



**Good for the Goose,  
Good for the Gander:  
Enhancing learning  
opportunities for all students  
through video captioning**

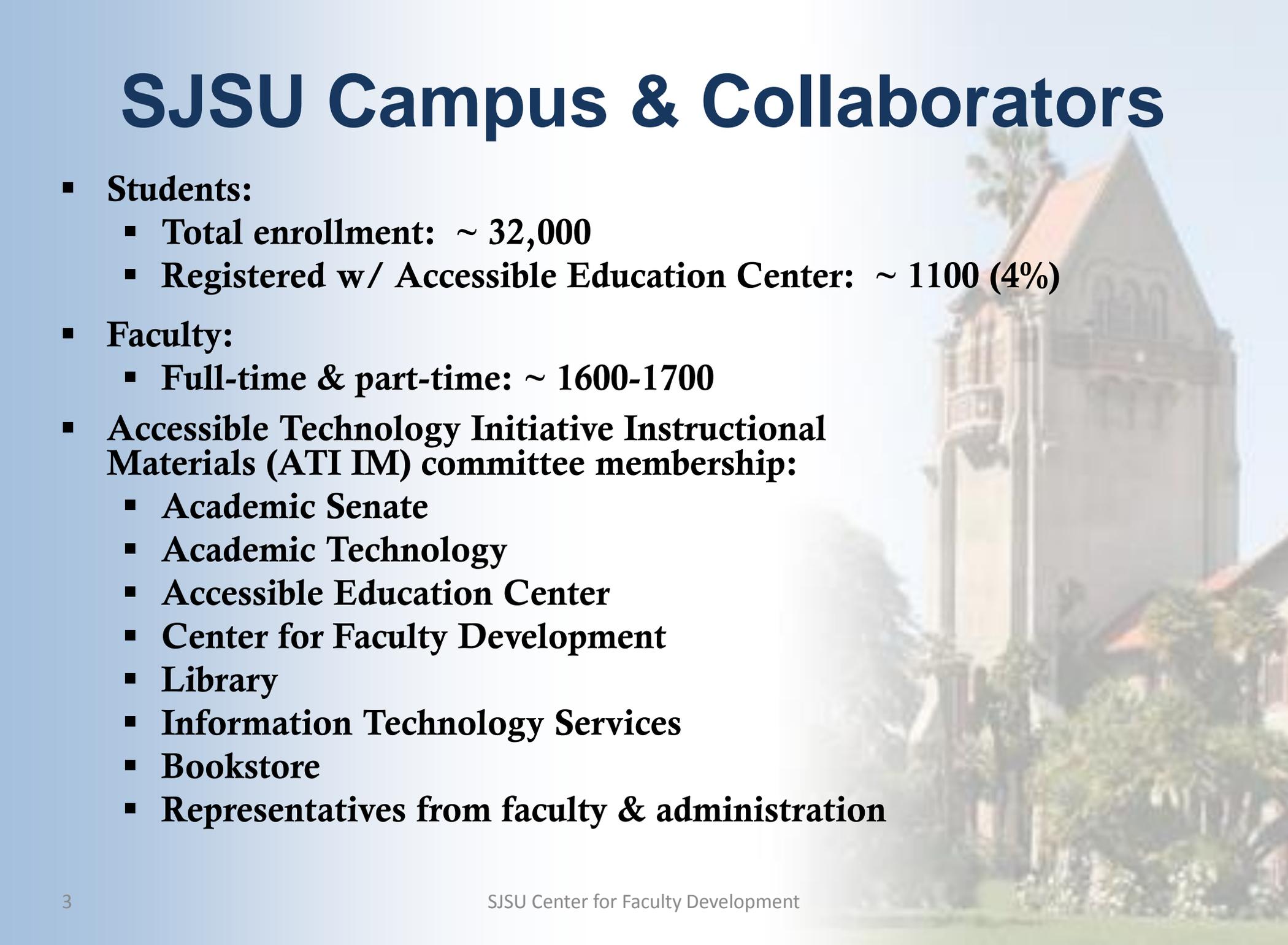
**Amy Strage and Elizabeth Tu  
San José State University  
November 20th, 2015**

***18<sup>th</sup> Annual Accessing Higher  
Ground: Accessible Media, Web and  
Technology Conference***

# Agenda

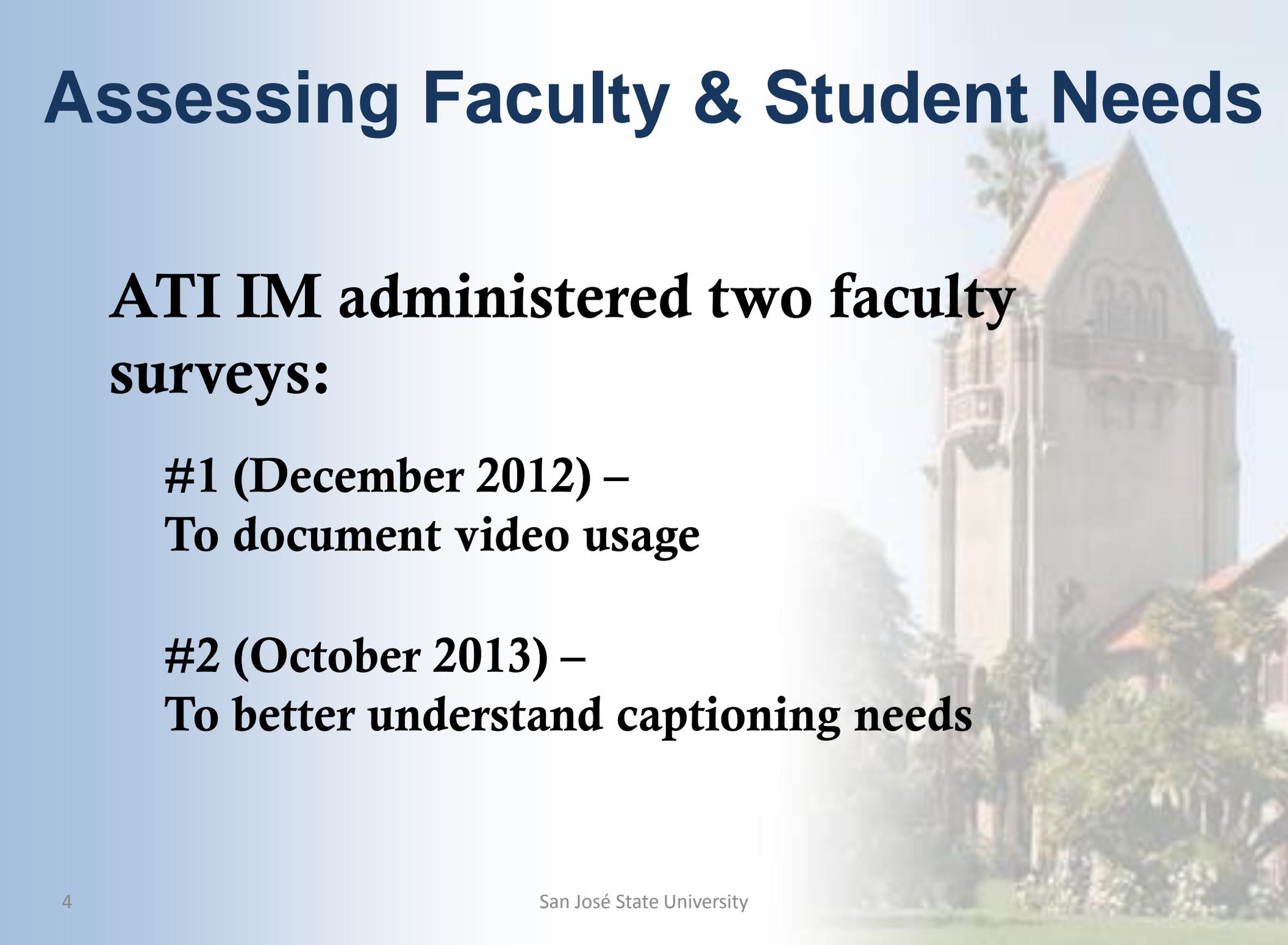
- **Our Campus & Our Collaborators**
- **Assessing the Needs**
  - Questions about video usage
  - Questions about captioning needs
- **Introducing Captioning Services**
- **Case Studies**
  - Usage of captioned videos
  - Impact of captioned videos on student learning
- **Wrap-Up: Take Away Messages**

# SJSU Campus & Collaborators



- **Students:**
  - **Total enrollment: ~ 32,000**
  - **Registered w/ Accessible Education Center: ~ 1100 (4%)**
- **Faculty:**
  - **Full-time & part-time: ~ 1600-1700**
- **Accessible Technology Initiative Instructional Materials (ATI IM) committee membership:**
  - **Academic Senate**
  - **Academic Technology**
  - **Accessible Education Center**
  - **Center for Faculty Development**
  - **Library**
  - **Information Technology Services**
  - **Bookstore**
  - **Representatives from faculty & administration**

# Assessing Faculty & Student Needs



**ATI IM administered two faculty surveys:**

**#1 (December 2012) –  
To document video usage**

**#2 (October 2013) –  
To better understand captioning needs**

# Status of Captioned Video

- **55% of respondents said that NONE of the videos viewed In-Class are captioned**
- **62% of respondents said that NONE of the videos they assign for Outside of Class viewing are captioned**

	<b>Not Captioned</b>	<b>&lt; 25%</b>	<b>~ 50%</b>	<b>&gt; 75%</b>	<b>All</b>	<b>Don't Know</b>	<b>Other</b>
<b>In-Class</b>	<b>72 (55%)</b>	<b>29 (22%)</b>	<b>2 (2%)</b>	<b>7 (5%)</b>	<b>7(5%)</b>	<b>7 (5%)</b>	<b>8(6%)</b>
<b>Outside of Class</b>	<b>82 (62%)</b>	<b>10 (8%)</b>	<b>2 (2%)</b>	<b>2 (2%)</b>	<b>4 (3%)</b>	<b>12 (9%)</b>	<b>20 (15%)</b>

# Source Video Format

This question is important to learn what kind of video files we will be captioning/transcribing.

- Note the **INCREASE** in proportion of **ELECTRONIC** files received (45% to 89%)
- Note the **DECREASE** in proportion of **DVDs** received (30% to 11%)

Source Video Format	Spring 2014	Fall 2014	Fall 2015
Electronic file (e.g., m4v, Flash, QuickTime, Window Media, Real Player)	45%	74.7%	89%
DVD	30%	22.8%	11%
Other	14%	1.3%	0
VHS tape	11%	0	0
Blu-Ray	1%	0	0

# Copyright Ownership of Videos

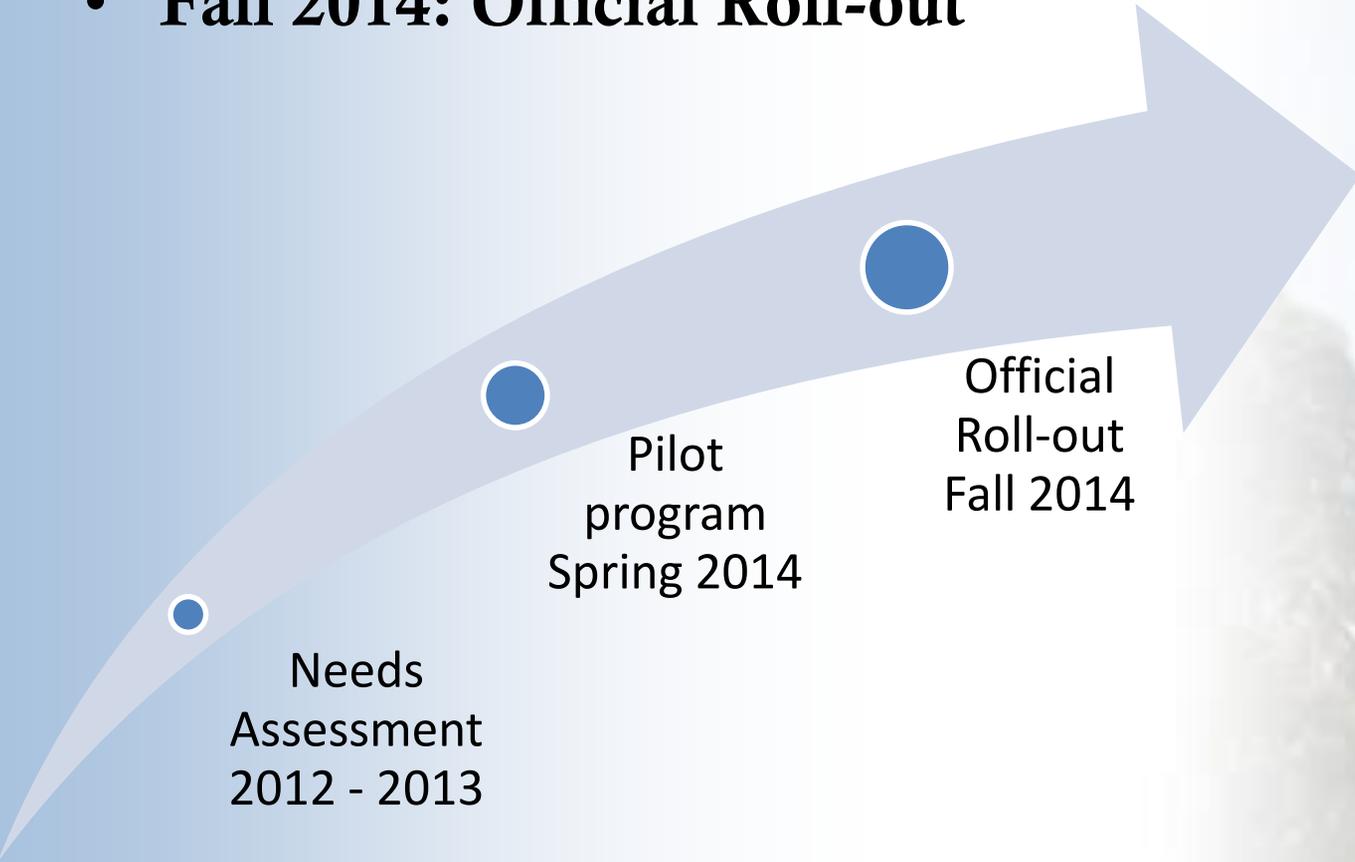
**This question is important to determine whether we can add captions or only provide transcripts.**

- Note the the proportion of faculty asserting they have copyright ownership/permission has DOUBLED.**

<b>Copyright Ownership</b>	<b>Spring 2014</b>	<b>Spring 2014 – present</b>
No – for any of it	44%	44%
Yes – for everything I need captioned	23%	56%
Yes for some, no for others	13%	NA
Not sure	12%	NA
Other	9%	NA

# Introduction of Captioning Services

- **2012 ~ 2013: Needs Assessment**
- **Spring 2014: Pilot Testing**
- **Fall 2014: Official Roll-out**



Needs  
Assessment  
2012 - 2013

Pilot  
program  
Spring 2014

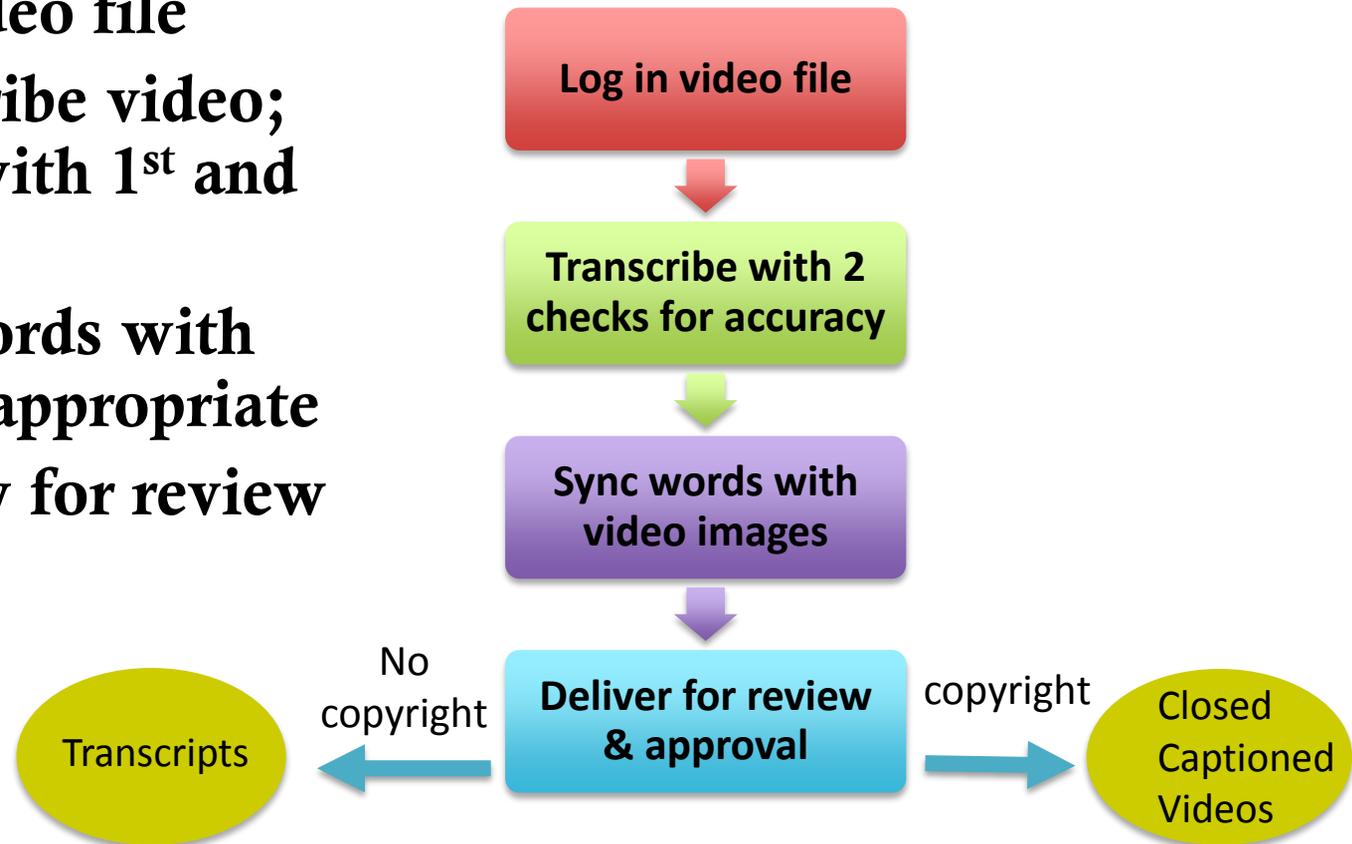
Official  
Roll-out  
Fall 2014

# Captioning Services Infrastructure

- **Hardware and Software:**
  - Windows and Macs, Dragon Naturally Speaking, MovieCaptioner, AutoSync, YouTube, DVD Studio Pro, etc.
- **Online Info Hub:**
  - FAQs, request form via Google form, media drop box, media library repository, etc.
- **Resources:**
  - 2 staffs as additional duties; 6 part-time student assistants (50 hours/week)
  - [Automatic Sync Technologies](#) (AST) vendor
- **Documentation:**
  - Job/workflow & software used, master database log sheet, etc.

# Transcription Workflow

1. Log in digital video file
2. Manually transcribe video; check accuracy with 1<sup>st</sup> and 2<sup>nd</sup> corrections
3. Sync/time set words with video images, if appropriate
4. Deliver to faculty for review and approval



# Assessing the Usage and Impact of Video Captioning

- **Collect information from faculty for whom we provided captioning/transcribing support**
  - **Case #1 – Computer Science 223 Python Language (Fall 2015)**
  - **Case #2 – Student feedback from 10 different courses (Fall 2015)**
  - **Case #3 – Performance differences in viewing videos with vs. without captions (Fall 2015)**

# Case #1:

## CS 223 Python Language

- **20 upper division students (8 female, 12 male) enrolled; 3-credit computer science course**
- **Students are required to view course videos (30 to 60+ min) prior to face-to-face class**
- **Instructor distributes in-class programming exercises and lectures/discusses key concepts**
- **Students are randomly assigned to groups for peer discussion or debugging**
- **Students are graded based on weekly quizzes, programming exercises, exams, & individual and group projects**

# Case #1: Usage and Impact of Captioning

The following survey questions were distributed during class:

- Are you aware that captioned videos are available?
- Did you look at any captioned video?
- If answer to [the above] is no, why not?
- If answer to [the above] is yes, will you keep look at the captioned videos?

# Case #1: Usage of Captioned Videos

- **Are you aware that captioned videos are available?**
  - **7 out of 20 (35%) students are aware the availability of captioned video**
- **Did you look at any captioned video?**
  - **2 out of 20 (10%) students viewed captioned video**

Questions	Yes	No
Are you aware that captioned videos are available?	7 (35%)	3 (15%)
Did you look at any captioned video?	2 (10%)	8 (40%)

# Case #1: Reasons for Not Watching Captioned Video

- **I wasn't aware that they were available. The lectures were easy to hear though**
- **The other videos work just fine**
- **Because they aren't readily available on canvas... I'm too lazy to seek them out**
- **Not applicable**
- **Was not aware of the captioned videos. But I don't have trouble understanding your lecture. Plus your videos are a combination of slides + interactive. I can pretty much read and see what you're saying anyway.**
- **I can clearly understand the words spoken in the video**

# Case #1: Reasons to Continue Viewing Captioned Videos

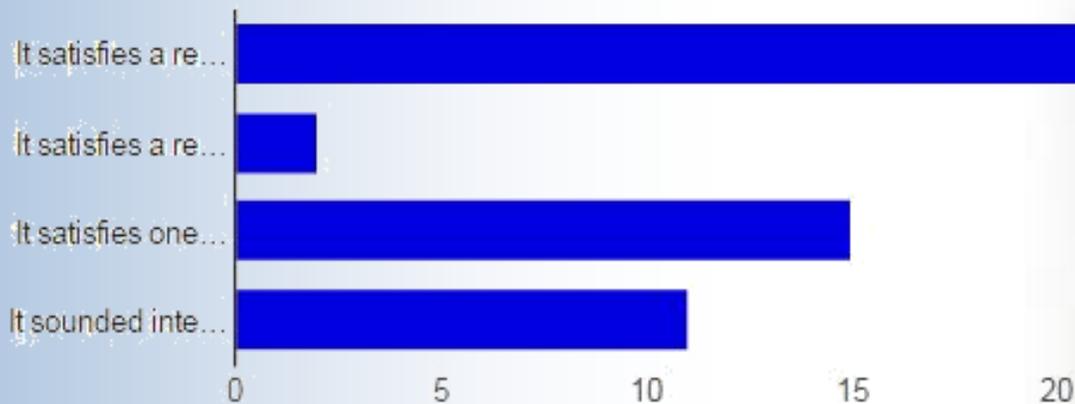
- **I found it helpful to watch the captioned videos to capture complex programming concepts and ideas as I am experiencing programming for the first time. It is really helpful to take important notes on the lecture videos.**
- **The other videos work just fine**
- **I am content with the audio quality of the videos and do not find the captioned videos necessary at this point in time.**
- **I am not sure. I may see those videos in future if I come across something which I am not able to understand.**

## Case #2: Video Captioning Usage

- **We contacted 30 faculty members who have used our captioning service and asked them to forward an anonymous survey to their students.**
- **Courses included anthropology, biology, geology, physics, psychology, statistics and engineering technical writing**
- **Students had two weeks to respond. Participation was voluntary.**
- **54 out of a total of 401 students from 10 courses have responded. The return rate is 13.5%**

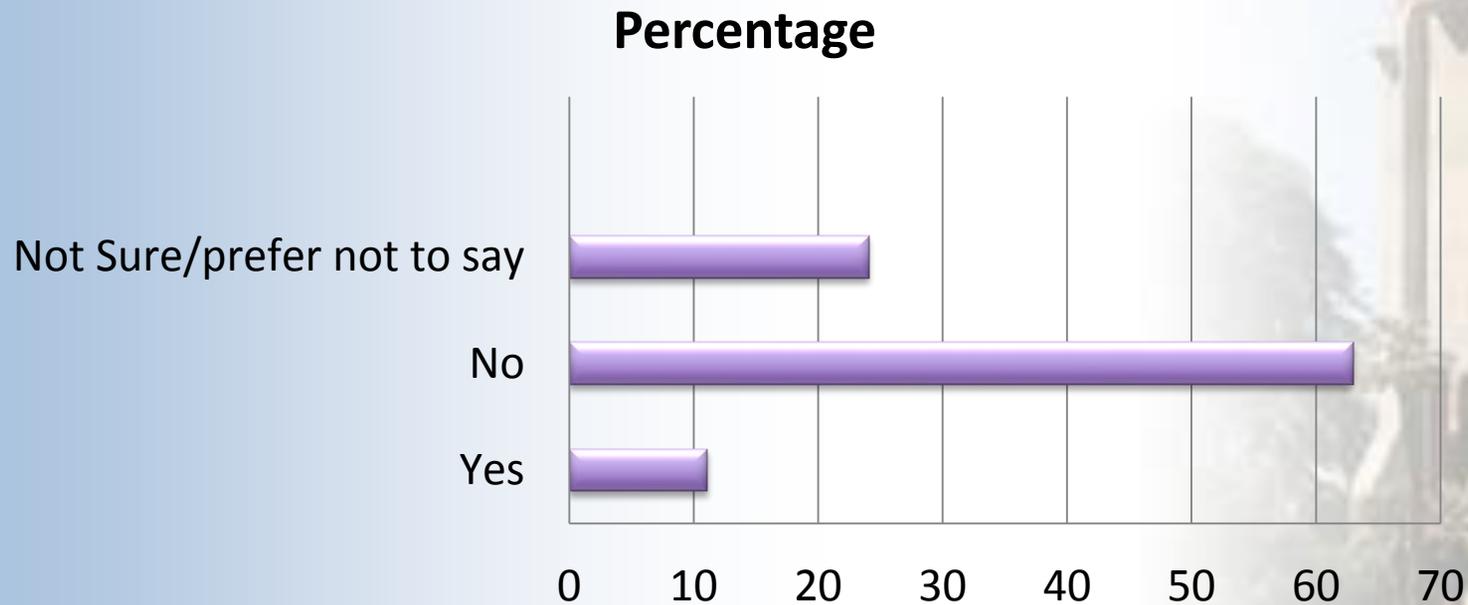
## Case #2 - Why Did You Take This Course?

- **Required for my Major = 22 (60%)**
- **Required for my Minor = 2 (5%)**
- **GE requirement = 15 (41%)**
- **It sounded interesting = 10 (27%)**



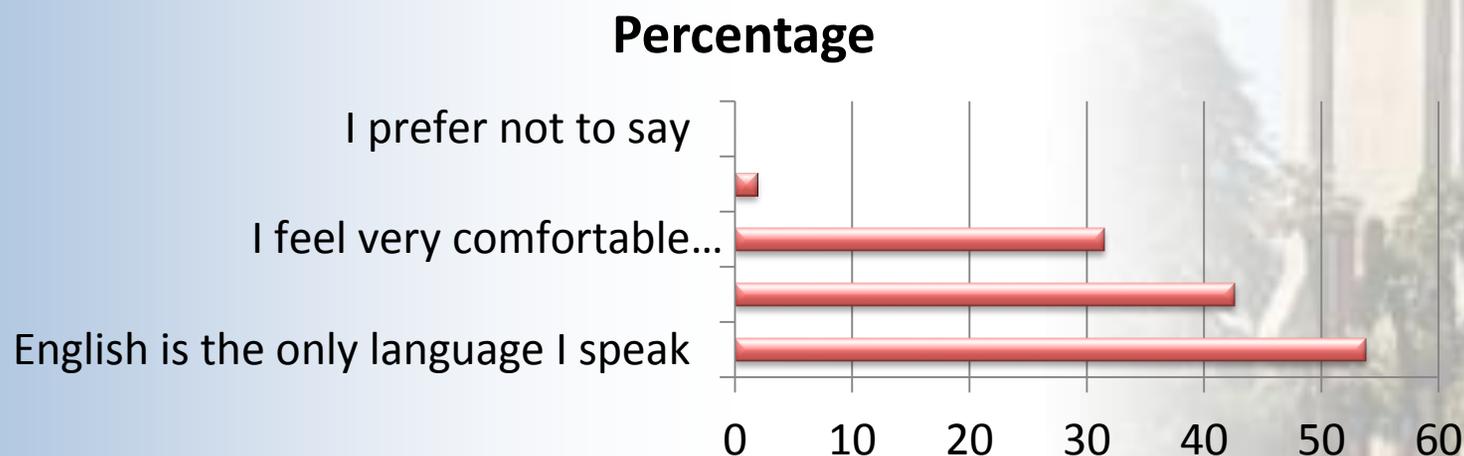
# Case #2: Are you eligible for instructional accommodations?

- Yes = 6 (11.1%)
- No = 34 (63%)
- Not Sure/prefer not to say = 13 (24.1%)



## Case #2: Your Experience/Comfort Level with English

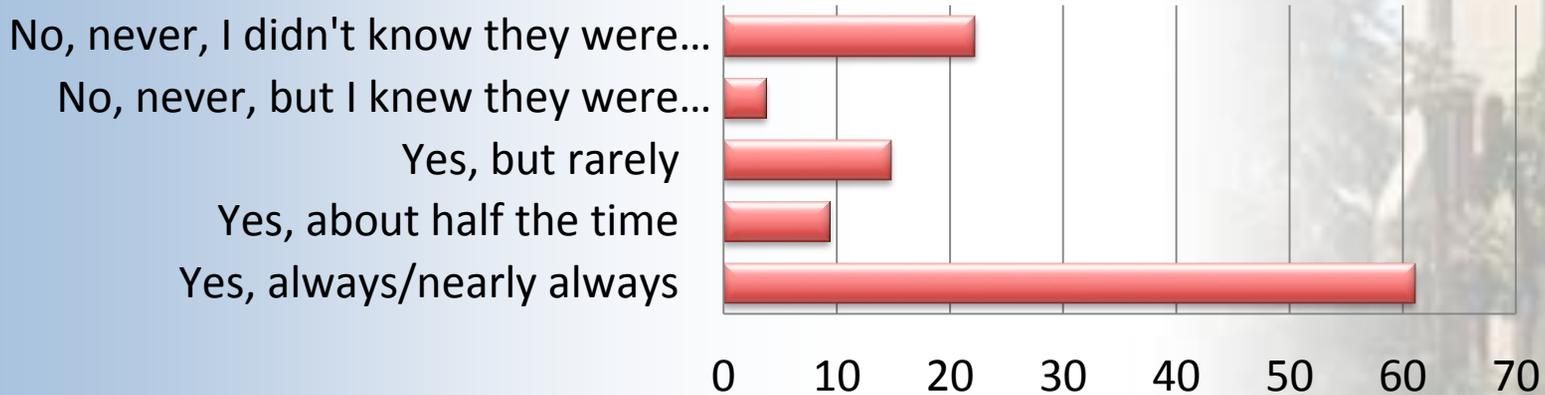
- English is the only language that I speak = **29 (53.8%)**
- I speak one or more languages other than English = 23 (42.6%)
- I feel very comfortable learning/studying in English = 17(31.5%)
- I would feel more comfortable learning/studying in English if my language skills were stronger = 1 (1.9%)
- I prefer not to say = 0



## Case #2: Use of Captioning

- Total respondents = 54
- Yes, always/nearly always = **33 (61.1%)**
- Yes, about half the time = 5 (9.3%)
- Yes, but rarely = 8 (14.8%)
- No, never, but I knew they were available = 2 (3.7%)
- No, never - I didn't know they were there! = 12 (22.2%)

Percentage



# Case #2: Why/When Do you use the Captions?

## Captions help me learn (23)

- with studying/learning, clarify, affirm understanding, note taking, spelling, pause and replay, etc.

## Noisy environment (13)

- ...when I cannot hear, in a noisy classroom, in a large classroom, etc.

## Speaker clarity (11)

- Has accent, is hard to understand, not clear, speaks too fast, etc.

## Help with hearing impairment (2)

## Others (4)

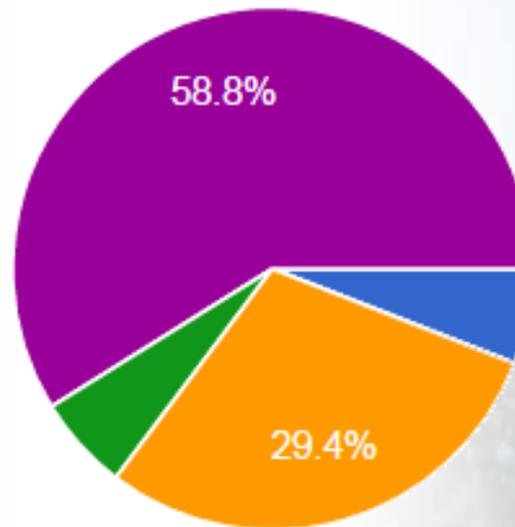
- Forget my headphones when listening in a lab or library
- Lecture slides help
- Captions availability

## Case #2: When/Why you do not use captions

- **Audio is loud/clear enough (7)**
- **No need, irrelevant, freedom to use the sound and rewatch the video, speakers have no accent (7)**
- **Always use it (5)**
- **Distract from the video (3)**
- **Enjoy the facial expression (1)**
- **I listen instead of read (1)**
- **No closed captions (1)**

# Case #2: Preference for Live Presentation vs. Archived Videos

- Strong preference for the live version = 1 (5.9%)
- Moderate preference for the live version = 0
- No preference = 5 (29.4%)
- Moderate preference for the video/archived version = 1 (5.9%)
- Strong preference for the video/archived version = **10 (58.8%)**
- Other = 0



# Case #2: Reasons for Preferences

## Live Presentation (3)

- Easier to hear and focus
- Ask questions
- Motivate speakers to talk

## Archived Videos (9)

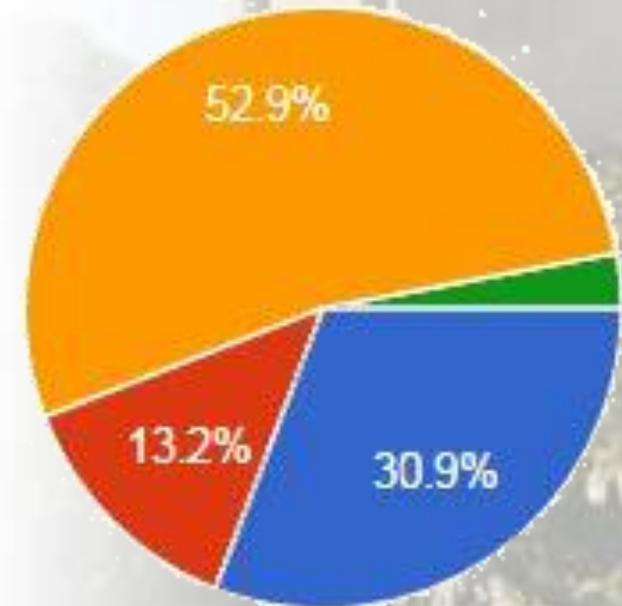
- Freedom to review, pause, and rewind to learn (5)
- Fit into my schedule better
- Flexibility for commuter students
- Great for note taking to get exact quotes
- Speakers are difficult to understand

# Case #3: Does Closed Captioning Impact Student Learning?

- All Engineering majors are required to take ENGR 100W course and attend the Green Talk guest speaker series.
- *GreenTalk* lectures feature practicing engineers, scientists, and technical experts who deliver up-to-date briefings on how they deal with environmental issues
- The live lecture series is held in the Engineering Auditorium; students enrolled in evening sections have to view recorded versions of the talks
- Survey distributed to 3 sections of ENGR 100W to assess whether closed captioned videos make any difference in students' learning. We received 68 out of a total 68 responses. Participation points given to those who provided their names.

## Case # 3: Attendance at Live vs. Video Presentation

- **Attended the live presentation = 21 (30.9%)**
- **Watched the YouTube video presentation without closed captions = 9 (13.2%)**
- **Watched the YouTube video presentation WITH closed captions = 36 (52.9%)**
- **Other = 2 (2.9%)**



## Case # 3: Assessing student learning

- Survey included 7 multiple choice and 2 open ended questions about the content delivered by the speaker
- Students who viewed the videos with captioning answered significantly more questions correctly than those who viewed videos without captions or who attended the live presentation ( $F = 29.33, p < .000$ ).

	Attended LIVE presentation	Viewed Video WITHOUT captions	Viewed Video WITH captions
Average number of multiple choice questions answered correctly	2.77	4.22	4.89

# Wrap-up: Take-Away #1

- **“Good for the goose, good for the gander” with your universally accessible teaching content**



# Wrap-up: Take-Away #2

**Plan for appropriate online distribution – make sure all of the geese and all of the gander can benefit from your teaching ...**

**Make sure students realize that closed captioning is available and how to use it. (Case #1)**

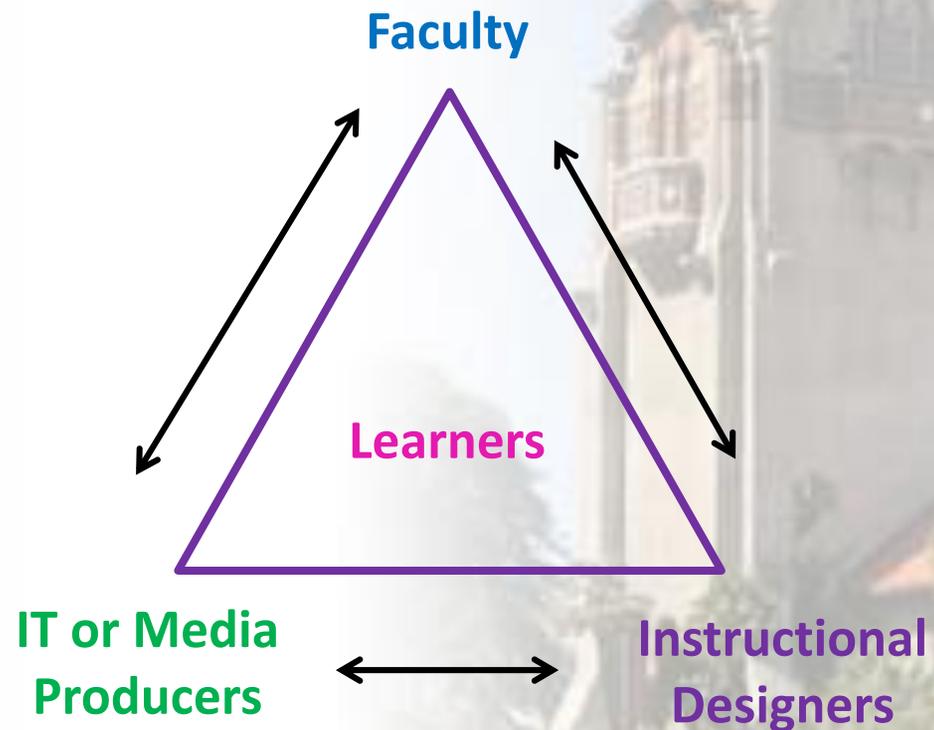
**Closed captioned videos are most effective:**

- **When students encounter new complex concepts or terminologies (Case #1)**
- **When students need to clarify, affirm understanding or spelling (for non-native English speaker), pause and replay, note taking, etc. (Case #2)**
- **When students view different speakers presenting different topics in a big lecture hall (Case #3)**
- **When students are tested of the video content in a shorter time frame (Case #3)**
- **When there is relevancy or connection between video content and student assignments or classroom activities (Case #3)**

# Wrap-up: Take-Away # 3

## Universal Design in Teaching:

- Provide multiple ways or strategies in presenting your teaching content or classroom activities
- When designing or presenting multimedia course materials, include instructional designers, media producers, IT specialists and librarians as early as possible



# Thank you!!

## Questions?



# Points of Contact

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