

Strategies for Active Learning in Online Continuing Education

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ABSTRACT

Online continuing education and staff development is on the rise as the benefits of access, convenience, and quality learning are continuing to take shape. Strategies to enhance learning call for learner participation that is self-directed and independent, thus changing the educator's role from expert to coach and facilitator. Good planning of active learning strategies promotes optimal learning whether the learning content is presented in a course or a just-in-time short module. Active learning strategies can be used to enhance online learning during all phases of the teaching-learning process and can accommodate a variety of learning styles.

Feedback from peers, educators, and technology greatly influences learner satisfaction and must be harnessed to provide effective learning experiences. Outcomes of active learning can be assessed online and implemented conveniently and successfully from the initiation of the course or module planning to the end of the evaluation process. Online learning has become accessible and convenient and allows the educator to track learner participation. The future of online education will continue to grow, and using active learning strategies will ensure that quality learning will occur, appealing to a wide variety of learning needs.

Today's educator is challenged by the changes that need to be made when offering instruction online after having taught in the classroom. Technology has become available for educators to offer accessible and convenient instruction while tracking learner participation via the computer for a variety of learning situations. Continuing education in staff development is being created for the just-in-time learner with short modules or mandatory competencies that can be completed quickly and efficiently online. Material can be developed by piecing together software, web pages with PowerPoint presentations, and PDF files that are designed by technical designers, information technology experts, or educators skilled in web design. These learning segments are often placed in institutions' intranet computer systems and are available for use within the facility. This can be a laborious process, but customized to the educator's needs, and is less of a financial commitment on the part of the institution.

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The other option for delivery of educational content online is to use a learning management system, which is an all-in-one comprehensive software management system for web-based courses. It provides a home base for the course and allows access for both the educators and learners using a variety of communication and course management tools (Dell, 2002). It requires a financial commitment from the institution to purchase computers with proper specifications, computer servers, institutional technology infrastructure, and technical help. After these are in place, the educator has a flexible platform for web-based instruction that provides a shell for instructional material and can house completed or prepackaged courses.

A learning management system has tools that are easy to learn, and educators can focus on course or module development rather than the technology. The core features include student management and tracking, presentation of materials, communications, scheduling, and testing of learners. These systems put a focus on collaboration between learners and feedback from instructors with discussion forums and areas for student electronic projects. The learning management system is suited for engaging learners in active learning strategies where learning is an active process in which the instructor and the learner are partners in building knowledge (Conrad & Donaldson, 2004).

ACTIVE LEARNING STRATEGIES DEFINED

Online education for lifelong learning requires nurses to be actively involved in all phases of the learning process. Active learning stimulates higher-order cognitive processes such as critical thinking and analysis (Bevis, 1989). Adults are self-directed, motivated to learn, and prefer active learning strategies (Knowles, 1990). Bonk and King (1998) used constructivism theory to guide learning that can occur electronically by maintaining a scaffolding effect as learners actively build on learner-centered principles. Chickering and Gamson (1987) summarized seven principles of good practice in education, which form the foundation of active learning.

The seven principles of good practice in education provide a framework for learner-centered teaching and learning guidelines, in the classroom and in the online environment. The first principle is high expectations, which are created by the educator for the learner to have ambitious goals toward success. The second principle is reciprocity and cooperation among students, which encourages learners to derive learning from interaction among peers. The third principle is active learning, which encourages the learner to be actively involved with the learning process, thus learning faster and retaining knowledge longer. The fourth principle is time on task, which ensures that the learner is spending sufficient time engaged in the course content to obtain objectives and outcomes. The fifth principle is feedback, which includes meaningful interactions between learners and peers, educators, and technology. The sixth principle is student-educator interaction, which promotes significant interaction between the student and the educator in structured and unstructured ways to facilitate learning. The seventh principle is respect for diversity, which promotes learning while learners and educators respect different ways of knowing and cultural values.

Passive learning, as opposed to active learning, is what many educators remember as the lecture format of teaching where learners are not required to be actively involved. Other examples of passive learning include reading assignments and watching videotapes. Ideas are acquired and information is made available through recall (Bevis, 1989). Fewer higher cognitive skills are used, and lower-level learning is often the outcome. Many nurses are currently pursuing continuing education opportunities and will continue to do so because lifelong learning is needed to stay abreast of changes in the health care arena. They may be accustomed to passive learning, but many pre-

fer active learning, particularly the younger learners who have been involved with active learning as educational technology was created.

Active learning strategies are used in online learning for a variety of reasons. The primary use of active learning strategies is to engage the learner in higher-order thinking (e.g., analysis, synthesis, and evaluation), which allows the learner to assimilate, apply, and retain learning. Active learning strategies accommodate many learning styles, promote learner achievement, enhance motivation, and cause learners to learn more. Learners generally prefer active learning strategies over conventional passive teaching methodologies (Austin & Mescia, 2004).

When online active learning strategies are implemented, the role of the learner changes from passive to one who is self-directed and takes responsibility for his or her own learning. Therefore, the educator's role changes from that of the authoritarian expert to coach or facilitator. The shift occurs from content-driven presentations to shared inquiry between learners and educators to answer questions and solve problems that will "facilitate modeling, foster creativity, and enhance active and collaborative learning" (Zwirn, 2005, p. 394). For example, learners may participate in online discussions and are primarily interacting with one another. The educator guides the discussion with remarks about the learners' responses and may summarize the content at the end of the learning segment rather than dominate the discussion with his or her agenda.

PLANNING ACTIVE LEARNING STRATEGIES

Active learning strategies that can be used online must be developed by the educator/designer using sound design practices including learner assessments, developing technical support and resources, incorporating assessment of learning outcomes and course design, and designing with active learning in mind (Mantyla, 2000). The learners should have the opportunity to apply course principles and receive feedback from their active participation. Higher level thinking should be expected from the active application of the course principles. Costs, learning styles, and teaching styles play key roles in the selection of active learning strategies online. Technology support is vital to all phases of planning, implementing, and evaluating active learning strategies, for both educators and learners.

Examples of active learning strategies in online courses or modules that provide feedback to the learner are listed in Table 1. Feedback can be provided by

TABLE 1
EXAMPLES OF ONLINE ACTIVE LEARNING STRATEGIES AND FEEDBACK TO LEARNER

Online Active Learning Strategy	Feedback to Learner
Student assessment surveys	Learner knowledge feedback from technology or educator.
Online tests and quizzes	Outcome evaluation from automatic technology feedback to prompt student to review content that was answered incorrectly.
Writings such as reflective journals or essays using word processor and file attachments	Feedback from educator and peers in asynchronous threaded discussion forms.
Video clips with author or content experts	Feedback from educator and peers in asynchronous threaded discussion forums where content is analyzed.
Asynchronous online discussions	Feedback from peers or educator in threaded discussions.
Synchronous online discussions (e.g., live chats)	Real-time feedback from peers or educator.
Interactive online games	Feedback about outcomes from technology.
Readings from hyperlinks (links to web sites)	Interaction with web site and feedback from peers or educator in asynchronous discussion forums about the information learned in web sites.
Case studies with required responses	Feedback from peers or educator in asynchronous or synchronous discussion forums.
Role play with designated roles related to case studies	Feedback from peers or educator in asynchronous or synchronous discussion forums.
Debates with assigned roles (e.g., taking stands for advantages and disadvantages of issues)	Feedback from group, peers, or educator in asynchronous or synchronous discussion forums.
Study groups or support groups, assigned or learner choice	Feedback from group and peers.
Group projects with assigned roles	Feedback from group, peers, or educator in asynchronous or synchronous discussion forums. Groups can be assigned to designated discussion forums called learning circles.
Individual projects (e.g., writing papers about assigned content using word processing and file attachments)	Feedback from educator in electronic editing in word processor.
Experiential learning with writings about clinical practice, client assignments, or internships	Feedback from group, peers, or educator in asynchronous or synchronous discussion forums.
Prepared instruction from software (compact disks) or web sites (continuing education online)	Feedback from technology or peers and educator when content is applied in writings or discussions online.
Online presentations using software (e.g., PowerPoint)	Viewers can receive feedback from the technology in the online presentation. Learners receive feedback from peers or educator in asynchronous or synchronous discussion forums about the online presentation.
Electronic portfolio submission	Feedback from peers or educator in asynchronous or synchronous discussion forums.
Writing case studies	Feedback from group, peers, or educator in asynchronous or synchronous discussion forums.
Care plan submissions	Feedback from peers or educator in asynchronous or synchronous discussion forums.
Social spaces for “water cooler talk”	Feedback from peers.
Problem-solving assignments with real-world problems	Feedback from real-world situations, peers, and educator.
Online community-building projects (e.g., creating a web site for a support group)	Feedback from participants on web site, peers, and educator.
Peer review projects using electronic editing in word processor	Feedback from peers, technology, and educator.

the educator, peers, or technology. The figure shows a screen shot of an interactive “drag and drop” game created by the author as an example of an online learn-

ing strategy. Learners must place terms into the proper category. The learner receives feedback and must complete the exercise within the timeframe on the clock.

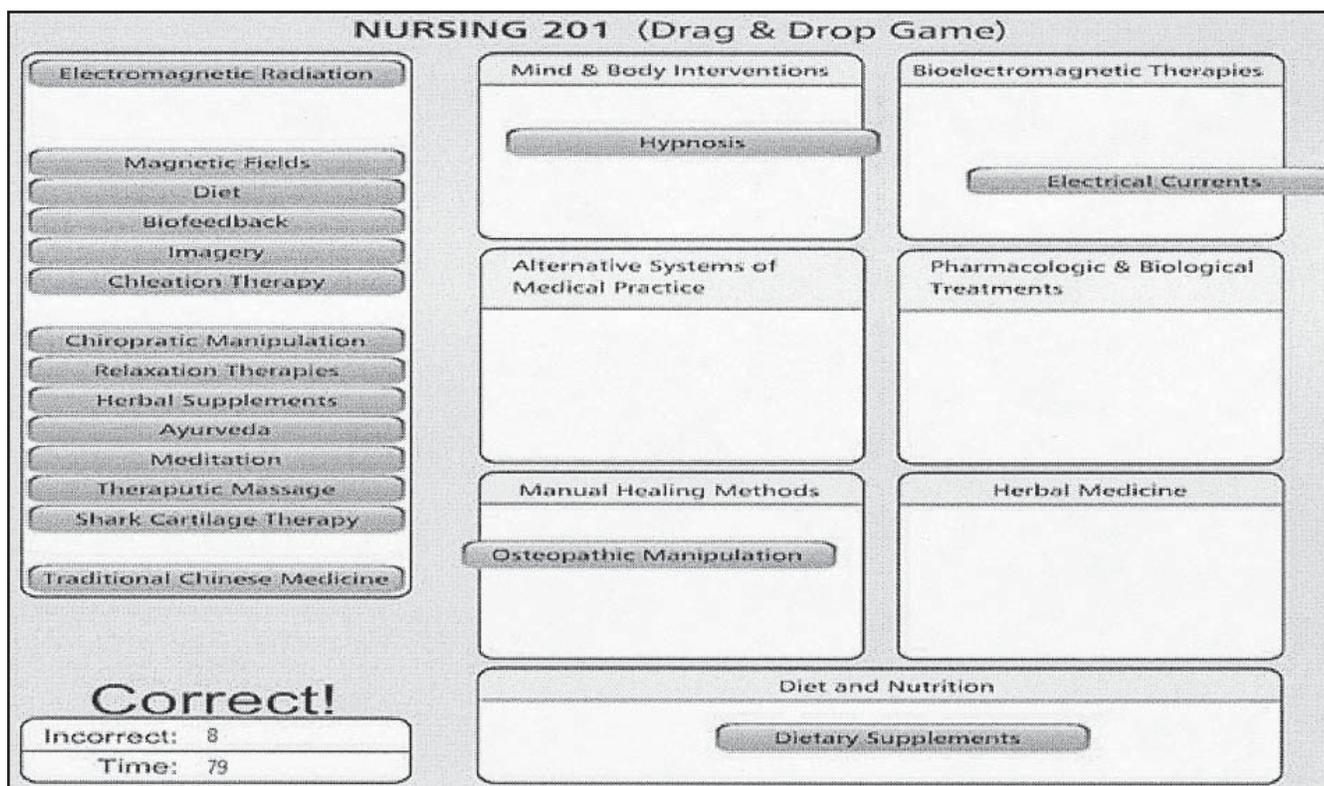


Figure. Screen shot of interactive game exercise.

Because learners will continue to come from a variety of generations, it is important for educators to facilitate their learning needs to plan and implement effective programs using active learning. According to Billings (2004), learners can be identified as the Net Generation (24 years and younger), Generation X (24 to 44 years), and Boomers (44 to 64 years). Active learning for the Net Generation can be easily instituted because they already know how and where to find information using existing technology. Generation X learners are not as technically savvy and may need more direction from facilitators. Boomers are accustomed to passive learning and will need to be encouraged to learn and explore new, active learning methods. Educators will want to assess the needs of the generational learners, and then provide opportunities for them to learn optimally and actively.

In addition to appraising the needs of generational learners, assessment is also completed as part of the planning process when applying active learning strategies. Assessments serve as a foundation for identifying and preparing the appropriate content that is to be taught (Vandever, 2005). Assessments can be conducted to measure student abilities and knowledge before, during, and after participation in courses or

programs. For example, lack of computer skills, especially in nurses from the Boomer generation, may be a barrier to online learning and prevent the prospective learner from attempting online continuing education. Online computer literacy surveys can be conducted to determine the level of the learners' computer skills and need for orientation to the computer prior to engaging in online learning activities (Schmitt, Titler, Herr, & Ardey, 2004).

In planning the course, the educator will also want to have evaluations completed by course reviewers (e.g., content experts, technology experts, online education experts, peer educators, and learners). Both internal and external evaluators can provide helpful insight into the content, technology, and teaching effectiveness of the course or module. Conducting surveys online can make it convenient and easy to evaluate data. The data from these online surveys can be used to make course changes that meet the learners' needs before the course "goes live."

The educator will also plan to add other evaluations that can be imbedded in the course (e.g., formative, summative, educator, and technology evaluations). Formative evaluations will help the educator to determine how things are going with the learners at ap-

TABLE 2
RELATIONSHIP OF ACTIVE LEARNING STRATEGIES TO THE TEACHING–LEARNING PROCESS, LEARNING STYLES, AND ROLES OF EDUCATOR AND LEARNER

Active Learning Strategy	Teaching–Learning Step	Learning Style	Role of Teacher	Role of Student
Student self-pretest with automatic feedback loops	Assessment	Visual; Auditory; Kinesthetic	Facilitator; Evaluator	Active individual; Knowledge seeker
Online quizzes with automatic feedback loops	Assessment; Implementation; Evaluation; Revision	Visual; Kinesthetic	Facilitator; Evaluator	Active individual; Knowledge seeker
Video-teacher	Implementation	Visual; Auditory; Kinesthetic	Facilitator; Role model	Active individual; Knowledge seeker
Video-content	Implementation	Visual; Auditory; Kinesthetic	Evaluator	Active individual; Knowledge seeker
Individual online asynchronous discussions	Assessment; Planning; Implementation; Evaluation; Revision	Visual; Kinesthetic	Facilitator; Coach; Role model; Evaluator	Group roles: Leader; Researcher; Recorder; Summarizer
Interactive online enrichment exercises (flash cards, drag and drop, anatomical figure)	Implementation; Evaluation	Visual; Auditory; Kinesthetic	Facilitator; Evaluator	Active individual; Knowledge seeker
Individual midterm paper assignment	Implementation; Evaluation	Visual; Auditory; Kinesthetic	Facilitator; Coach; Role model; Evaluator	Active individual; Knowledge seeker
Readings from hyperlinks	Implementation; Evaluation	Visual; Auditory; Kinesthetic	Facilitator; Evaluator	Active individual; Knowledge seeker
Case studies and responses	Assessment; Planning; Implementation; Evaluation; Revision	Visual; Kinesthetic	Facilitator; Coach; Role model; Evaluator	Group roles: Leader; Researcher; Recorder; Summarizer

proximately the mid-way point in the course. Changes can be made based on the learners' feedback. Summative evaluations determine whether the learners have met the course outcomes at the end of the course. Educator evaluations help the educator to know how to improve online teaching skills, and technology evaluations allow the participants to voice the effectiveness of the technology used in the course. Evaluation strategies must be built into the planning phase and implemented as part of the course to insure effective online teaching and learning.

When planning active learning strategies, fundamental active learning components must be present in the online environment. According to Mantyla (2000), these components include: (1) a description of technology or tool to be used, (2) complete and understandable instructions, (3) a clear purpose or objective(s), (4) a feedback mechanism from the instructor, peers, or technology, and (5) a definite beginning and end. In addition, the technology should be easy to navigate, time spent on task should be reasonable, respect for diverse ways of knowing should be evident, high expectations should be held by the

educator, and active learning strategies need to be part of the learning environment (Halstead & Billings, 2005).

IMPLEMENTING ACTIVE LEARNING

Providing learners with a variety of active learning strategies will address their many learning needs based on their learning styles and placement in their learning process. Offering active learning strategies that unite learning styles and the teaching–learning process and enhance both learner and educator roles is the ideal goal when implementing the strategies. Active learning is not an isolated event, but one that connects to the various steps of the teaching–learning process, differing learning styles, and changes in the roles of the educator and learner (Table 2).

Three learning styles can be specifically addressed in active online learning strategies as outlined in the Visual, Auditory, Kinesthetic learning model described by Kolb (1984). Learners are described according to three main categories: (1) visual, (2) auditory, and (3) kinesthetic. Visual learners learn by seeing pictures, may be fast-paced learners, and can be impatient.

They often struggle to remember verbal instructions because their minds wander when visual stimulation is present. Auditory learners gain knowledge through listening and learning through steps, procedures, and sequence. They usually like music and talking on the telephone, and typically talk to themselves. Kinesthetic learners gain information through “doing” or “walking through something.” They may be “laid back” or nonchalant. As active learning strategies are planned, these learning styles can be kept in mind.

The teaching-learning process is pivotal to learning in both conventional and online learning environments. It includes a personal interactive relationship that extends beyond the subject matter. There are four steps to the process, which include assessment, planning, implementation, and evaluation. Each step affects the others in a circular fashion (Vandever & Norton, 2005).

THE POWER OF FEEDBACK

The power of feedback cannot be underestimated in online learning. Meaningful interaction that occurs between students, teachers, and technology greatly influences learning (Phillips, 2001). Feedback to learners about the course content and outcomes from technology can be used in such things as interactive exercises with feedback loops in online tests or quizzes. Online asynchronous or synchronous discussions can be used for interaction between peers and educators. Learner satisfaction is increased by the feedback received, and interaction is essential to learning in online courses (Sorg & McElhinney, 2000; Vrasidas & McIsaac, 1999). The feedback provided to the learners may be time-consuming to the educator, and time must be set aside for the educator to complete it effectively. Learners must know when they will receive feedback and often expect a response within 24 hours.

EVALUATION OF ACTIVE LEARNING STRATEGIES

Evaluation of active learning outcomes using a variety of approaches, as described earlier, is imperative to assessing the domains of learning and higher-order thinking. The evaluation plan ultimately helps educators determine whether the learners have met the learning outcomes described in the course, and provides information about the effectiveness of teaching and learning. This is an ongoing process beginning with assessments of learners, providing feedback, and ending with formal or informal evaluations culminating in course revisions for improvement.

Formal evaluation of active learning strategies should occur both formatively and summatively. The exploration of learner and educator perceptions of the learning strategies and delivery efficacy should occur. The rate of student success in the course should be measured, and reasons for attrition should be investigated. The data should be used to reevaluate the strengths and weakness of the strategies used in the course (Clark & Ramsey, 2005). Informal evaluation can occur as an ongoing process as the educator interacts with learners throughout the course or module.

Evaluation of active learning strategies in online courses can make use of creative course management tools (e.g., the discussion forum, e-mail, online testing, and portfolio management) (Halstead & Billings, 2005). Evaluation instruments for active learning strategies can be created by the educator, or existing instruments can be used. Collection of data is most convenient if it is in the form of a survey within the online course. Items that can be addressed include how easily the learning activities were navigated, availability of technical help, and the quality of feedback from educators, peers, or technology. Involving students in the evaluation process enhances the data used to revise the course for future improvements.

IMPLICATIONS FOR FUTURE USE OF ONLINE ACTIVE LEARNING STRATEGIES

The future of online learning in continuing education will continue to grow as the technology becomes more developed and accessible. Workforce demands will mandate the need for “just-in-time” teaching that ensures content consistency and standardization (Berke & Wiseman, 2003). Learners will come from a variety of backgrounds and will have different learning needs that must be addressed. Active learning strategies will allow improved, effective, satisfying learning for various learning styles, generational needs, and competencies. Lifelong learning will be a result of the use of these online strategies as learners become more proficient, comfortable, and satisfied by the online learning environment.

CONCLUSION

As online continuing education continues to grow, educators will enjoy applying the use of creative and active learning strategies to enhance learning. Educators will embrace the changing role from expert authority to coach and facilitator while students become more independent and responsible for their own

learning. Active learning strategies rooted in sound educational theory will engage learners addressing a variety of learning styles and generational needs. Assessing learner needs, implementing strategies that harness the power of feedback, and assessing learning outcomes and teaching-learning strategies will ensure that continual revisions can be made to accommodate lifelong learning as the future of online continuing education continues to change and grow.

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