Creating a

synchronous hybrid learning environment

using **video conferencing technology**

First, a definition of

"synchronous hybrid learning environment"

F2F learning and online learning implemented in a concurrent way, where a lesson is delivered to both classroom and online students simultaneously.

Wang, Q., Quek, C., & Hu, X. (2017)

A brief history

- Started in 2015
- Initiated by the Adult Education Department
- Modest initial design and training
- New room designed by Education Technologist
- Faculty trained and supported by Ed Techs
- From 2 or 3 classes to now 15 per semester

The opportunities (the Why?)

- Mixed preference - (online and on campus)
- Demand for online courses are growing
  - Accessibility (i.e. remote location, physical barriers, etc.)
  - limited classroom availability
- Technology is advancing
  - low cost and easy to use
  - Technology makes this mode of delivery possible

The research says

"Results showed that the Blended Synchronous Learning Environment (BSLE) had **the capability to** support online and classroom students at the same time and provide equivalent learning experiences for them..."

Wang, Q., Quek, C., & Hu, X. (2017)

The research says

"...but it had certain challenges as well."

Wang, Q., Quek, C., & Hu, X. (2017)

Attitude and perception

Blended Learning (BL) has generally been viewed positively by faculty because it has created economies which enable them to reduce and/or better manage their workload.

Students also appear to see benefit in BL. Like faculty, they often view it as capable of freeing them from their weekly schedule of on-campus courses without any noticeable loss in quality.

However, since BL requires that students spend at least some time on campus, it cannot be successful in solving the accessibility dilemma for the typical, off-campus DE student.

Solution: Blended Synchronous Learning Environments

Power, T., & Morven-Gould, A. (2011)

and, a picture of a SHLE
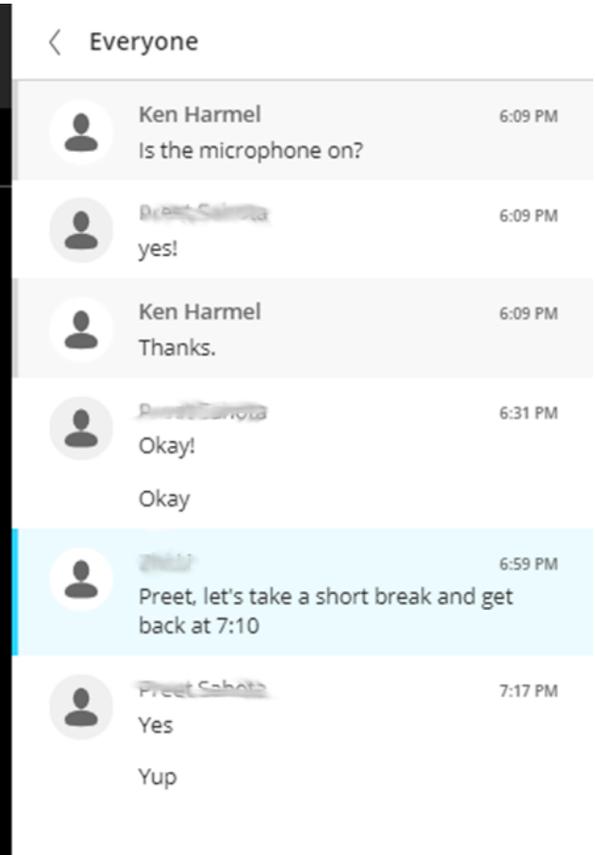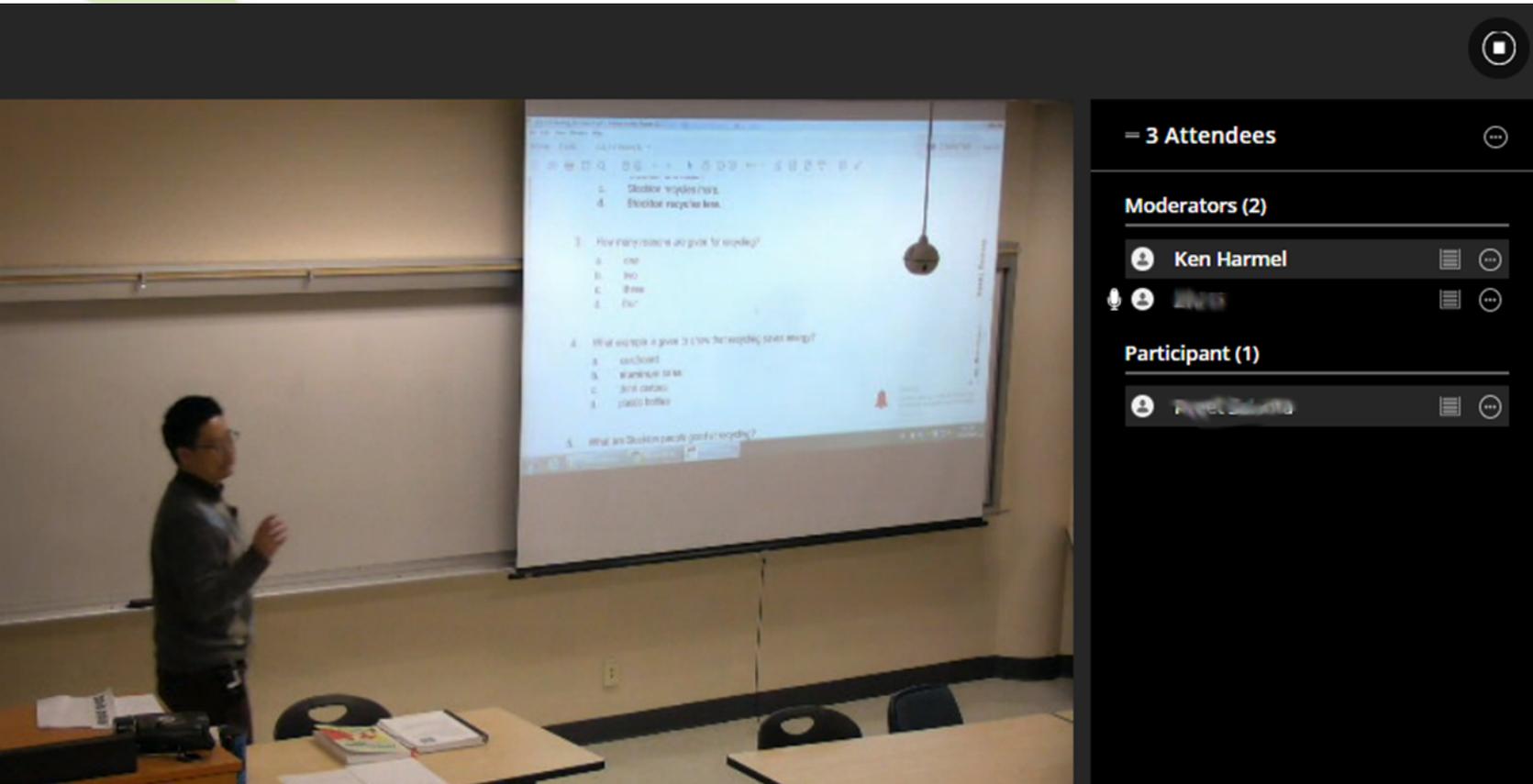
and, our equipment

The challenges

- Challenge with Technology
  - which technologies to use?
  - cost and obsolescence

- Challenge with Pedagogy
  - Instructors' comfort level with technology (distractions)
  - Educational Technologists support role

Cameras

camera 1
Captures students

Camera 1 (Students)

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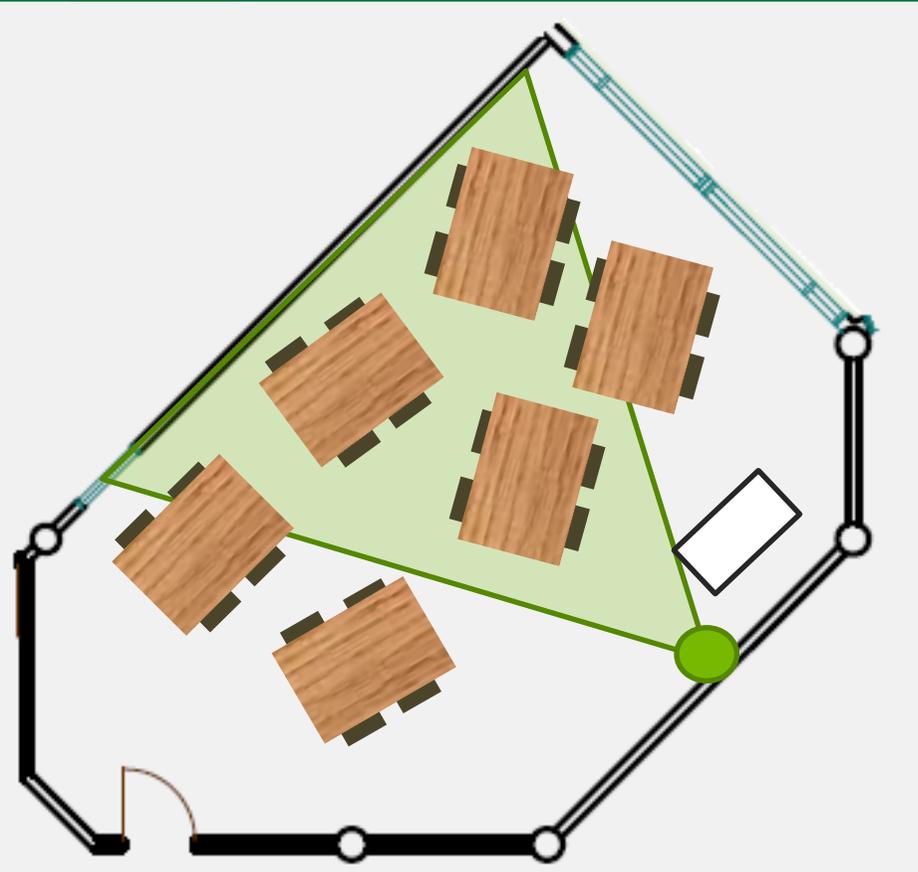
camera 1
Captures students

Camera 1 (Students)

camera 1
Captures students

Cameras
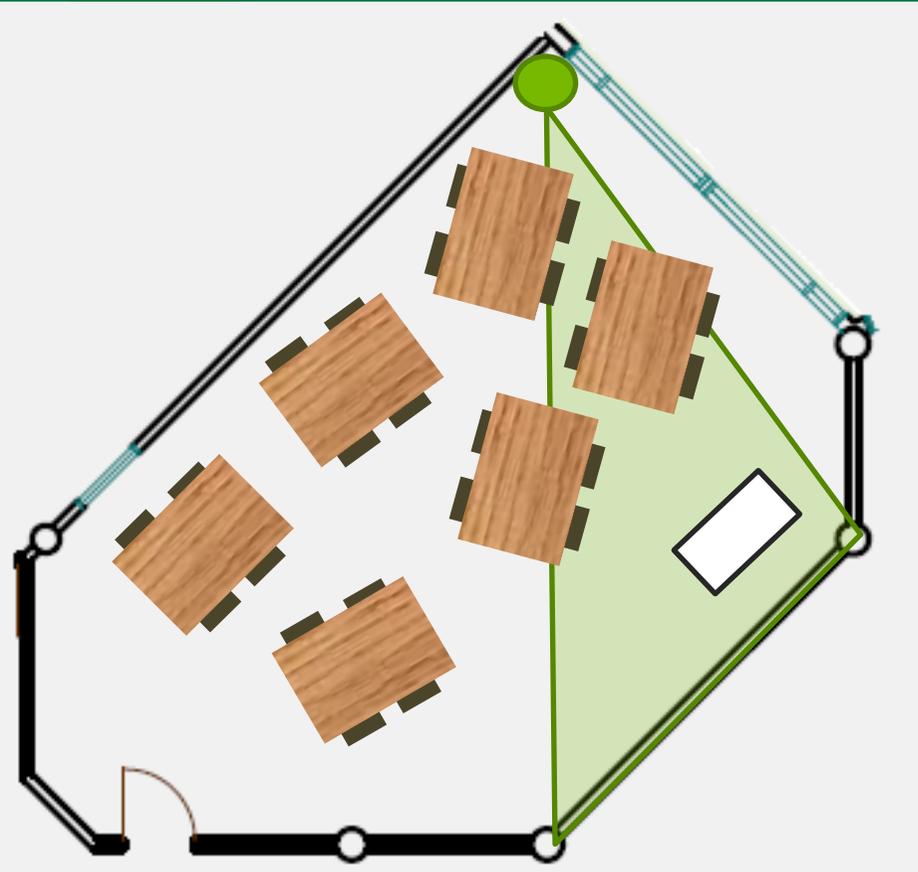
camera 2
Captures instructor

Camera 2 (Instructor)

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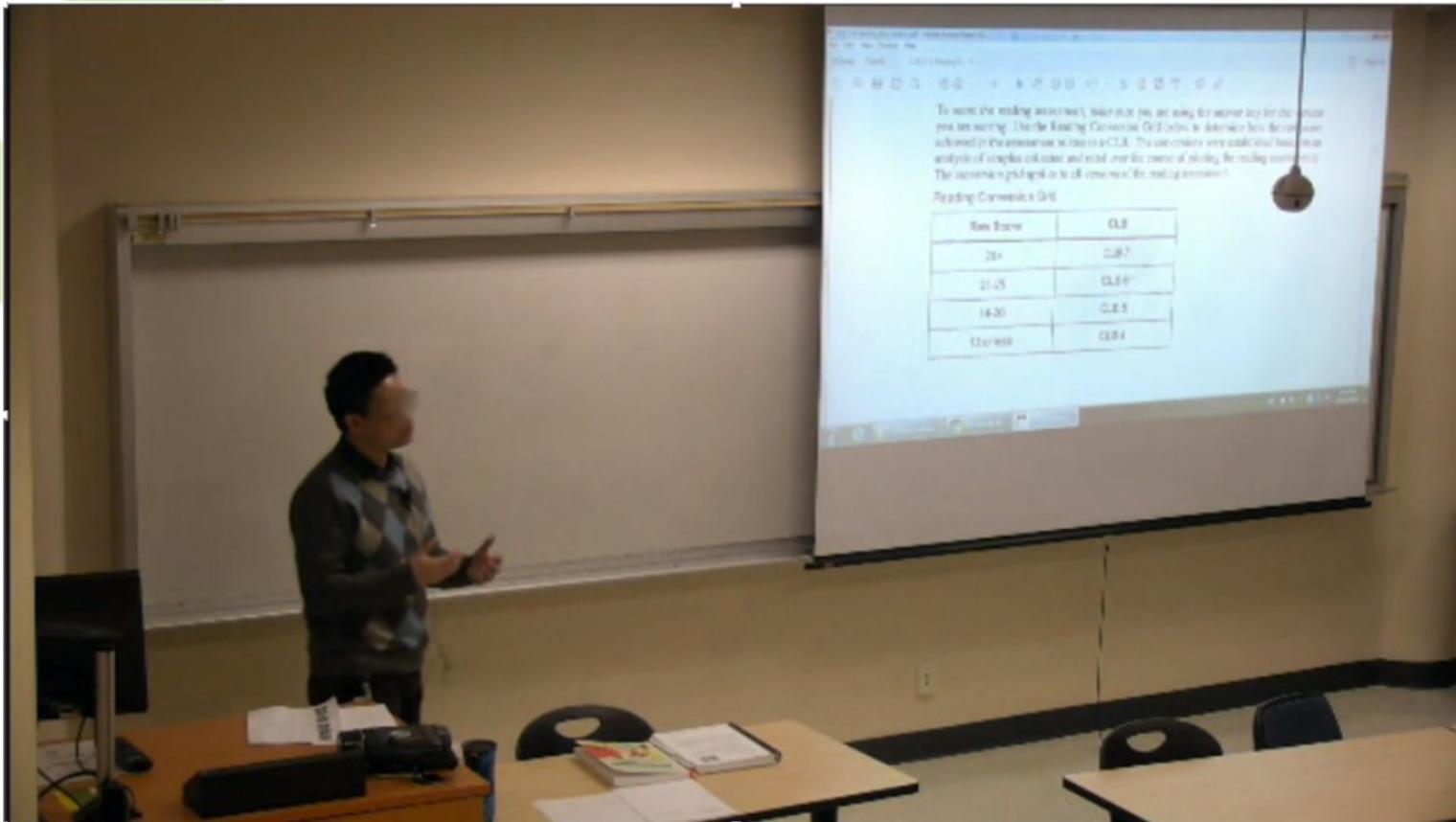
camera 2
Captures instructor

Connecting students

interface
Collaborate Ultra

Connecting students
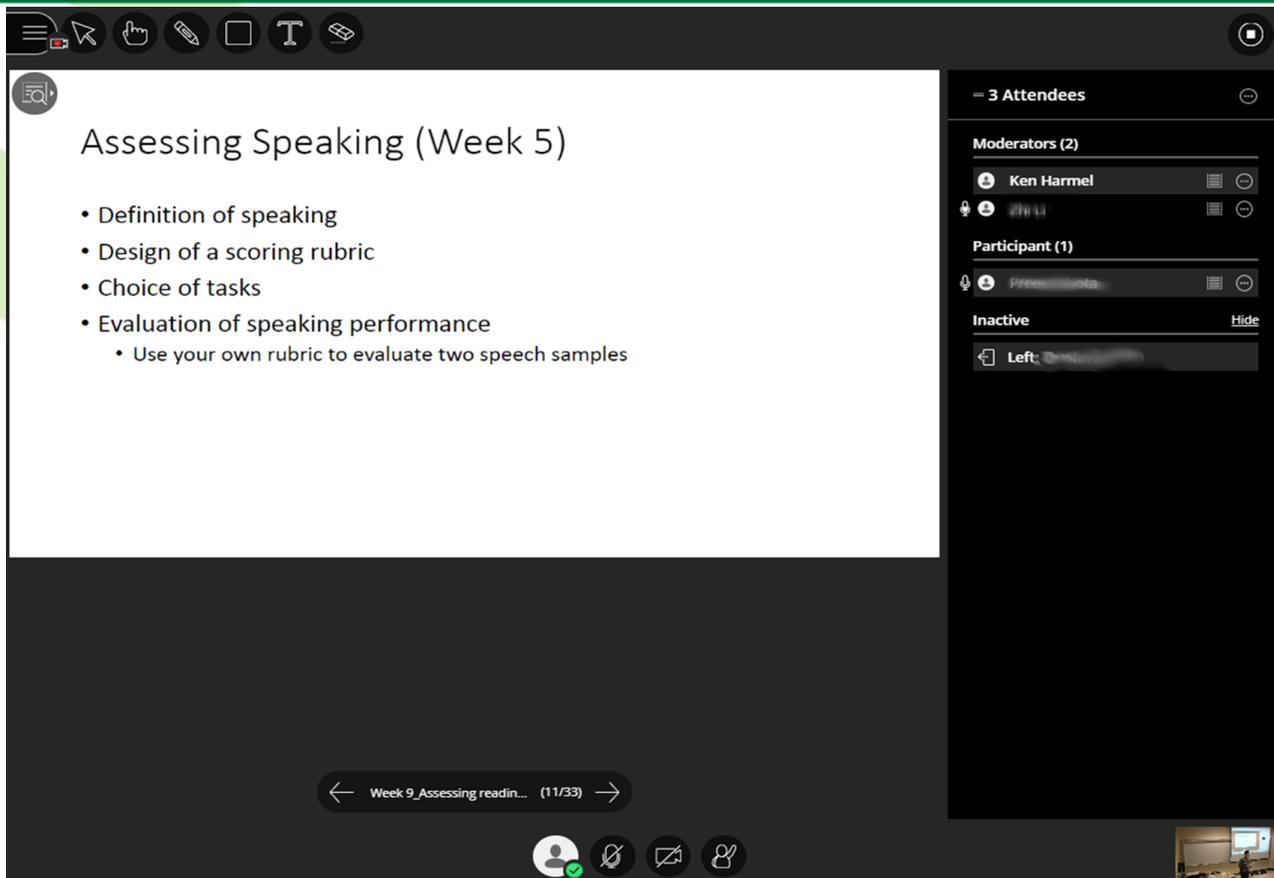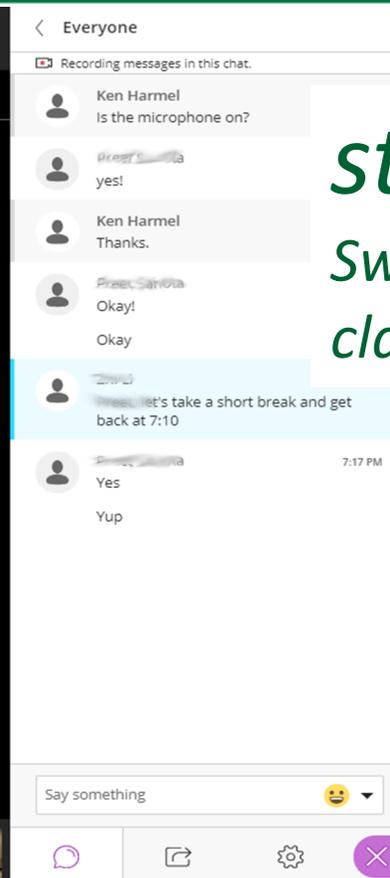
student view

Switch from slide to classroom view

Going beyond the technology

- Questions to ask instructors:

  o What active learning strategies can include both audiences?
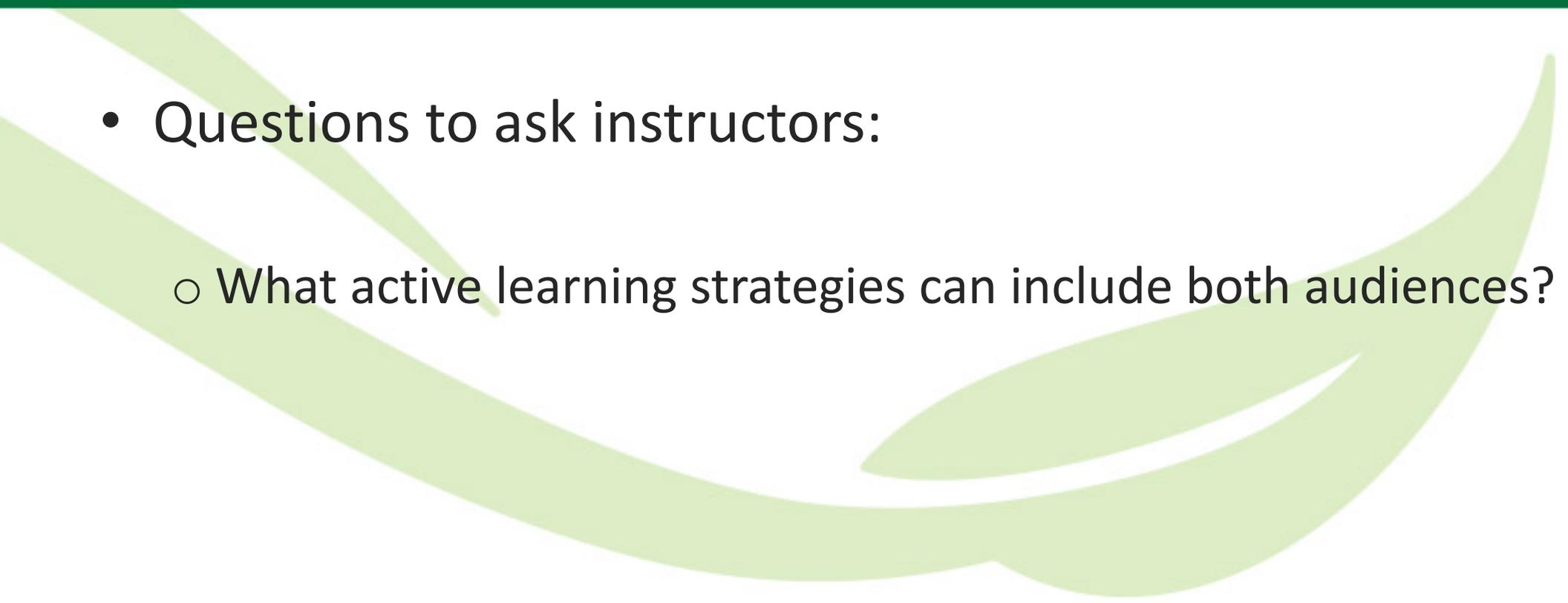
Instructor training

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- Hands on
  - Blackboard Collaborate Ultra (60 minutes)
  - Simulations (60 minutes)
  - Ongoing training (unlimited)

The future

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2 screens
To see online activity & instruction material

The future

The future

Sensitive mics

Still testing
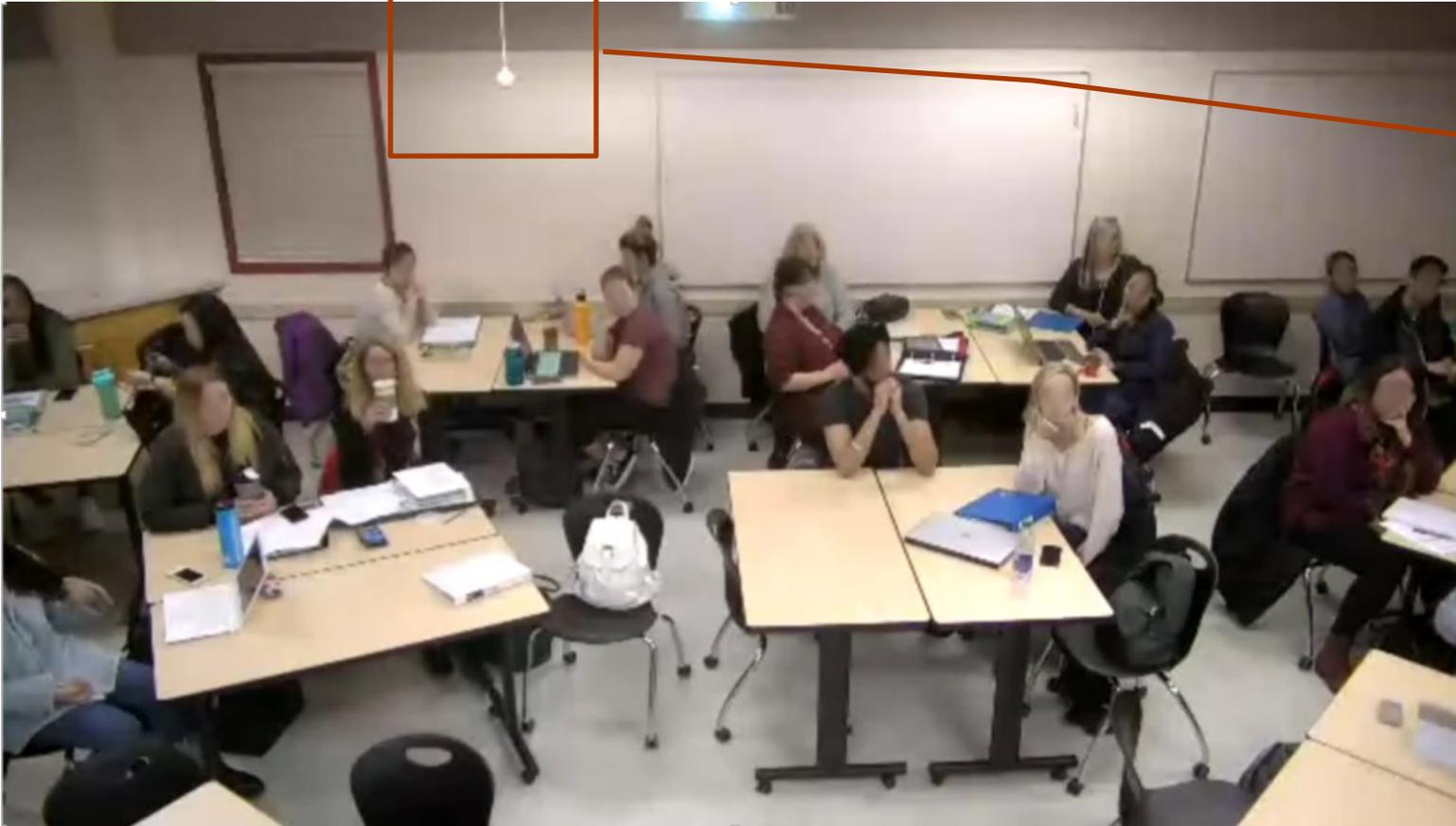
The future

Cameras
4K and auto tracking

The future (Equipment)

Many options

Many options

| Function / Ability	Status	Move Podium	Room upgrades	Audience camera	Upgrade instructor camera	2 screens at front of class	2 TV monitors at back of classroom	Camera switching technology	Ceiling mikes & DSP	upgrade projector	Touch display at podium	portable camera	Flexible furniture	Use Collaborate Ultra	Notes
Instructor can walk around as she teaches	Fair	X		X	X		X		X						Camera presets will allow the instructor to move and still be seen; iPad or tablet is not part of room setup but instructor can bring one in
Instructor can see Ultra screen and online students from different vantages	Good						X								One monitor can be set to Ultra and students will be seen on this screen; the other monitor can be used for the presentation.
Students can see Ultra screen and online students	Good					X									Students will see the presentation on one screen and the Ultra/remote students on the other
Instructor can remotely move through ppt or other software on second screen	Good					X									Assumes that we have a remote that can do this
Inroom and remote students can participate easily	Good								X						Ceiling microphones with DSP will allow for better inclass discussions; Ultra can be on both front and back screens allowing for remote students to more easily be seen to put up their hand
Good audio quality so easy to hear computer, instructor, remote students	Unknown								X						We haven't talked about upgraded audio. Getting a price for floor
Camera pans area of class when student is speaking	Not Met			X											...ore
Camera pans in on instructor when speaking	Fair				X										...tor. ...een ...ed ...at the camera could follow.
Cameras with different perspectives	Fair			X											Camera does not pan but we can preset area that would should specific areas of the classroom
Remote students see larger picture of classroom with students	Fair			X	X										Camera does not pan but we can preset area that would show the whole classroom and specific areas of the classroom
Allows for a laptop computer to be plugged in	Good									X					This can be accommodated
Collaborative group work between in class and remote students is easy done	Fair													X	Blackboard Ultra can accommodate this. The noise level in the room will still be high and a separate computer will be required for remote students to participate.
Collaborative group work allows students to connect as a group and see faces	Fair													X	Blackboard Ultra can accommodate this. The noise level in the room will still be high and a separate computer will be required for remote students to participate.
Students can clear the centre of the class for yoga	Good												X		Yes, the furniture will be easily moveable.
Camera can show individuals doing yoga	Good											X			Yes, the furniture will be easily moveable and a hand held camera will be available
Classroom is flexible	Good	X							X						Yes, the furniture will be easily moveable.
Podium solution that removes requirement to be at front of class	Fair	X													We will still need a podium at the front of the room; however, an iPad/tablet solution will allow the instructor to move around. Camera changes will need to be done at a fixed console(?).
Good audio quality for instructor speaking as they move around the class	Good								X						Using the ceiling mikes will be fine however it would be better if the instructor were to use a wireless microphone
Better Eduroam or wired connections	Unknown														This is an ITS requirement; Nicolle needs specifics as to what is required.
No handheld or lapel microphones	Good								X						We can do this; however, audio would be better if instructor could use this.
Better video quality	Good			X	X					X					Yes
Better room lighting	Good		X												We will change the light bank at the front, explore the Uvic approach and use the black out blinds

Questions?

references

- Wang, Q., Quek, C., & Hu, X. (2017). Designing and Improving a Blended Synchronous Learning Environment: An Educational Design Research. _The International Review Of Research In Open And Distributed Learning, 18_(3). doi:http://dx.doi.org/10.19173/irrodl.v18i3.3034

- Power, T., & Morven-Gould, A. (2011). Head of gold, feet of clay: The online learning paradox. _The International Review Of Research In Open And Distributed Learning, 12_(2), 19-39. doi:http://dx.doi.org/10.19173/irrodl.v12i2.916