

# Repurposing Traditional Instructor-Led Lectures for Continuing Education: Rewarding Instructors as Authors and Maximizing Return on Investment

Avi Rushinek, PhD; Sara Rushinek, PhD; Christine Lippincott, MS, RN-BC; and Todd Ambrosia, PhD, DNP, FNP-BC, FACC

## abstract

The aim of this article is to describe the repurposing of classroom video surveillance and on-screen archives (RCVSOSA) model, which is an innovative, technology-enabled approach to continuing education in nursing. The RCVSOSA model leverages network Internet-protocol, high-definition surveillance cameras to record videos of classroom lectures that can be automatically uploaded to the Internet or converted to DVD, either in their entirety or as content-specific modules, with the production work embedded in the technology. The proposed model supports health care continuing education through the use of online assessments for focused education modules, access to archived online recordings and DVD training courses, voice-to-text transcripts, and possibly continuing education modules that may be translated into multiple languages. Potential benefits of this model include increased access to educational modules for students, instant authorship, and financial compensation for instructors and their respective organizations.

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Some words are worth repeating. When a professor presents an excellent lecture in a traditional delivery model, only those students enrolled in his or her class have the privilege of attending it; even then, they may not be able to review the lecture at a later time. This scenario represents a missed opportunity to leverage the highly skilled expertise of lecturers to educate more students with fewer additional resources and to produce supplemental revenues at no additional program implementation marginal cost. We propose that the technology already exists to repurpose instructors' lectures into education modules by using video surveillance recordings made with a network Internet-protocol (IP) camera, which would inherently raise the existing return on investment.

Many universities have already installed surveillance cameras in their classrooms, and this technology could be harnessed to record, stream live, or upload professional lectures to the Internet to expand the classroom in a way that benefits both students and instructors. Through this approach, the potential exists for these video recordings to be repurposed into academic modules for health care continuing education. These modules would remotely deliver education through the Internet to a wide audience as high-definition automatic recordings to a digital disc file, as opposed to analog (requiring additional time consuming, expensive data conversions) standard definition (lower resolution). The computer processor in the camera can automatically upload the media to the World Wide Web, without any human intervention, for real-time streaming and archiving of these digital media files. As soon as the lecture is completed, the DVD recorder or burner finalizes these DVDs, preparing them for immediate upload to a World Wide Web DVD-duplicating server, as well as for local distribution, duplication, and sales. This minimizes time-to-market and additional costly processing. Later, if time permits and if it is cost effective, the instructor can replace the raw initial version of the recordings with edited clips and upload them to a server to be accessible on Internet channels (i.e., Internet television or online televi-

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*Dr. Avi Rushinek is Associate Professor of Accounting, and Dr. Sara Rushinek is Professor, Computer Information Systems, School of Business Administration, Ms. Lippincott is a PhD student and Teaching Assistant, and Dr. Ambrosia is Associate Dean for Master's Programs and Assistant Professor of Clinical Nursing and Health Studies, School of Nursing and Health Studies, University of Miami, Coral Gables, Florida.*

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*Address correspondence to Avi Rushinek, PhD, Associate Professor of Accounting, School of Business Administration, University of Miami, Coral Gables, FL 33124; e-mail: arush@miami.edu.*

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sion). The former option would offer students and other virtual audiences the opportunity to instantly view unedited lecture recordings without incurring any marginal (additional) fees. The latter alternative of posting edited clips with enhanced functionality would be at the lecturer's discretion, and he or she may charge users for either online access or content-specific DVDs, or both. Either alternative offers both professors and students a convenient, almost real-time, user-friendly format to extend the instructor-led classroom with minimal additional associated marginal costs and labor incurred. The advantages of repurposing classroom video surveillance and on-screen archives (RCVSOSA) include the ability to extend the utility of classroom lectures without creating additional preparatory work for the professor and the potential for instant authorship and financial compensation for the lecturers (Rushinek & Rushinek, 2012).

## STATE OF THE LITERATURE

### Distance Education and E-Learning

Distance education dates as far back as the 18<sup>th</sup> century and has evolved significantly throughout history (Casey, 2008). Some of the first distance electronic learning (e-learning) courses were vocational in nature and were delivered to students by the postal service. As the demand for distance education increased, advances in technology supported and sustained its growing momentum. Casey (2008) articulated that despite having multiple definitions, one of the key elements to traditional distance learning is the focus on asynchronous, two-way communication between the students and the teacher, which is facilitated by technology. The mid-1990s gave rise to a new term: *e-learning* (Friesen, 2009). As with distance education, a consensus has not been reached on one definitive definition of e-learning. In 2012, Sangra, Vlachopoulos, and Cabrera published the results of a study they conducted to develop an inclusive definition of e-learning. The authors communicated that many consider e-learning to have actually evolved from distance learning to the point where e-learning may represent the next generation of distance learning (Sangra et al., 2012). The new definition established by Sangra et al. proposed that e-learning is an approach to both learning and teaching that facilitates novel ways of comprehension and the development of learning through the utilization of electronic tools, supporting access to communication, training, and interaction.

### Blended and Hybrid Learning

As a pedagogical alternative to classroom instruction alone, the term *blended learning* has many interpretations and is often used synonymously with the term *hybrid learning* (McGee & Reis, 2012). Osguthorpe and Graham (2003) articulated that although use of the Internet is a component

of blended learning, it is better defined as a combination of face-to-face and distance education delivery methods. McGee and Reis (2012) expressed that a clear distinction between hybrid and blended coursework has not been established in the literature, and they presented their own interpretation of the commonalities that blended and hybrid learning courses share, as well as how they differ. McGee and Reis indicated that "Blended and hybrid are both terms used to define courses that are designed to meet in one or more delivery modes" (p. 8). They also proposed that hybrid learning uses each delivery mode independently and asynchronously, whereas blended modalities transition nearly seamlessly between classroom and online components.

### Repurposed Classroom Video Surveillance

Minimal published research in this field exists, and we were unable to locate any that specifically focused on nursing content. At universities, traditional uses of classroom video surveillance technology that extend beyond campus safety and security purposes include supplemental examination proctoring and the recording of patient simulation exercises for student debriefing. The majority of nursing continuing education research includes one or more concepts of e-learning, distance learning, blended learning, Web-based training, and computer-based training. A literature search of the CINAHL Plus<sup>®</sup>; Academic Search<sup>™</sup> Premier; Education Full Text<sup>™</sup>; ERIC<sup>™</sup>; Library, Information Science and Technology Abstracts<sup>™</sup>; MEDLINE<sup>®</sup>; and Professional Development Collection<sup>™</sup> databases for articles published between 2002 and 2012 did not yield any results when the keywords *repurposed classroom video surveillance*, *nursing*, and *continuing education* were used. Using the same search limitations, no results were found using the keywords *nursing* and *continuing education* when entered with *on screen capture*, as was the case when we searched *nursing* and *continuing education* and *screen recordings*. In 2010, Rushinek and Rushinek described the use of forensic-free, audio-video surveillance audit podcasts for e-competencies in academics; however, their work was not directed specifically at the nursing audience.

### THE RCVSOSA MODEL

Our definition of blended learning includes the use of archived classroom lectures that can be accessed from anywhere in the world through an Internet browser for the purposes of student review and continuing education modules. The objective is to empower the instructor to reach a minimum of three different audiences, and, unlike many online or distance-education approaches, the format of the RCVSOSA model involves an onsite instructor teaching students in the classroom as the first audience and virtual

students who attend the lecture via a live-streaming Internet connection as the second audience. The third audience consists of students who can access the archived lectures at a later time from an online source such as Ustream, YouTube, or a dedicated channel. This method would also allow the instructor to invite the most skilled subject matter experts as guest speakers to present their expertise, either in person with the lead instructor or from a remote location. A remote lecturer who is equipped with a microphone and speakers can converse with the students in the classroom in real time, thus increasing active participation and bidirectional communication. Students who do not have access to the Internet can view the same material in high-quality resolution, which a Blu-ray Disc™, DVD, or video CD can provide. Considering that these high-definition video files can be as large as 25 to 50 gigabytes, they may be too large for Internet transmission; therefore, distribution in the form of uncompressed DVDs would be a cost-effective alternative.

The proposed model involves the main components of internal physical surveillance (video recordings of the classroom), external achieved surveillance recordings, and screen-capture video tools for student learning. The RCVSOSA model utilizes high-definition, networked, IP surveillance cameras that are accessible via an Internet browser. These cameras offer several advantages over older versions of surveillance cameras that historically were low definition, lacked audio capabilities, and were closed-circuit. These new cameras are not the typical cameras traditionally used in commerce and for on-street security purposes. New innovations in surveillance cameras include audio content and the ability to upload videos to YouTube. Surveillance systems via Internet protocol can be accessed outside the original institutions, which increases the potential number of participants who could benefit from the lectures. These approaches complement one another to provide students with easy access to modules and require minimal financial and technical investment for the provider to implement and maintain.

The instructor's lecture is the focus of the video recordings, and the cameras should be focused on him or her. If desired, the surveillance cameras may be controlled and maneuvered with a cell phone or personal digital assistant to zoom in on specific speakers and for panning the room to allow for wider shots of the entire classroom (Ambrosia, Rushinek, & Rushinek, 2012).

Signs are posted on the door where students enter the classroom and in the classroom itself to alert the students that the lectures are being recorded. A required media consent release form is signed by all students and guests in the classroom. In addition, the course syllabus informs students that all the lectures are recorded. Because

the intention is to repurpose the recordings for continuing education, lecturer biographies are reviewed and disclosures and conflict of interest statements are signed to comply with academic accreditation requirements; it is important to adhere to the same requirements as for a newly created course for accreditation purposes. During the natural workflow of the class, on-screen activity, such as PowerPoint® slides; Prezi™ presentations, which utilize a three-dimensional canvas and zooming technology as a virtual whiteboard (Prezi, 2013); and graphic illustration tools may be incorporated by screen capture and editing software applications such as MSN Recorder, ScreenFlow, Adobe® Captivate®, Ezvid, BlueBerry Flashback Express, Krut, and Camtasia Studio®. The educator has the option of generating basic training modules by simply capturing their screen activity or creating more advanced videos by editing their content (TechSmith, 2013). Both MSN Recorder and Ezvid support the uploading of content to YouTube (Voo, 2012).

### Instant Authorship

Some of the advantages of the RCVSOSA model have the potential to benefit instructors and their respective academic institutions, both financially and professionally. Due to a competitive market, pricing of this type of technology has decreased, whereas ease of use has increased. The newer networked IP surveillance systems are easy to install and require little maintenance, which reduces installation and maintenance marginal costs, as well as the level of technical support required of the institution's information technology personnel. Depending on the institution's specific needs, the startup marginal costs range between several hundreds and several thousands of dollars, compared with the tens to hundreds of thousands of dollars that older surveillance systems analog closed circuit television cost. The dual purpose of the security and repurposing of education modules adds to the return on investment potential. Under the RCVSOSA model, students can access the recordings as soon as they are automatically uploaded to a Web channel or after any desired editing is completed by the instructor. Professors may be incentivized to offer access to their archived recordings to additional individuals, either as a subscription or as à la carte menu options for purchase.

National and international professional conferences represent another potential use of the RCVSOSA model and how it can support continuing education. Attendance at professional conferences offers the opportunity to advance one's knowledge, participate in scholarly dialogue, explore new innovations, and network among peers; yet, attendance may not always be feasible due to financial

constraints and scheduling conflicts (Anderson, 2009; Cherrstrom, 2012). The online conference was started more than one decade ago and, despite the advantages they offer, participation is still limited based on attendee's availability. We propose that the RCVSOSA approach can extend the professional conference in the same way it extends the classroom by reaching additional audiences. Podium presentations can be recorded and automatically uploaded to Internet channels or converted to DVD format and sold either onsite or on demand and shipped per the clients' requests. The on-demand product could be edited to include the client's specific content requests, thus offering a customized DVD. The advantage of this approach is that only requested DVDs are produced, as opposed to mass-producing them without a guaranteed audience interested in purchasing the products.

### Implications for Nursing Practice: Continuing Education

A significant challenge in nursing education is the need to establish specialized education units to satisfy licensure requirements for many state boards of nursing. Continuing education should reflect the cutting edge of clinical practice; yet, limited financial and human resources are available to consistently produce new teaching modules. The process of training and retraining staff on multiple technologies is costly and labor intensive. The RCVSOSA has the potential to serve as an instructor extender, as mandatory teaching units can be taught once by the appropriate staff and then the recorded surveillance videos can be repurposed into training modules.

Using an automated, online-assessment format, nurses can complete their training and evaluations online, with feedback and relevant review material automatically generated based on the correct and incorrect answers submitted. As the computer identifies the incorrect answers, it would match the prerecorded video clips and corresponding text, thus creating custom playlists and video DVDs that focus on the questions the test taker did not answer

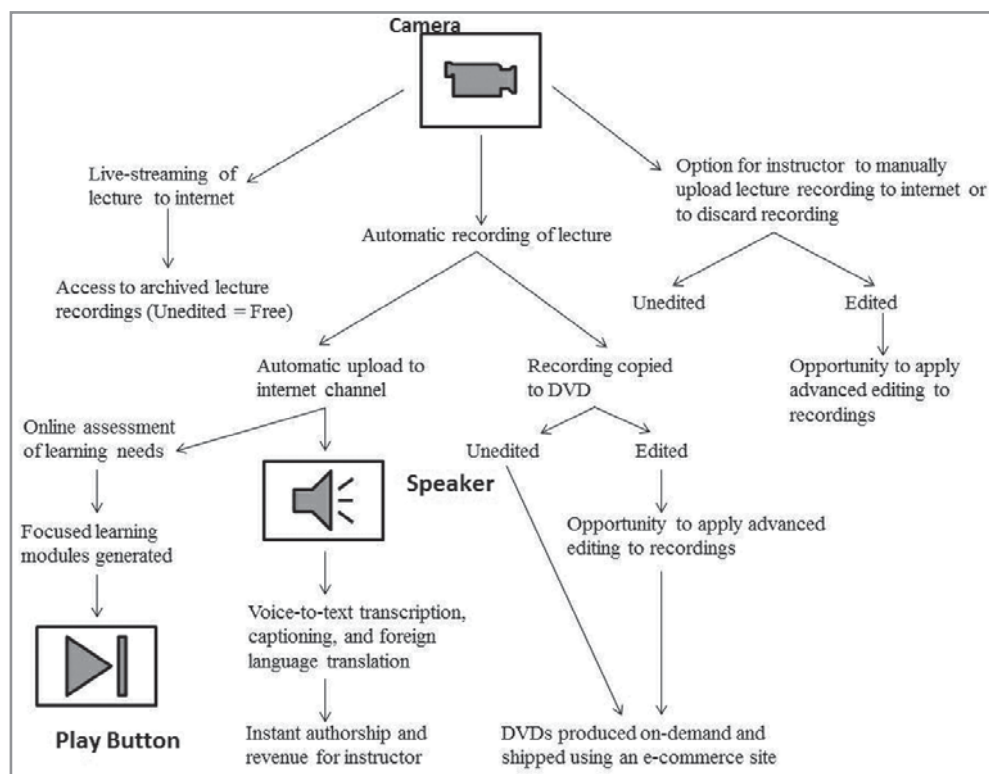


Figure. The repurposing classroom video surveillance and on-screen archives model.

correctly. The test taker would have the option of rewatching the entire lecture or specific modules only, based on the generated playlists. This approach offers advantages over many current methods that merely inform an individual of the questions he or she answered incorrectly but lack the option for instant redirection to the video content that reinforces the correct response and the rationale behind the answer. The option exists for lecture recordings to be automatically tailored based on a student's online-assessment feedback into short, content-specific video clips that target the learner's areas of weakness, as well as the potential for users to search keywords that are entered manually or derived from voice-to-text software. Financially, automation of the upload process can eliminate the need for any additional postproduction editing. Eventually, the use of voice-to-text narration may also be considered as a way to augment the RCVSOSA approach so that the automatic draft production is in digital format, and written transcripts of the lectures are accessible in a printable format, requiring minimal human labor. Captioning of the lectures could also be automated and serves as the starting point for translation efforts that would further increase the potential audiences (Figure).

Preliminary work has begun at the University of Miami, where Nurse Practitioner Health Assessment and Pharmacology courses in the School of Nursing and Health Stud-

## key points

### Instructor-Led Lectures

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- 1 The nursing profession is challenged to constantly develop continuing education modules that represent the current state of the science, with limited financial and human resources available to achieve this objective.
- 2 Many universities and conference sites have surveillance cameras installed that can be utilized to record lectures and professional sessions presented by experts.
- 3 The video recordings can be repurposed into educational modules at little to no additional cost, which can be subsequently disseminated online or as DVDs.
- 4 The potential benefits of the repurposing of classroom video surveillance and on-screen activities model include the ability to communicate the most current knowledge to an international audience with minimal financial investment, as well as the professional exposure that instant authorship offers nurse educators.

ies and Introduction to Health Informatics in the College of Arts and Sciences are being recorded. Currently, audio content, screen capture, and PowerPoint presentations are being utilized to create learning modules from the recordings, with the intention of implementing more sophisticated techniques in the future. From a technological perspective, learning assessments for professional education outside of nursing have been developed by Rushinek and Rushinek (2010) and Ambrosia et al. (2012). This software contains embedded links that allow the user to directly access educational clips containing audio and video content, either as a review activity or on completion of an evaluation or knowledge test.

From an administrative perspective, the process of incorporating the RCVSOSA approach is similar to implementing traditional approaches in that goals and objectives are written in a manner similar to any other program that grants contact hours. The only difference in the instructors' workflow is, rather than having to construct continuing education courses from beginning to end, the recorded lectures would provide the basis for a new continuing education course. The instructor can then decide how much, if any, editing he or she would like to apply to the raw footage. The benefit of the RCVSOSA model is that the finished modules are by-products of educators' natural workflow.

## CONCLUSION

In an age where multitasking is the norm and the recycling of limited resources has become the expectation, there is tremendous opportunity to leverage existing resources. Our proposed RCVSOSA model supports health care continuing education efforts by empowering instructors to reach more students and increase their electronic portfolios with previous work efforts and virtually no associated marginal costs, as initial costs had been already incurred by the institutional security surveillance system budgets. The technology to support this model already exists; it simply needs to be harnessed so that educators work smarter, not harder.

## REFERENCES

- Ambrosia, T., Rushinek, A., & Rushinek, S. (2012, September). *Addressing global health and nursing research challenges aided by re-purposing digital covert surveillance reconnaissance systems*. Poster presented at Session 3 at the XIII Pan American Nursing Research Colloquium, Miami, FL. Retrieved from [http://www.umpanamconference2012.com/pdf/ColloquiumProgram\\_Final.pdf](http://www.umpanamconference2012.com/pdf/ColloquiumProgram_Final.pdf)
- Anderson, L. (2009). Online professional development conferences: An effective, economical and eco-friendly option. *Canadian Journal of Learning and Technology, 35*(2), 1-15. Retrieved from <http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=EJ896567>
- Casey, D.M. (2008). A journey to legitimacy: The historical development of distance education through technology. *Tech Trends, 52*, 45-51.
- Cherrstrom, C.A. (2012). Making connections: Attending professional conferences. *Adult Learning, 23*, 148-152. doi:10.1177/1045159512452263
- Friesen, N. (2009). *Re-thinking e-learning research: Foundations, methods and practices*. New York, NY: Peter Lang International.
- McGee, P., & Reis, A. (2012). Blended course design: A synthesis of best practice. *Journal of Asynchronous Learning Networks, 16*(4), 7-22. Retrieved from <http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=EJ982678>
- Osguthorpe, R.T., & Graham, C.R. (2003). Blended learning environments: Definitions and directions. *Quarterly Review of Distance Education, 4*, 227-233.
- Prezi. (2013). *About us*. Retrieved from <http://prezi.com/about/>
- Rushinek, A., & Rushinek, S. (2010). Forensic-free AV surveillance audit podcasts for e-competence of academics and staff—Repurposed traditional instructions for blended, distance and self-study e-learning to maximize lecture capture ROI. *International Journal of Continuing Engineering Education and Life-Long Learning, 20*, 430-441.
- Rushinek, A., & Rushinek, S. (2012, July). *Instructor led courses streamed to the World Wide Web webinars archived and extended: Repurposing classroom surveillance for blended and distant learning topping the Google search engine optimization*. Paper presented at the 4<sup>th</sup> International Conference on Education and New Learning Technologies, Barcelona, Spain.
- Sangra, A., Vlachopoulos, D., & Cabrera, N. (2012). Building an inclusive definition of e-learning: An approach to the conceptual framework. *International Review of Research in Open and Distance Learning, 13*, 145-159.
- TechSmith®, Camtasia Studio®. (2013). *Screen recording and video editing for anyone*. Retrieved from <http://www.techsmith.com/camtasia.html>
- Voo, B. (2012). *Top 5 free screen recording softwares for Windows*. Retrieved from <http://www.hongkiat.com/blog/win-screen-recording-softwares/>

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