



The Impact of Lecture Capture in the Undergraduate Classroom: Student Voices

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Disclosures

Leslie S. Nelson, Paula Clutter, and Tuong-Vi Ho
report no conflict of interest or sponsorship.

Objectives

By the end of the presentation participants will be able to:

1. Define what lecture capture is and how it can be used in the classroom.
2. Describe the perceived impact from research on second semester Baccalaureate nursing students when lecture capture technology was used to capture all live lectures in a medical-surgical course.

DEFINITION- WHAT IS LECTURE CAPTURE?

Lecture capture as defined in this study is technology that allows digital recording of live lectures for later viewing by students on a computer, smart phone, or tablet:

- Consists of an audio lecture recording that correlates with the powerpoint presentation.
- Tegrity was the lecture capture system used.
- Was accessed via a Tegrity link in the Course Blackboard.

Background

- Lecture capture technology was being utilized by some faculty in a second semester undergraduate nursing medical-surgical course:
 - Student responses very positive on end of course evaluations
 - Requests to broaden use to all course faculty and to expand to other courses
 - Concern voiced by various Faculty that students will not come to class if such recordings are available
 - Disparate results in the literature about attendance and grades and few recent studies with nursing students or faculty (Freed, Bertram, & McLaughlin, 2014; Johnston, Massa, & Burne, 2013; Mather, Caesar, Chin, & Fei, 2015)



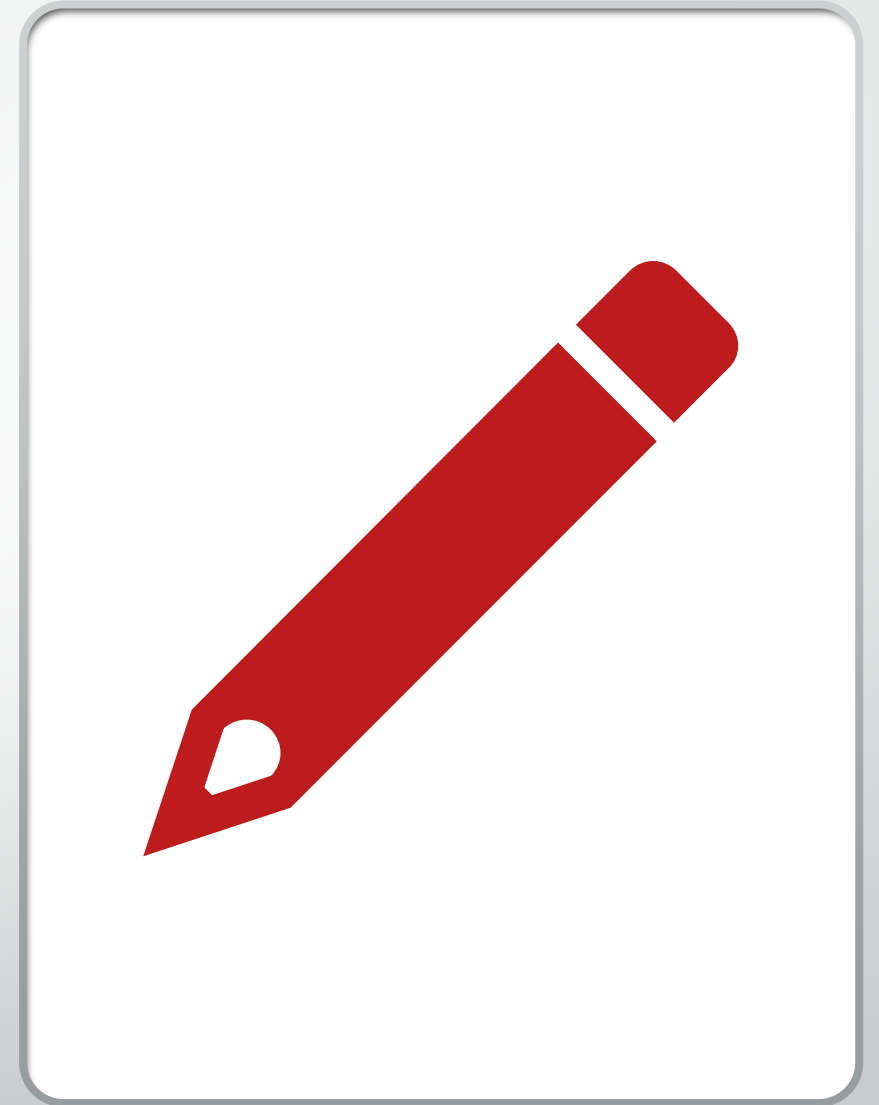
The Response

- A pilot project was initiated in the Spring of 2017 in part, to address these concerns.
- The study was repeated in Fall 2017 and Spring 2018.

Purpose

- To focus on hearing the **voices** of second semester undergraduate Baccalaureate nursing students who shared their perspective when live lectures were recorded for later viewing in an Adult medical-surgical course

Descriptive, Exploratory Design



Setting and Sample

- A **convenience** sample of Baccalaureate **nursing students** in their Junior II semester in a public University in the southern United States, who were enrolled in a medical-surgical course.
- 3 cohorts with final sample of 151:
 - 139 had used Tegrity in the course and 12 had not.
 - Focus on 139.

Sample Characteristics

- AGE: Range of 20 to 48 years, with mean of 25.99
- GENDER: 11 Males, 126 Females, 1 Transgender.
- RACE:
 - Caucasian: 42.3%,
 - Asian/Asian American: 31.4%
 - African-American: 16.1%.
- Primary language: English-81.9%, 62.3% spoke English only.

Research Question

- What are the perceptions of second semester Baccalaureate nursing students who used Tegrity to access recorded live lectures in an Adult medical-surgical course?

Data Collection

Instrument:

- Questionnaire developed by researchers and completed on PsychData
- Demographic information
- Questions about Tegrity usage and perceived impact on learning and attendance
 - 5 open ended questions and 23 likert scale
- Pilot tested with 4 student volunteers who had previously taken the medical-surgical course to ensure question clarity and to determine time commitment.
- Validated by qualitative expert
- Completion of questionnaire implied informed consent

Data Analysis



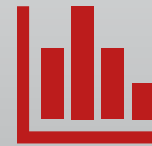
Content analysis of
open-ended questions
by each team member



Major categories and
themes identified



Team meeting to
come to consensus



Descriptive statistics
for likert scale
questions



Findings and Discussion

Open Ended Questions

1. How did having recordings available impact your **study habits**?
2. How did having recordings available for all lectures facilitate your **learning**?
3. How did you **feel** about using classroom lectures on Tegrity?
4. What has been **your experience** of viewing recordings of classroom lectures on Tegrity?
5. Any **other comments** you would like to make?

Impact on study habits and learning

Re-norming of study habits

- As one student said, *"for someone struggling in the class and trying to find a way to truly understand the material, Tegrity played a huge part in **revamping** my **study practice**. . .(46, 203)*
- *"became a part of my **study routine**" (41, 33)*
- *" I would start with the recording while at the same time looking at my notes" (41,284)*
- *" For topics that I did not grasp well in class, I would listen to the lecture and make notes" (41,219)*
- *20% of students watched only complete lectures or only parts of lectures. The majority did a combination.*

Impact on study habits and learning

To clarify- a major theme

- *"Allowed me to go back and see if there was anything that I missed during lecture/clarification" (42, 105)*
- *"I was able to go back and review topics I did not fully understand when they went quickly in class" (41,122)*
- *"I could review any discrepancies of my notes at a later date"(42,101)*

Impact on study habits and learning

*Subcategory: missing due to **loss of focus or zoning out***

- *"Sometimes a 2.5 hour lecture can cause fatigue and we may intermittently **zone-out** then horrifyingly zone-back in when we realized we just zoned-out" (43,67)*
- *". . .it was helpful for some of the early morning Monday lectures that I may **not be 100% focused** on in the moment. I could go back and relearn the content" (43,83)*

Impact on study habits and learning

Reinforce through Repetition

- “I was able to *understand* the material when I *heard it again*” (43, 238)
- “It allowed me *to really absorb* the lecture materials because I need to hear the info *more than once*” (42, 130)

91.3% agreed or strongly agreed that being able to review lectures on Tegrity increased their understanding of lecture content

Impact on study habits and learning

Exam Preparation

Students also used Tegrity for *exam preparation*.

- *"It assisted in the way I reviewed for exams, listening to tegrity again really helped solidify info" (46, 78)*
- *"listened to them the week before exams to add to my notes and for clarification" (41, 220)*
- *66.4% indicated frequent or very frequent use for exam preparation*



Impact on study habits and learning:

Own Pace

Students also appreciated the ability to review information at their *own pace*:

- *"I was able to learn at my own pace and go back and clarify what I did not understand" (42, 281)*
- *"I felt like I had control in regard to my studying time. If I had to stop and cook dinner, it wasn't difficult to return to where I left off in tegrity" (43, 82)*



Impact on study habits and learning:

Portability

- “I could go on *walks* and *play Tegrity* to get exercise and *keep moving* as I listened” (41,10)
- “They gave me the ability to be ‘*studying*’ on my *commute*. Every morning and evening I would listen” (41, 223)



General Experience of Tegrity

Students thought of Tegrity as a *Safety-net* and *a stress reliever*. If they missed content or *zoned out*, had to miss a class, or couldn't understand during a lecture, they felt reassured that they could always go to the Tegrity recording and review.



General Experience of Tegrity



- As one student commented: *"I loved having the classroom lectures on Tegrity because it took off the stress of having to absorb all the material during the live lecture"* (43,219)
- Another student said: *"Although I only used Tegrity once for this class to review a lecture that I was absent for, I was at ease knowing that resource was there for me if I needed it for studying"* (44,169)

79.5% of the students agreed or strongly agreed that they were able to concentrate more completely in class, knowing that the lecture was being recorded and could be reviewed later.

General comments-Technology

- A few students reported some low volume and background noises with some lectures.
- Recording did not capture student voices, so question and answer less helpful.
- Overall though students generally reported the system **simple to use** and **reliable**. They liked:
 - the synchronization of the powerpoints with the audio (95%).
 - the ability to review parts of the recording and to vary the audio speed.

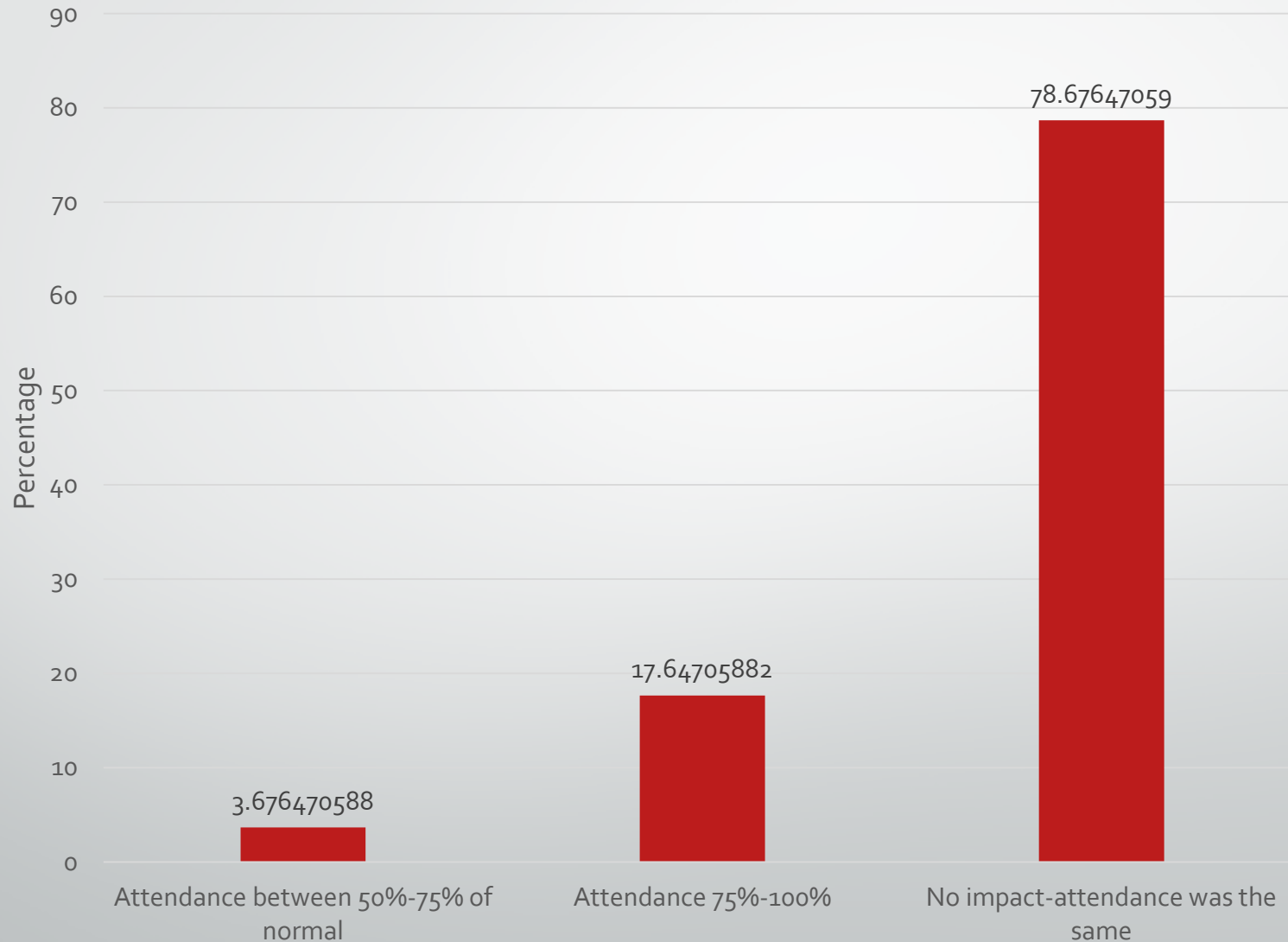
As one student said: "I am thankful to have lectures available on Tegrity and used them as a study tool. I listen in the car to and from school, plus on my laptop at home. It is a huge help!" (43,106)

What about impact on attendance and grades in this study?

Listening to the Student voices. . .

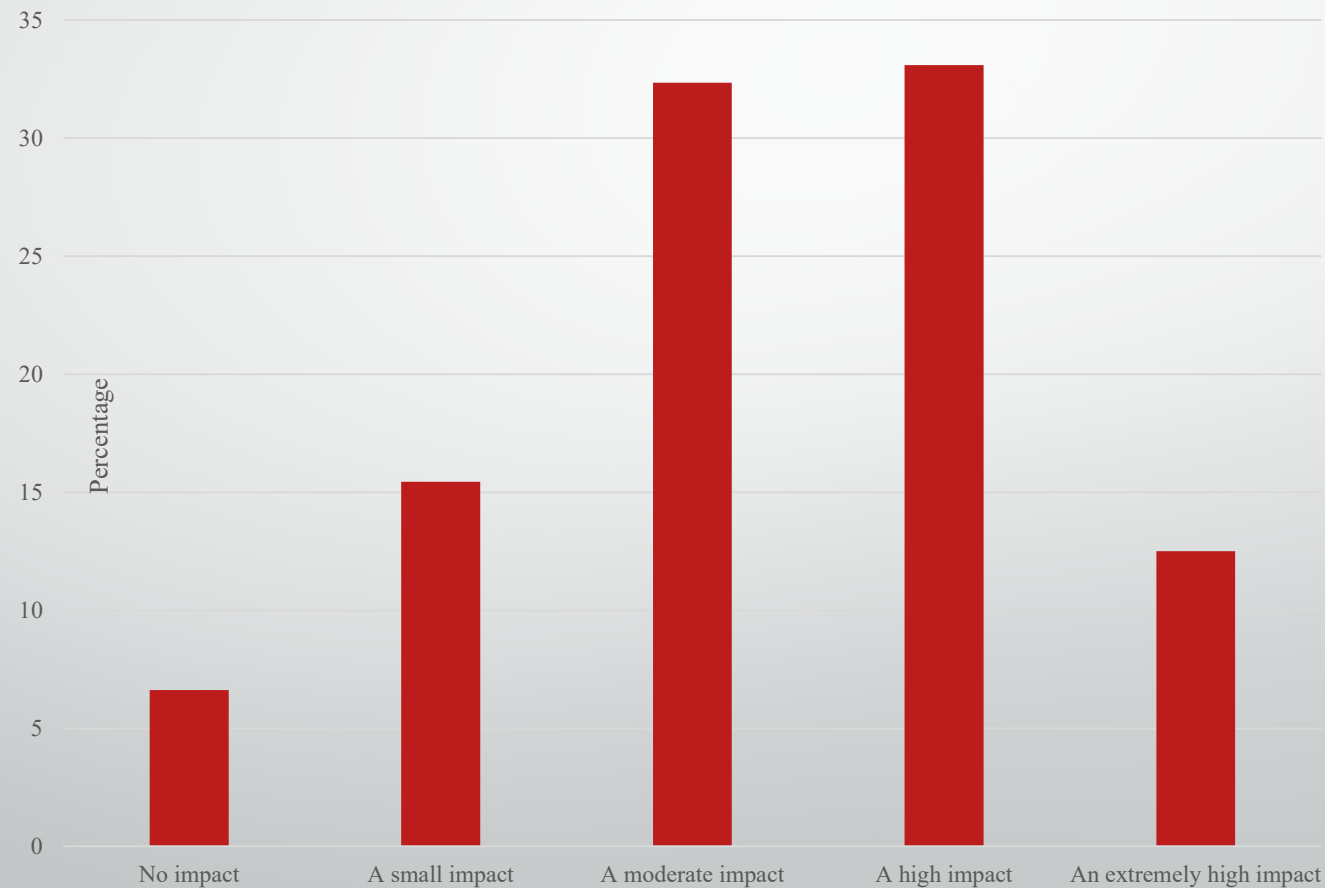


What was the impact, if any, on your normal level of lecture attendance given the availability of lecture recordings for later review?



How much impact do **you feel** the Tegrity lectures had on improving your final course grade?

78% Moderate to Extremely High impact

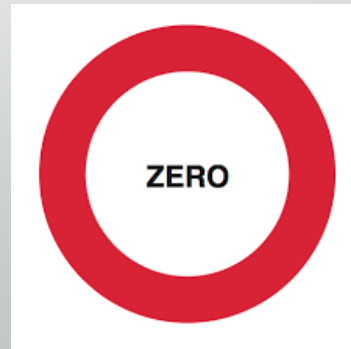


Perceived Impact on grade

- *"My grade improved because of it. I would to have gotten a B if it were not for tegrity. I know the professor is alway there to answer your questions but having the option to go to tegrity first saves both party the time" (44,65)*
- *"I think Tegrity has impacted my grade in a positive way. Without Tegrity I wouldn't be able to do both types of learning, visual and auditory. I would listen on my walks, then review the slides, then go to the textbook "(44, 10)*

Quantitative Perspective -the other part (Nelson, Clutter, & Ho, 2018)

- No significant correlation between final course grade and Tegrity usage defined as minutes of use, ($r = -.081, p = 0.325$)
- No significant correlation between attendance and Tegrity usage ($r = -.086, p = .293$)





Where do we go from Here?

**Conclusions and Implications
for Practice**

Current State

- Lecture capture technology is becoming commonplace in universities around the world (Karnad, 2013)
- Reported student perceptions of use and benefits in the literature resonate with this research:
 - ✓ use for clarifying, exam preparation, missed classes (Aldamen, Al-Esmail, & Hollindale, 2015; Daniel, 2017; Dobinson & Bogachenko, 2018; Groen, Quigley, & Herry, 2016; Mather et al., 2015)
 - ✓ As a supplement, not replacement (Daniel, 2017; Johnston et al., 2013)
 - ✓ Back-up, relieved stress (Groen et al., 2016)
 - ✓ Own pace (Daniel, 2017; Dobinson & Bogachenko, 2018; Johnston et al., 2013)

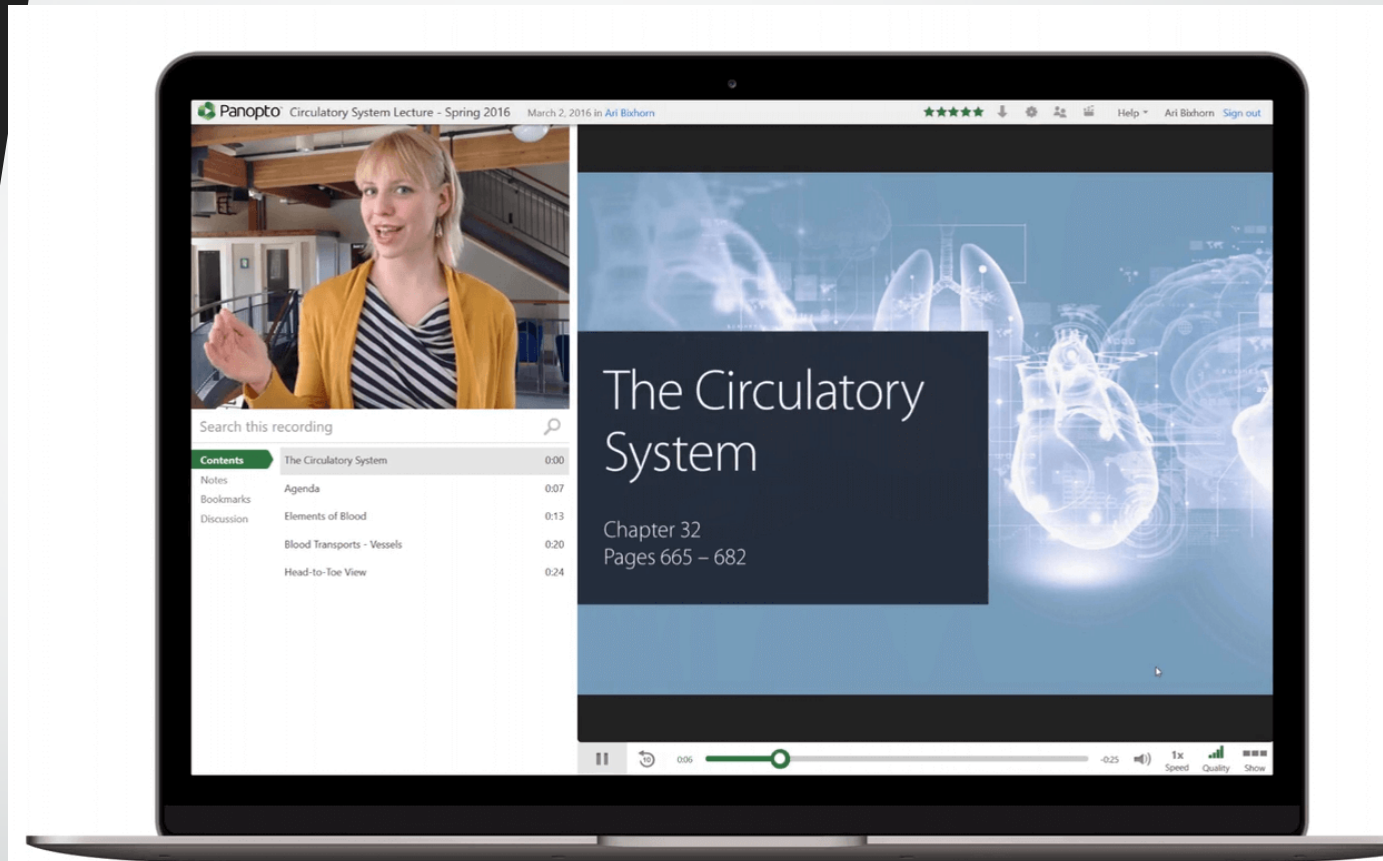
We need to Listen to the Student Voices

- 97.1% agreed or strongly agreed that the medical-surgical course should continue using Tegrity
- 97.1% agreed or strongly agreed that other courses should consider implementing recording of live lectures
- 78.7% of students reported that the availability of lecture recordings for later viewing had no impact on their attendance
- Students viewed lecture capture as a tool to augment their learning not replace classroom attendance:
 - ✓ “In-class lectures and Tegrity recordings of lectures work best together. Not tegrity lectures alone” (43,1)

► The data from the students was overwhelmingly in support that the technology use continue and faculty have listened.

► Lecture capture continues and is being used to augment additional active learning strategies.

► A new system offers additional capabilities...



Future Research Needed

- Different pedagogical combinations- a tool to supplement not replace
- Different generations-comfort with and expectation for technology
- Undergraduate versus graduate use
 - Factual information?
 - Critical thinking?
 - Socratic discourse?

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Questions?

