the words of the screen. Though many of the recommendations of instructor apply to face to face discussions it is better to remember that the capability to discuss critical problems online is a very critical behavior than social networking that several students are accustomed (Davis, 2009, p 112; Svinicki and Mckeachie, 2010, p 53).

e) Real time discussions:

The discussions of real-time produces ideas, supports in creating a learning community in the classes of online offers transcripts of discussions and also offers a means of online collaboration and

conference and gains the thinking of students in writing as they write. The post of discussions requires being small so that the students requires to amend and clarify their messages. They require asking for follow up and clarifications to the instructor or they predict ways to transform into someone else's argument and critique it or expand it. It offers precise audience and a way to examine voice. They also have chat rooms or they can also use Course tools have chat rooms that are excellent programs that develops a spatial sense of location.

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