American Counseling Association

VISTAS Online

VISTAS Online is an innovative publication produced for the American Counseling Association by Dr. Garry R. Walz and Dr. Jeanne C. Bleuer of Counseling Outfitters, LLC. Its purpose is to provide a means of capturing the ideas, information and experiences generated by the annual ACA Conference and selected ACA Division Conferences. Papers on a program or practice that has been validated through research or experience may also be submitted. This digital collection of peer-reviewed articles is authored by counselors, for counselors. *VISTAS Online* contains the full text of over 500 proprietary counseling articles published from 2004 to present.

VISTAS articles and *ACA Digests* are located in the ACA Online Library. To access the ACA Online Library, go to *http://www.counseling.org/* and scroll down to the LIBRARY tab on the left of the homepage.

- Under the Start Your Search Now box, you may search by author, title and key words.
- The ACA Online Library is a member's only benefit. You can join today via the web: counseling.org and via the phone: 800-347-6647 x222.

Join ACA at: *http://www.counseling.org/*

Suggested APA style reference information can be found at http://www.counseling.org/library/

Article 91

Implementation of a Lecture Capture Recording System in a Counselor Education Clinical Training Facility

Ann M. Miller & Robert Gibson

Miller, Ann M., PhD, is an Assistant Professor in the Department of Counselor Education and the Director of Community Counseling Services at Emporia State University in Emporia, Kansas. Her professional interests include exploring client experiences at counselor education program training facilities, and evaluating professional and ethical standards in counselor education programs and clinical training facilities.

Gibson, Robert, PhD, is the Director of Academic Technology at Emporia State University in Emporia, Kansas. His professional interests include the application of technology in a variety of academic areas to improve learning outcomes.

Introduction

Lecture, or presentation, capture is a gradually emerging technology at many colleges and universities. Although a working definition of lecture capture is often ambiguous, Nicole Englebert from Educational & Vertical Markets Technology defines it as "a solution that captures classroom-based activities in a digital format that is then available for download or consumption over the internet" (McClure, 2008, para. 5). According to K. C. Green of the *Campus Computing Project*, a modest 3.5% of college courses currently make use of lecture capture technology, up slightly from 2009 (2010). Although no longer considered nascent, indications are that lecture/presentation capture will likely increase in utilization. One important reason for this uptick is that students prefer courses that offer online lectures over traditional classes that do not include an online lecture component. A recent study by the University of Madison-Wisconsin found that 82% of students (graduate and undergraduate) prefer courses that employ the technology (Nagel, 2008). The researchers also pointed out the implications for these findings extend well beyond the classroom. Many capture products also allow faculty to segment and edit the lectures, add/exchange notations, view lectures on mobile devices, and even provide blended input from a variety of audio-visual sources such as digital drawing tablets and interactive whiteboards (EDUCAUSE, 2008). However, the use of these capture systems is often limited in scope to traditional classrooms where faculty use both lecture and capture content simultaneously. The features that are built into these products are designed specifically for capturing PowerPoint and digital handwriting—stalwart didactic technologies. The emphasis of capture technology in these environments is simplicity, reliability, ease of use, and adequacy in capturing lectures.

Counselor Education Capture Solution

Emporia State University (ESU) was initially interested in a capture system for a completely different learning application: a counselor education program. However, there were questions among the stakeholders regarding the ability of a lecture capture product to be repurposed for this very specific learning activity. In addition to the need for the discrete recording of counseling sessions, the students—many of whom live in remote locations—required access to the recordings from their location while still maintaining HIPAA (Health Insurance Portability and Privacy Act) confidentiality. Features such as PowerPoint or screen capture were not a deciding factor in this environment.

Community Counseling Services

Community Counseling Services (CCS) provides affordable counseling for individuals, couples, families, and groups. The service is offered throughout the community of Emporia, Kansas as part of graduate training for students seeking degrees in mental health, rehabilitation, and school counseling through ESU. Students consult with assigned community clients on a weekly basis in one of ten counseling rooms specifically designed for this function. Eight of the rooms are intended for individual, couple, or parental consultation. A larger room is intended for group therapy, which often includes sessions with extended family members. A second larger room is designated as a play therapy room to use in conjunction with children.

Figure 1: Original VHS Closed-Circuit Control Room.

Former CCS Video Capture Solution

Approximately twelve years ago the CCS counseling rooms were equipped with an audio-video monitoring and recording system. Each room included a small surveillance-class camera, an omni-directional microphone, a Video Home System **(**VHS) tape deck, and a small Cathode Ray Tube (CRT) video monitor. The larger rooms included two cameras—one at either end that captured different angles. Students purchased VHS tapes and recorded their sessions using the tape decks in each room. The rooms were configured so that each client session was simultaneously delivered via closed circuit to a central control room within the building that was monitored by the faculty. Using a video switcher, sessions could be rerouted to monitors in the classrooms and offices within the building for teaching, diagnostics, and client monitoring purposes while being recorded. A bank of monitors in the control room allowed the faculty to see all of the rooms or sessions in real time (see Figure 1). Students later watched the VHS recorded sessions and made hand written notations in the privacy of their home or off-campus location.

While this system was considered relatively sophisticated at the time it was installed, it could no longer be supported by the university. Primarily, HIPAA required that specific measures had to be addressed when dealing with client data that was recorded and stored for archival purposes ("HIPPA Privacy," n.d.). Since the recordings were stored on VHS tape and since those tapes were carried home with the students, the information contained on those tapes was at risk of being compromised. Furthermore, there was no guarantee that the data would be destroyed at the conclusion of the program. Secondly, in the years since the system was installed VHS has become an obsolete media format. VHS recorders are no longer sold in stores, and tapes are becoming increasingly difficult to purchase. Failure to address these concerns could compromise the program's accreditation.

Replacement Capture Solution

The CCS faculty approached the campus technology service team regarding a replacement for this non-compliant and outdated system. There were several criteria that the faculty required in a replacement system. They required an aggressive price that could be leveraged across campus for other capture applications and the ability to

- record video sessions in full or near-full motion quality;
- watch the recordings in full screen or windowed;
- add notations to the video recordings (both student and faculty notations);
- support two camera inputs for the large rooms;
- edit the recordings;
- "live stream" to other rooms in the building while simultaneously recording;
- assign content folders to students with specific access privileges; and
- assign faculty access privileges to select student folders.

Some of the criteria identified by the technology support team included the

- ability to mesh with the university's current architecture (Server OS, database, etc.);
- ability to access and use Lightweight Directory Access Protocol **(**LDAP) and Active Directory login;

- ability for students to view, but not download recordings from off-campus locations;
- ability to extend the product licensing to the enterprise;
- ability to integrate with campus' Learning Management System;
- ability to select different recording qualities so as to reduce data storage; and
- solid technical support.

After investigating multiple products and possible solutions, the recommendation by a team representing different functional groups across campus was to adopt the Panopto capture system. Panopto was originally developed at Carnegie-Mellon University and is widely used by a variety of universities and colleges. This system had been successfully introduced at the University of Colorado Medical Center and came highly recommended to staff at ESU. Following a security and systems exploratory meeting with the vendor, the university procured a contract with Panopto for its *CourseCast* product (now called *Focus*).

System Integration and Architecture

Using much of the existing infrastructure, the technology staff was able to reduce the installation expense. For example, the existing microphones and cameras were repurposed (some cameras were later upgraded), along with much of the cabling. VHS decks and monitors were removed, as was the entire control room. A computer was added to each room that included an Osprey Viewcast capture card that is able to interface with the analog cameras and microphones and convert the stream to digital. Osprey Viewcast was specifically selected because multiple video cards can be installed in a single computer chassis—a requirement for the rooms with multiple capture cameras (see Figure 2).

Figure 2: A Former VHS Capture Station (Left) and an Updated Panopto Capture Station (Right).

The network was architected so that it operates on a segregated system outside the normal IP traffic on campus. The computers can only be used to capture the client

sessions. A dedicated AT&T switch was installed in the building and RJ-45 jacks added to each of the counseling rooms and classrooms. Since the building is two blocks off-campus, a fiber trunk was activated that sends the video and data back to the data center where two servers store and serve the content. Additional hardware firewalls were also added within the network schema. Basically, this system runs within its own privatized domain. Faculty access the recordings using laptops connected to the AT&T switch. Liquid Crystal Display (LCD) monitors were installed in each classroom that is connected to a laptop so that faculty can review and discuss the archived recordings with the students (see Figure 3). Since Panopto supports an "IP streaming" feature, faculty can also access any of the 10 rooms while a live session is occurring in order to evaluate their counseling skills.

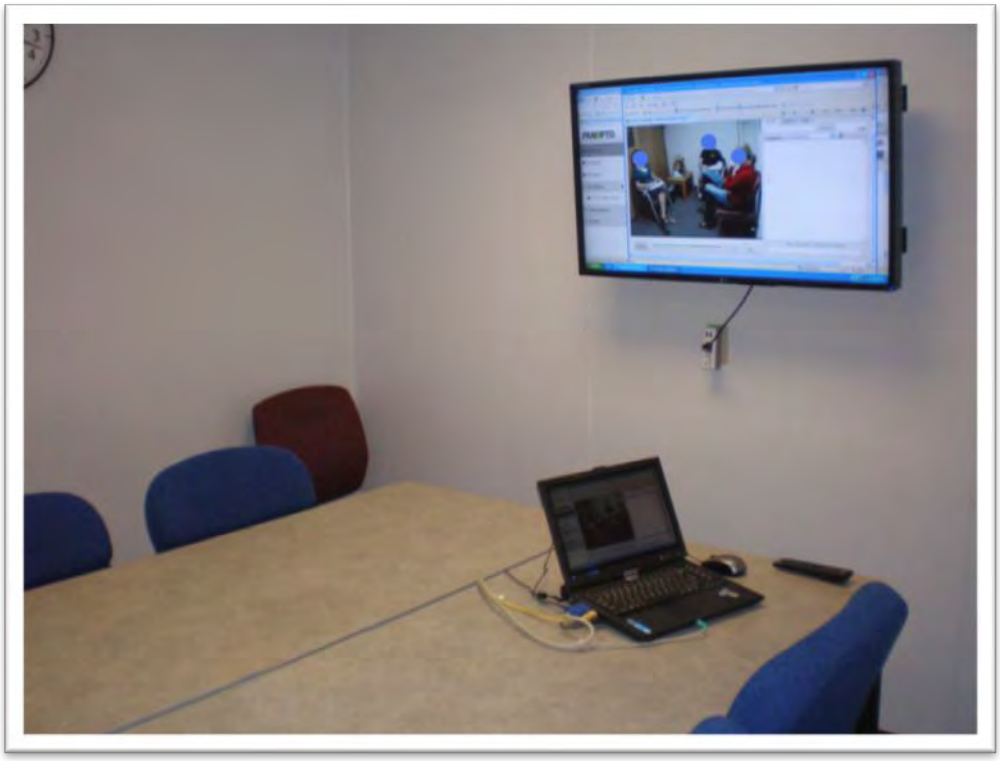

Figure 3: Typical Classroom With Laptop and Plasma Screen for Reviewing Client Sessions.

Faculty and students accessing the recordings outside of the building utilize a Virtual Private Network (VPN). This creates a secure transmission for viewing and taking interactive notes through Panopto; however, the recordings cannot be downloaded and stored locally—per the security policies implemented by ESU technical staff to comply with HIPAA requirements. Students have a specific URL they access that spawns a VPN client. After establishing a secure connection, they access the Panopto system through a browser to watch their own client recordings within this encrypted network. Since many students live and work outside Emporia, this off-campus access to their recordings is imperative.

Study Methodology

In order to study the efficacy of the Panopto system, we surveyed several students and faculty in the counseling program regarding their perceptions of the system. Some of the students had also used the former VHS system, while others were completely new to the product and to the client capture technology.

Participants

ESU is considered a rural university with a student population of approximately 6,400 students, situated in Emporia, Kansas (Pop. 29,000.) This is the only counseling facility of its type in the community.

Twenty-nine students (80% response rate) and four faculty (66% response rate) participated in a survey regarding the efficacy of Panopto. The students were enrolled in a variety of majors, both graduate and undergraduate (Table 1).

Table 1

Student Majors

Students	Major
1	School Psychology
2	Rehabilitation Services Education
14	Mental Health Counseling
2	Sociology
8	Rehabilitation Counseling
1	Art Therapy
1	Crime and Delinquency Studies

Study Procedure

Participants agreed to complete a short survey regarding their experience with Panopto. Many of the students and faculty have used the system since it was first introduced in 2010, while others are using the system for the first time each semester. Those that used the system initially encountered a few technical issues as the system was first launched that may have influenced their response.

Results and Discussion

Student Participants

Generally the students expressed a very high degree of satisfaction with the Panopto capture system (see Figure 4). This may be partly a result of a sustained training campaign conducted at the beginning of every semester for all the students who use the technology. On average, the students collectively record approximately 1,000 hours of interviews every semester. It's important to note that no recording has ever been "lost" due to a technical malfunction in the two years since the system has been installed.

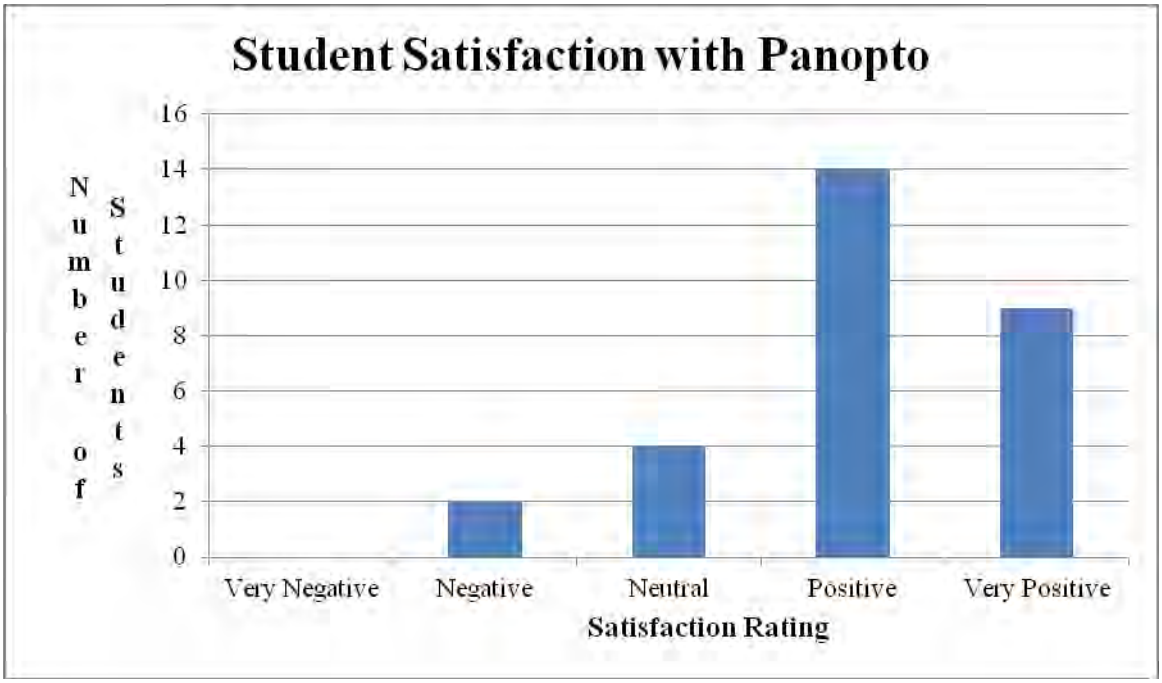

Figure 4: Student Satisfaction with the Panopto Lecture Capture System. $\bar{x} = 4.03$ $\sigma = 0.87$

Students also indicated that the technology improves their skills as counselors (82%); makes access to learning activities more convenient (79%); and improves their overall learning (76%). Most of the students (59%) found the system easy to set up and use. The time required to activate a recording is generally well under two minutes: 1) students enter a counseling room, 2) log into the computer, 3) activate Panopto, 4) turn the monitor off (to minimize the potential for client distraction), and 5) activate the recording. One of the residual benefits of the system is that Panopto "remembers" recording preferences based on the student's login and automatically selects the correct camera, microphone, and folder recording preferences. This significantly simplifies the capture process.

The majority of students are using the system to capture approximately 1-2 hours of client sessions per week. Much of the usage is contingent upon whether or not the students were assigned a community client that is able to travel to the facility (see Figure 5).

Rather than recording sessions themselves, the majority of students are currently using Panopto to review archived sessions. These recorded sessions are often clients recorded by other students and then analyzed collectively by the entire class. A few students also review the recordings privately via a VPN. Panopto affords the students the ability to add and exchange notations with faculty and other students during the analysis process (see Figures 6 & 7).

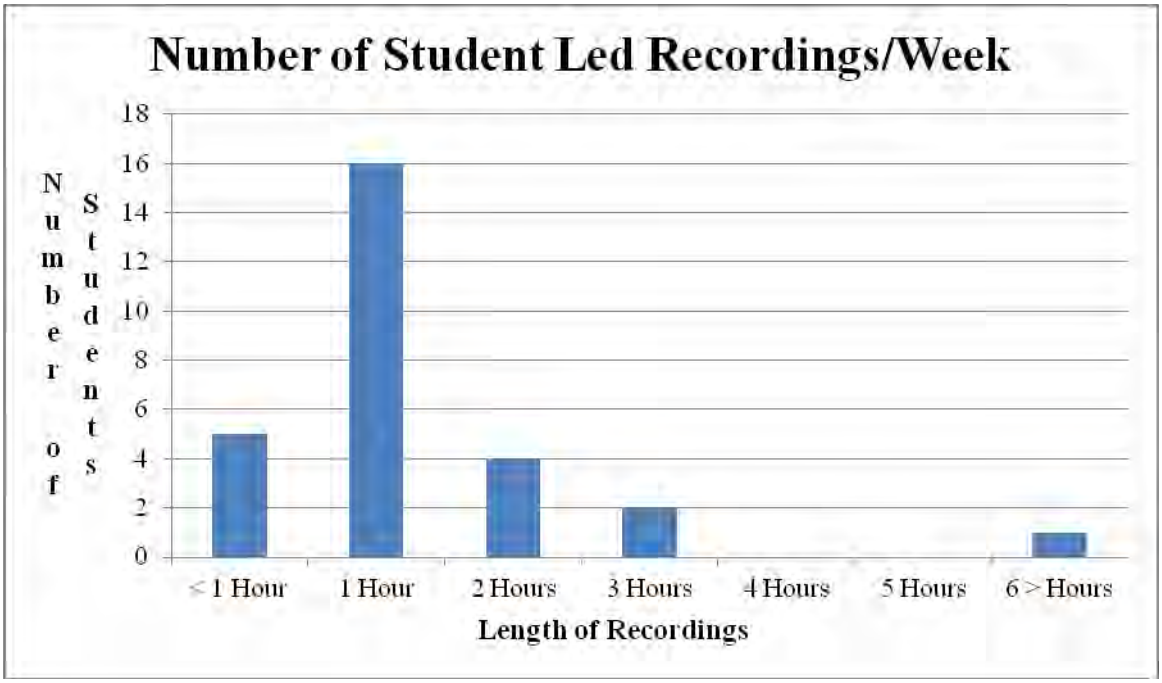

Figure 5: Number of Student Led Recordings/Week. 1 student participant did not respond to this survey question. $\bar{x}$ = *2.29hours/week* σ = *1.21*

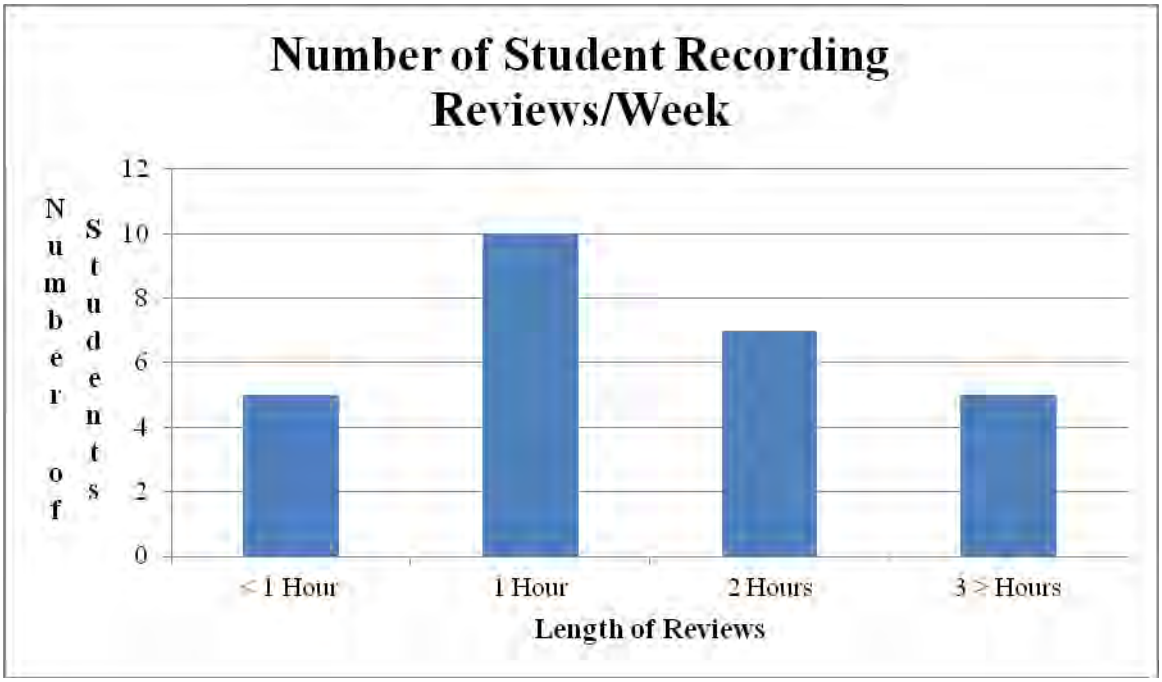

Figure 6: Number of Student Hours/Week Reviewing Pre-Recorded Sessions. 2 student participants did not respond to this survey question. $\bar{x}$ = *2.04hours/week* σ = *0.94*

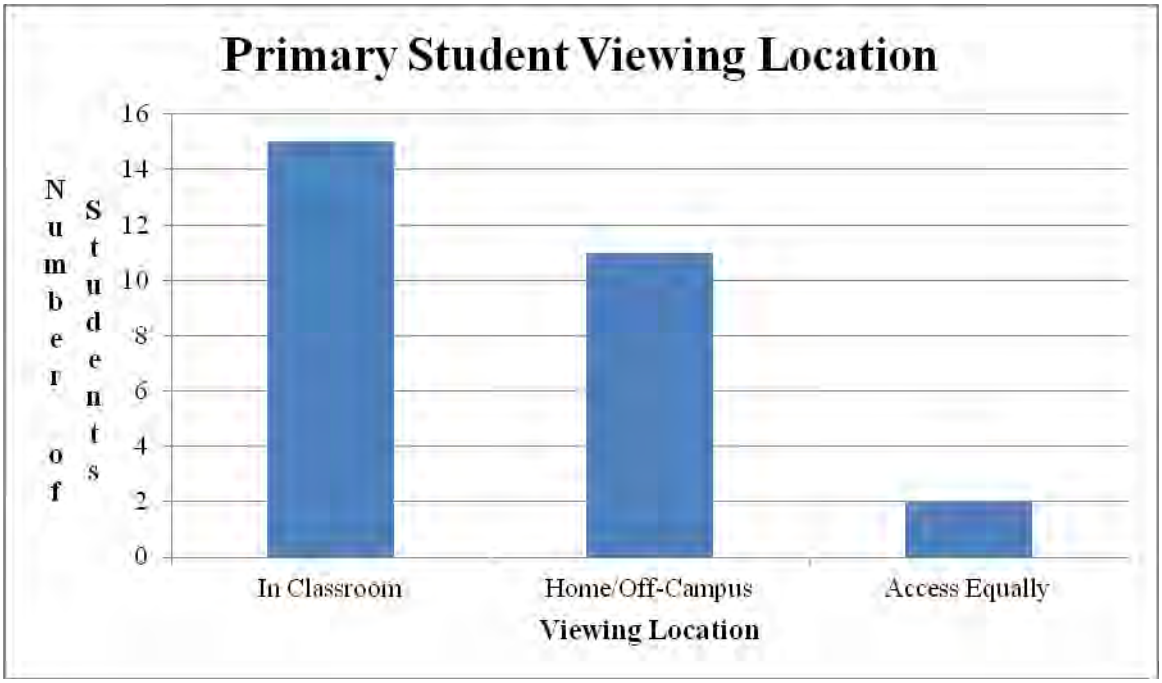

Figure 7: Primary Student Viewing Location. 1 student participant did not respond to this survey question.

Since reviewing the archival sessions from off-campus requires a unique login procedure whereby a VPN software client product is activated, the researchers were curious if the students experienced technical difficulties with this process. For many, this may be the first exposure they've had using a VPN product to access secure data. Generally students found the VPN access process easy to use (50%). Only 27% found the process onerous.

The researchers also wanted to ascertain if the technology created a distraction for the client/interviewee and whether or not the technology influenced the interview itself. In general, most students felt as though the technology did not create a distraction nor influence the interview (see Figure 8 & 9).

Faculty Participants

All six full-time faculty that supervise practicum and internship students within the Department of Counselor Education at Emporia State University were asked to participate in this study. The majority of faculty use the system to review pre-recorded client sessions with the students in a classroom environment. These classrooms are either rooms located in the Community Counseling Services center (within the privatized domain), or Smart Classrooms located on campus. When accessing recordings using Smart Classrooms located on campus (outside the privatized domain), faculty utilize a VPN client. For some faculty who are not technologically oriented, this access has proven to be somewhat problematic. Still, most of the faculty (75%) found the VPN access process to be somewhat or very easy.

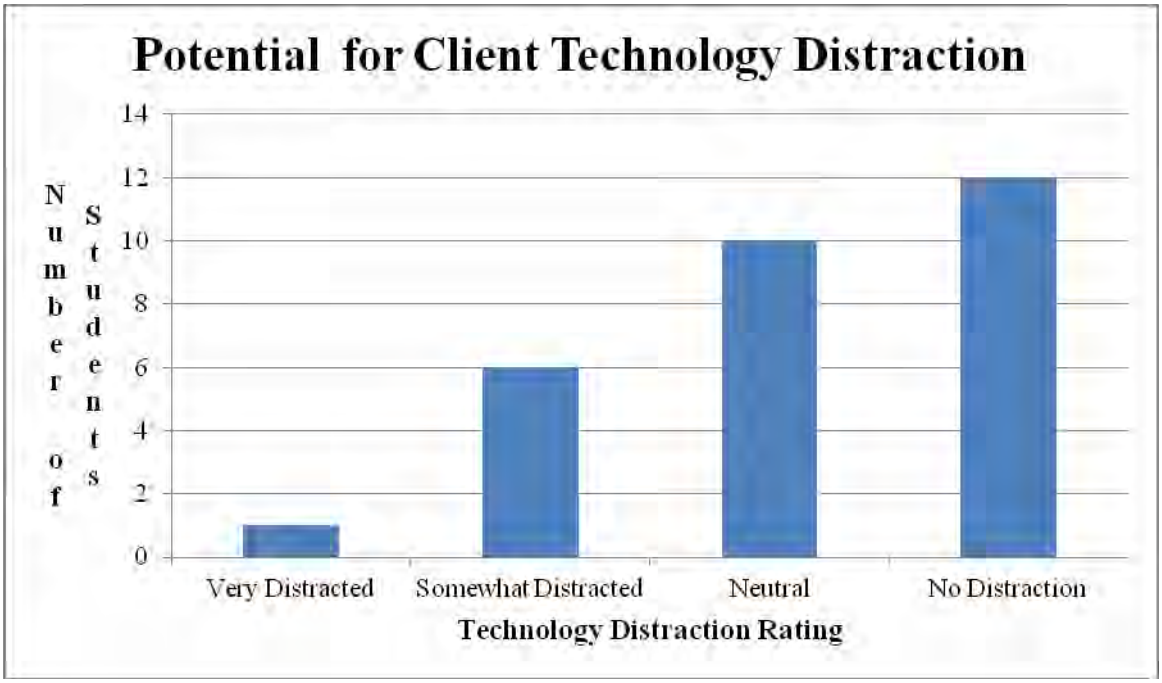

Figure 8: Potential Client Distraction Created by Presence of Capture Technology.

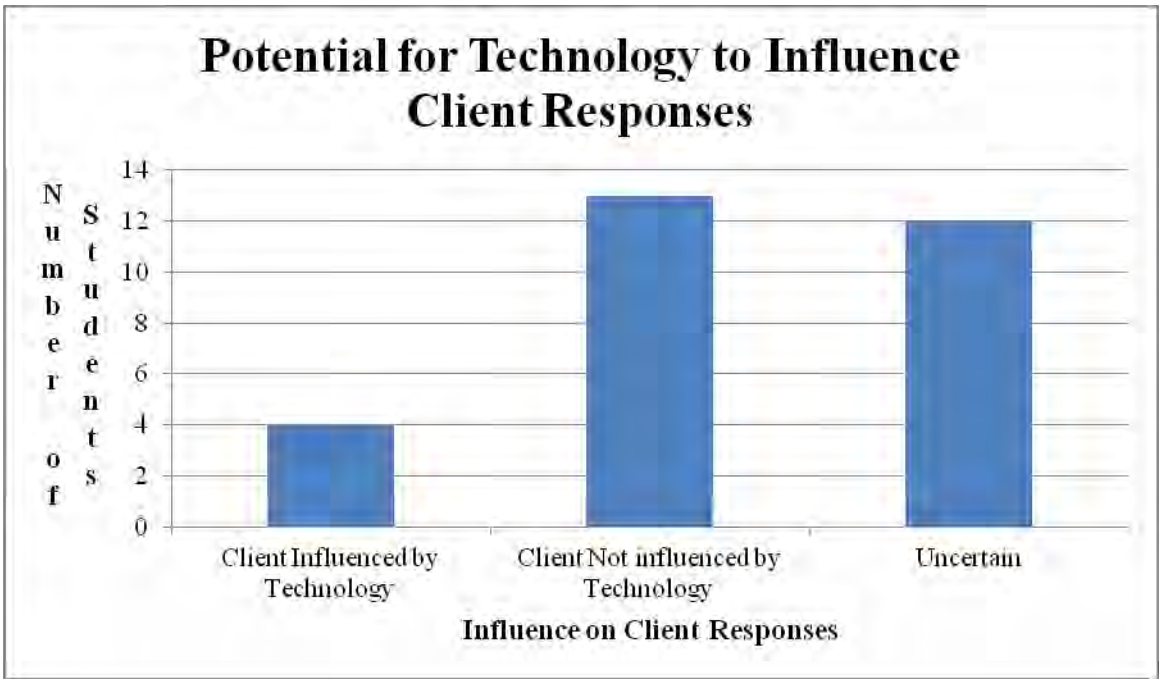

Figure 9: Potential for Technology to Influence Client Responses—Student Responses.

Without question, the faculty are very satisfied with the Panopto system and find it easy to use (see Figure 10). Some advantages expressed by the faculty included

- the ability to easily review the sessions;
- the ability to add/review/exchange notations with students regarding the effectiveness of the interview; and
- the ability to watch a live counseling interview stream while located in an adjacent room. Several faculty use these live sessions to evaluate the students as part of their final grade.

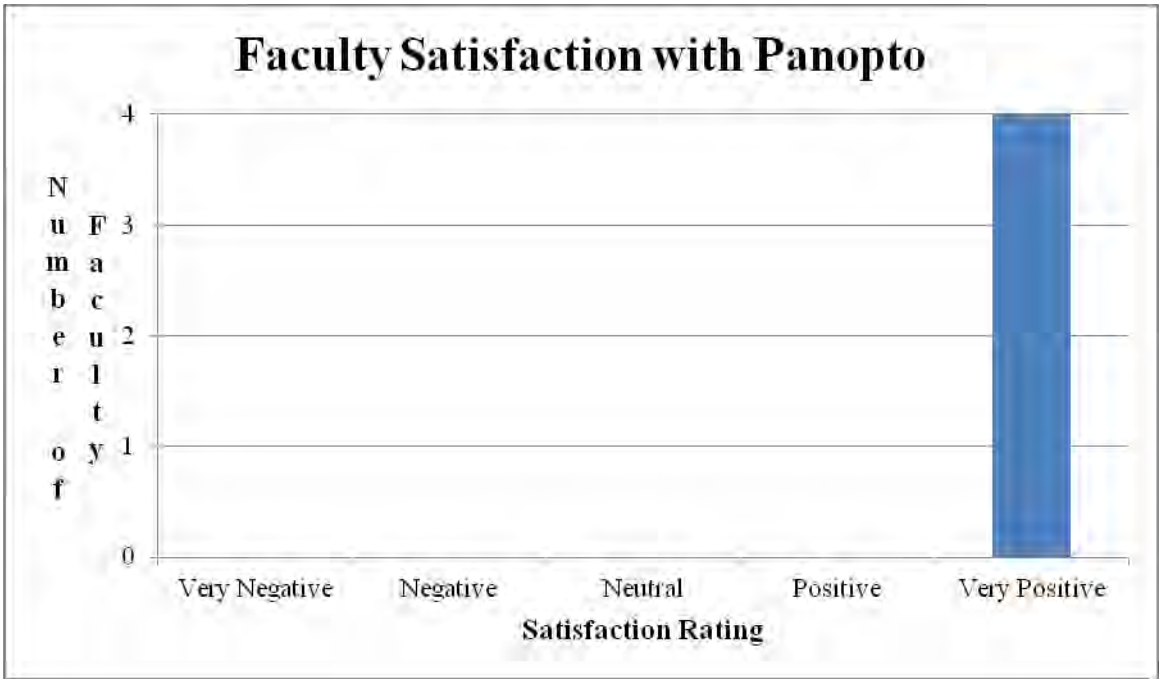

Figure 10: Faculty Satisfaction with the Panopto Lecture Capture System.

The majority of the faculty utilize the system approximately 2-3 hours per week to analyze interview sessions (see Figure 11). The instructional review process is normally conducted in small classrooms equipped with LCD monitors connected to laptops. Faculty access the recordings and discuss the sessions along with the students.

Researchers were pleased to discover that the faculty overwhelmingly felt that the system significantly enhances their instruction and student learning. Faculty can replay the entire session or click the notations (added by either the students or the faculty themselves) to advance the session playback to specific locations in the recordings. This saves time and provides improved session feedback (see Figure 12).

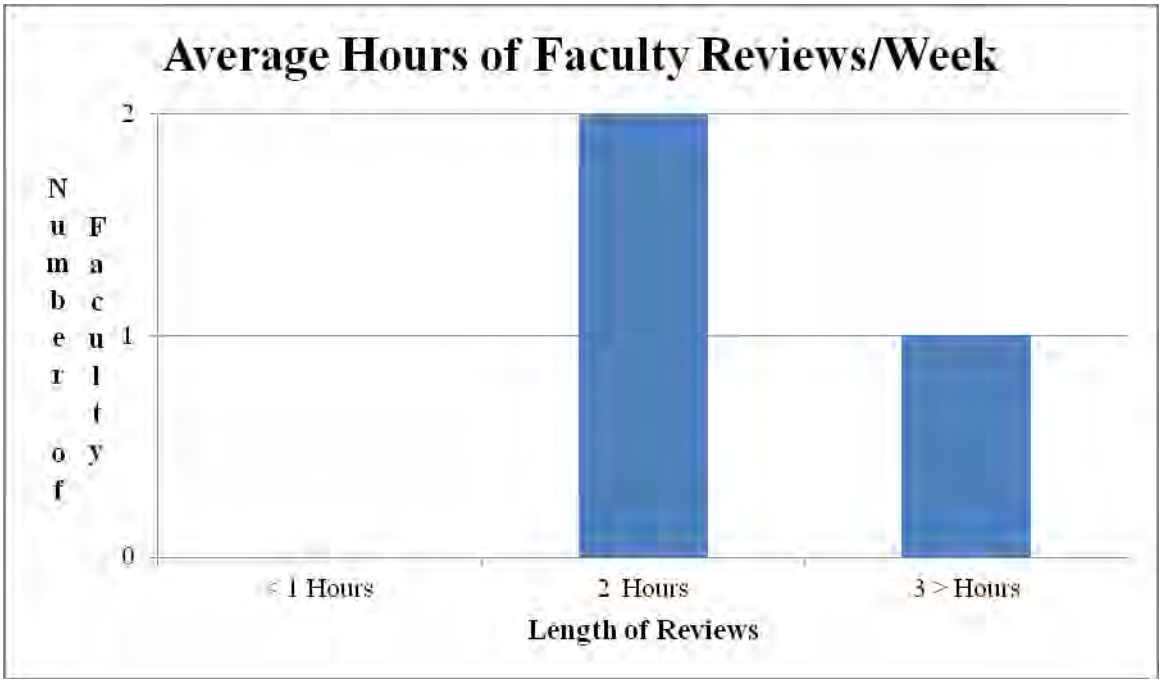

Figure 11: Average Faculty Hours/Week Reviewing Recordings. 1 faculty participant did not respond to this survey question.

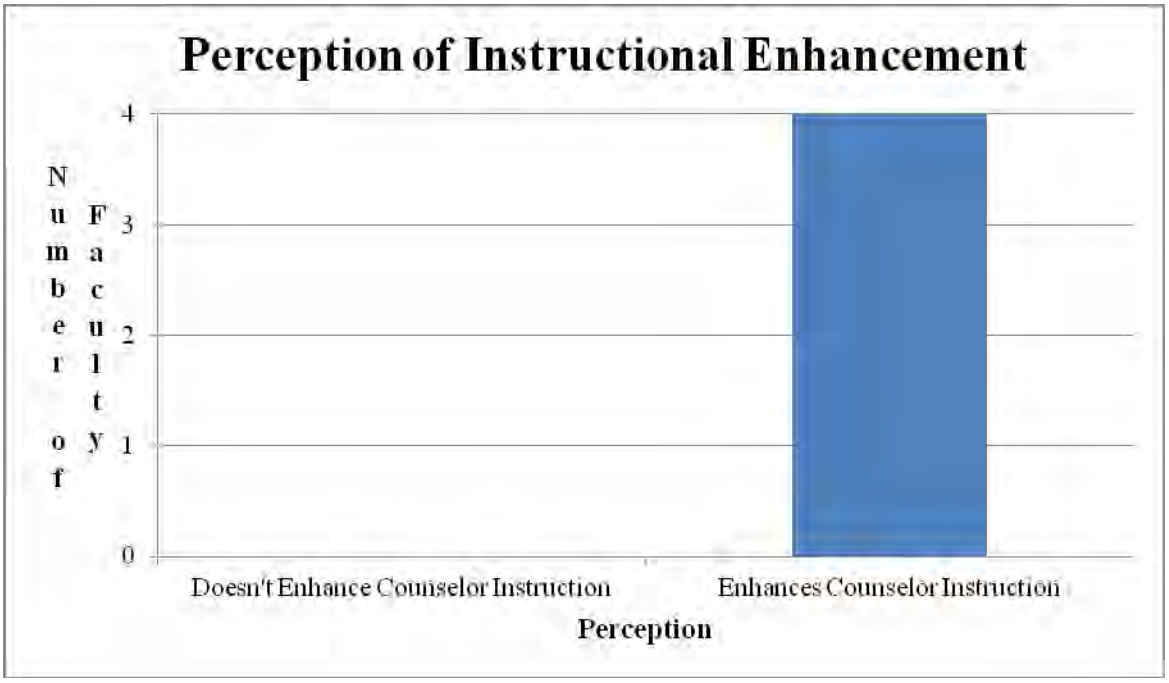

Figure 12: Faculty Perception Regarding the Learning Enhancement of Panopto

However, the faculty were a bit pessimistic concerning the potential for the technology to influence client responses (see Figure 13). The cameras and other technology are very apparent in each counseling room and may be perceived as intrusive.

Future room enhancements may include domes that disguise or minimize the presence of the cameras.

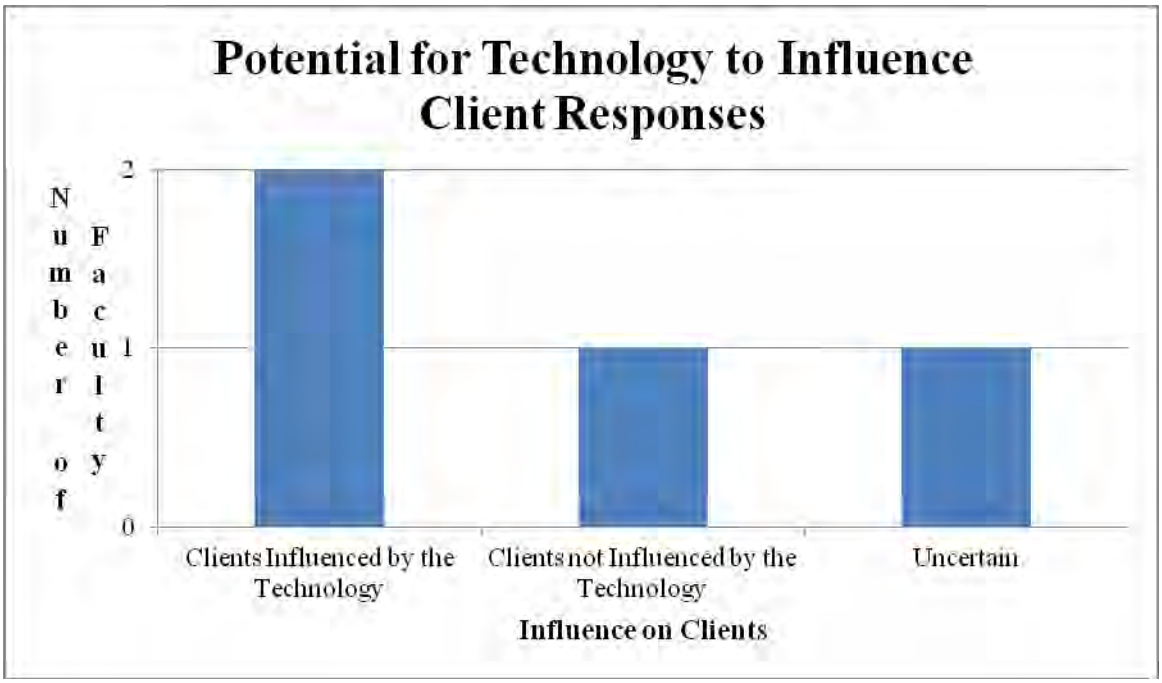

Figure 13: Potential for Technology to Influence Client Responses – Faculty Responses

Conclusion

Lecture capture recording appliances can be successfully repurposed for a variety of academic applications beyond traditional classroom instruction. Twenty-nine students (80% response rate) and four faculty (66% response rate) participated in a survey regarding the efficacy of Panopto. Even though the sample size was small, survey results from Emporia State University clearly indicate that counselor education students and faculty find the technology both easy-to-use and academically beneficial in its various programs. Future enhancements will include installation of various esthetics that suppress the technology from the view of the client, and product upgrades that will improve universal access, such as automatic captioning.

Although a variety of systems exist in the lecture capture spectrum, institutions will need to determine the specific criteria they require before making a product selection. No singular product yet has amassed every desired feature, along with an aggressive price point that can be scaled across the institution. In addition, consideration should be given as to whether the selected product will be used beyond niche programs and how that product will match the needs of the traditional classroom instructors.

In the Department of Counselor Education at Emporia State University, we have found that the Panopto recording system meets nearly every criterion we desire to assist us in increased opportunities to supervise counselors-in-training and adhere to national accreditation standards for our programs. The use of Panopto has also expanded across the ESU campus since this research was conducted. The product is reliable and easy-to-

use. We look forward to future product releases that will include automatic captioning and enhanced recording management features.

References

EDUCAUSE. (2008). *Seven things you should know about lecture capture*. Retrieved from www.educause.edu/ELI/7ThingsYouShouldKnowAboutLectu/163555

Green, K. C. (2010). *Is lecture capture the new lecture*? Retrieved from http://www.insidehighered.com/blogs/digital_tweed/is_lecture_capture_the_new_lecture

HIPAA Privacy. (n.d.) Retrieved from http://www.hhs.gov/ocr/privacy/

McClure, A. (2008). *Lecture capture: A fresh look*. Retrieved from http://www.universitybusiness.com/article/lecture-capture-fresh-look

Nagel, D. (2008). *Lecture Capture: No Longer Optional?* Retrieved from http://campustechnology.com/articles/2008/09/lecture-capture-no-longer-optional.aspx

Note: This paper is part of the annual VISTAS project sponsored by the American Counseling Association. Find more information on the project at: http://counselingoutfitters.com/vistas/VISTAS_Home.htm