

# How to Make Online Teaching Accessible and Inclusive



**Susie L. Gronseth**  
*University of Houston (TX)*

# A little about me...

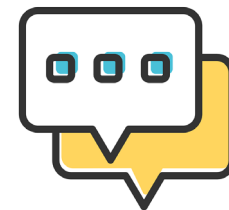


*Susie Gronseth, Ph.D.*

Clinical Associate Professor  
Learning, Design, and Technology  
Department of Curriculum and Instruction  
College of Education, U. of Houston  
Houston, Texas, USA

Focus: inclusive instructional design and  
teaching practices to support diverse  
learners, particularly in teacher training,  
online learning, medical education

# Where are you joining from today?

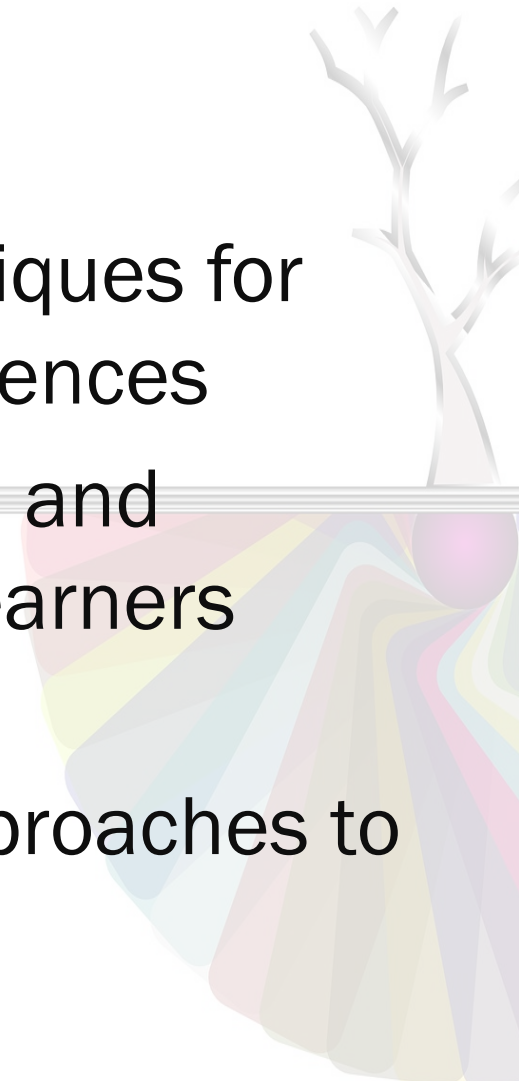


Respond  
via chat.

# About this session

Explore best practices and techniques for creating online learning experiences

- ➡ ...so that the materials, activities, and assessments are accessible for learners with disabilities
- ➡ ...and that all learners' varied approaches to learning are supported.



Recognize  
access  
barriers

Design accessible  
online course materials

Apply  
inclusive  
strategies

# Would you rather...

- Work from home
- Be in the office/classroom
- A balance of both



Respond  
in poll.



Office



Home

# Which is hardest for you in regards to working virtually?

- Managing time
- Feeling isolated/separated from colleagues/co-workers/students
- Accessing high-speed Internet
- Needing campus/office resources (such as lab, computers, printing, etc.)
- Distractions/interruptions/noise
- A proper workspace/desk/chair
- So much screen time/virtual meetings/phone calls
- So much email/documents/reading



Respond  
in poll.





We have varied needs and preferences, such as

- ➡ Individual challenges
- ➡ Ways that we work best
- ➡ Cultural connections
- ➡ Prior knowledge/skills
- ➡ Resources
- ➡ Tools that we find helpful

**consistent** and  
*context-specific*

# Webinar Takeaways

- ➡ How to identify & understand varied learner needs
- ➡ How to make documents, videos, and other course materials accessible
- ➡ How to re-envision course designs to support different ways to engage and assess learners
- ➡ How to incorporate inclusive strategies to motivate learners, help them get a sense of community, and regulate their own learning

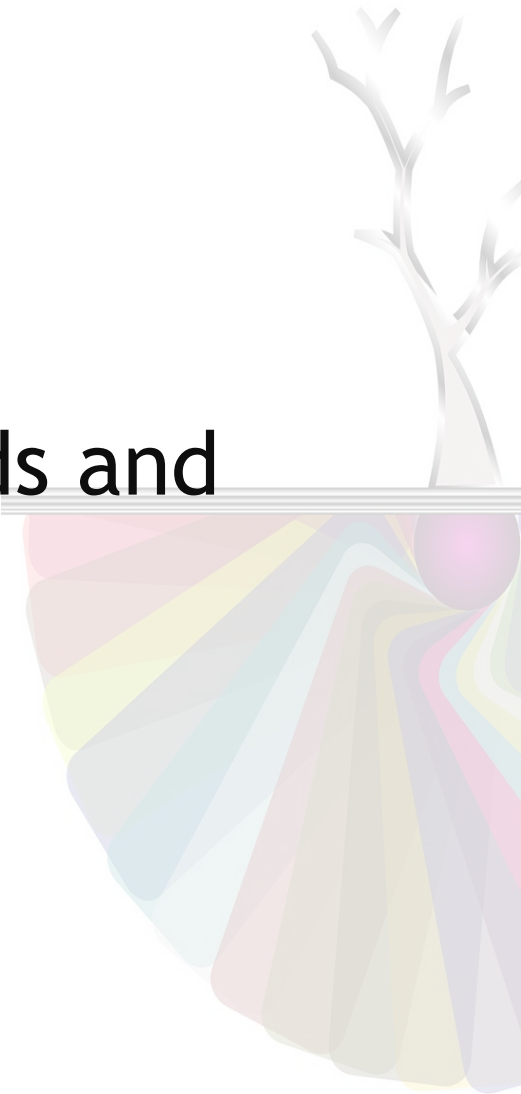
# Which of the webinar topics are you most interested in learning more about today?

- How to identify and understand varied learner needs
- How to make documents, videos, and other course materials accessible
- How to re-envision course designs to support different ways to engage and assess learners
- How to incorporate inclusive strategies to motivate learners, help them get a sense of community and regulate their own learning



# Learner Variation

We recognize that our needs and preferences vary.



We are made of complex combinations of characteristics.

For example, we have a range of shoe sizes.



So, too, our brains have neural connectivity differences, resulting in variations socially, emotionally, and cognitively.

For more on this, check out Todd Rose's [\*The End of Average\*](#).

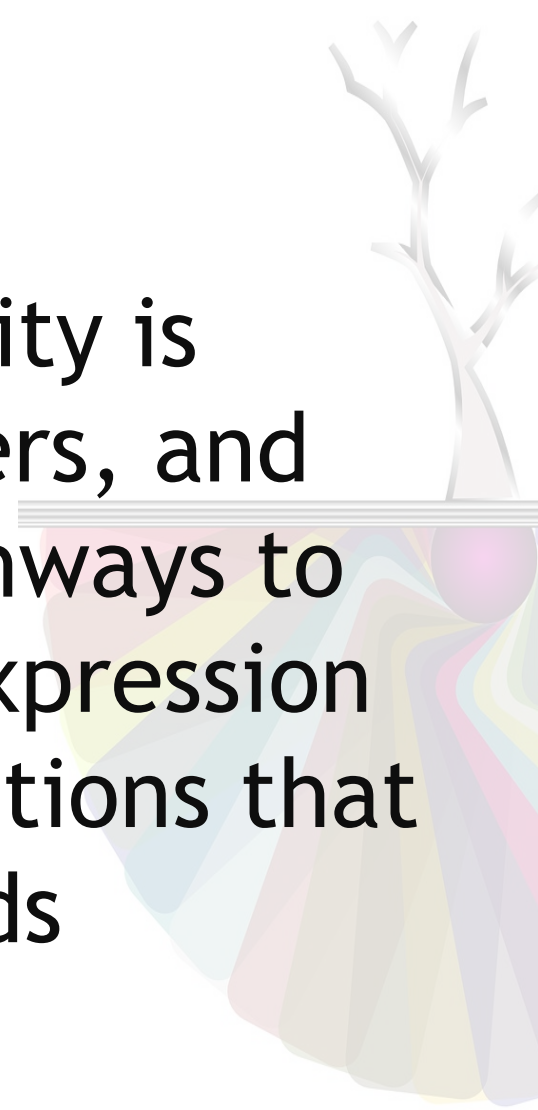
# The good news is...

- ➔ Neural-physical diversity is not “chaotic.”
- ➔ Learner variability is an asset.



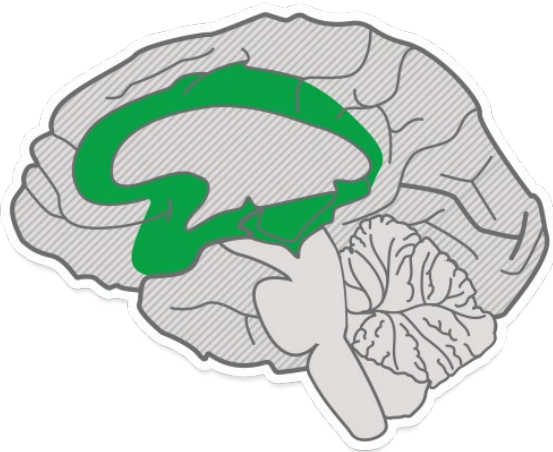
# Inclusive Design

recognizes that variability is characteristic of all learners, and incorporating multiple pathways to access, engagement, and expression enables learners to select options that best meet their needs



# Three Brain Networks

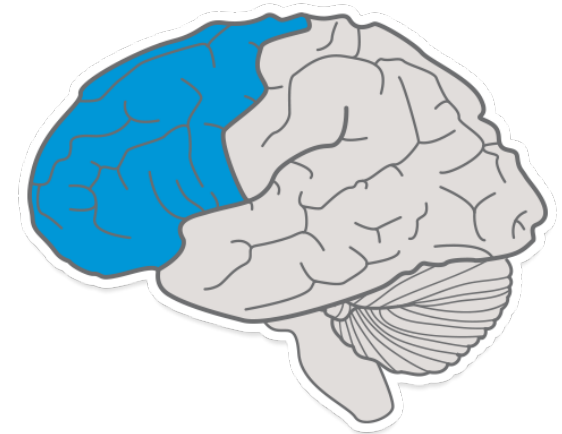
Affective



Recognition



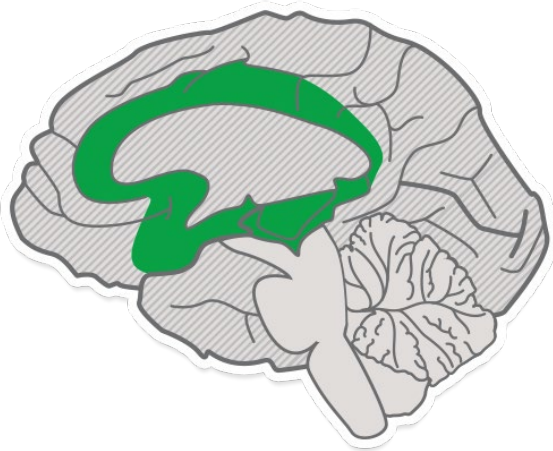
Strategic





# Three Brain Networks

## Affective



- Assign emotional significance
- Emotional regulation
- Interest and motivation
- Outcome expectations – integration of memories with emotions and goals

# Three Brain Networks

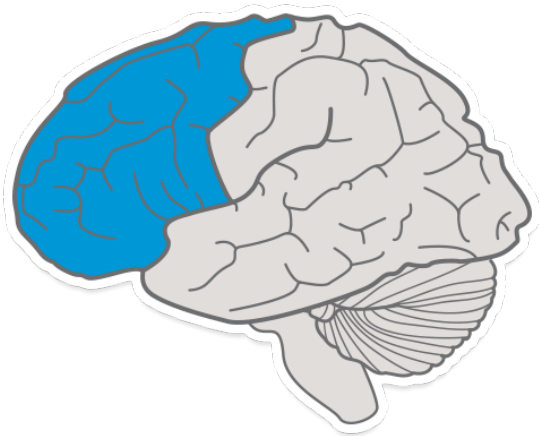
## Recognition



- Sight, sound, taste, smell, touch
- Categorize into patterns
- Identifying faces, letters, words
- Perception of verbal tone
- Recognizing abstract concepts (e.g., justice)

# Three Brain Networks

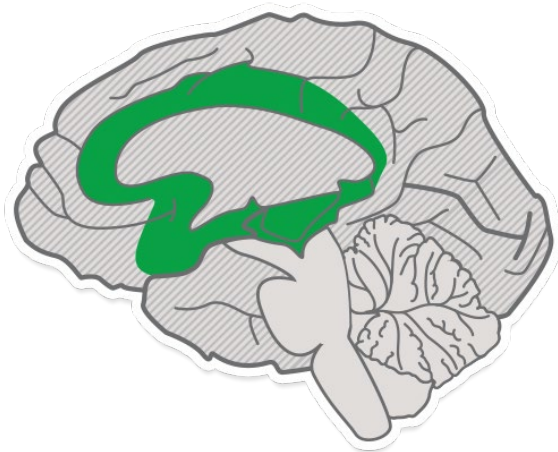
## Strategic



- Pattern-based routines
- Planning and organization
- Executing skills – e.g., writing, speaking, throwing, dancing
- Monitoring progress and making adjustments as needed

# Brain Networks and Learning

Affective



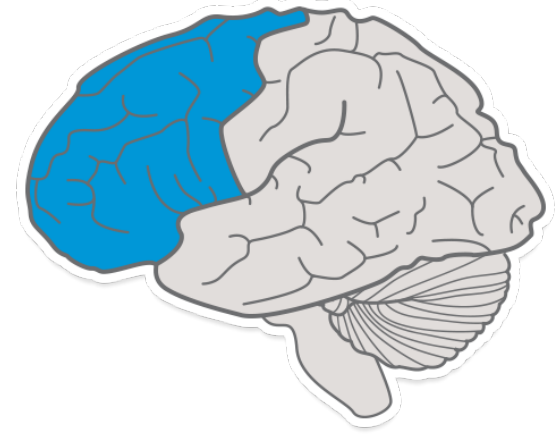
**“Why”**  
of learning

Recognition



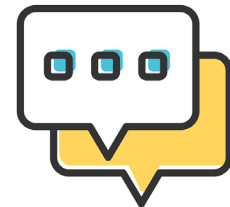
**“What”**  
of learning

Strategic



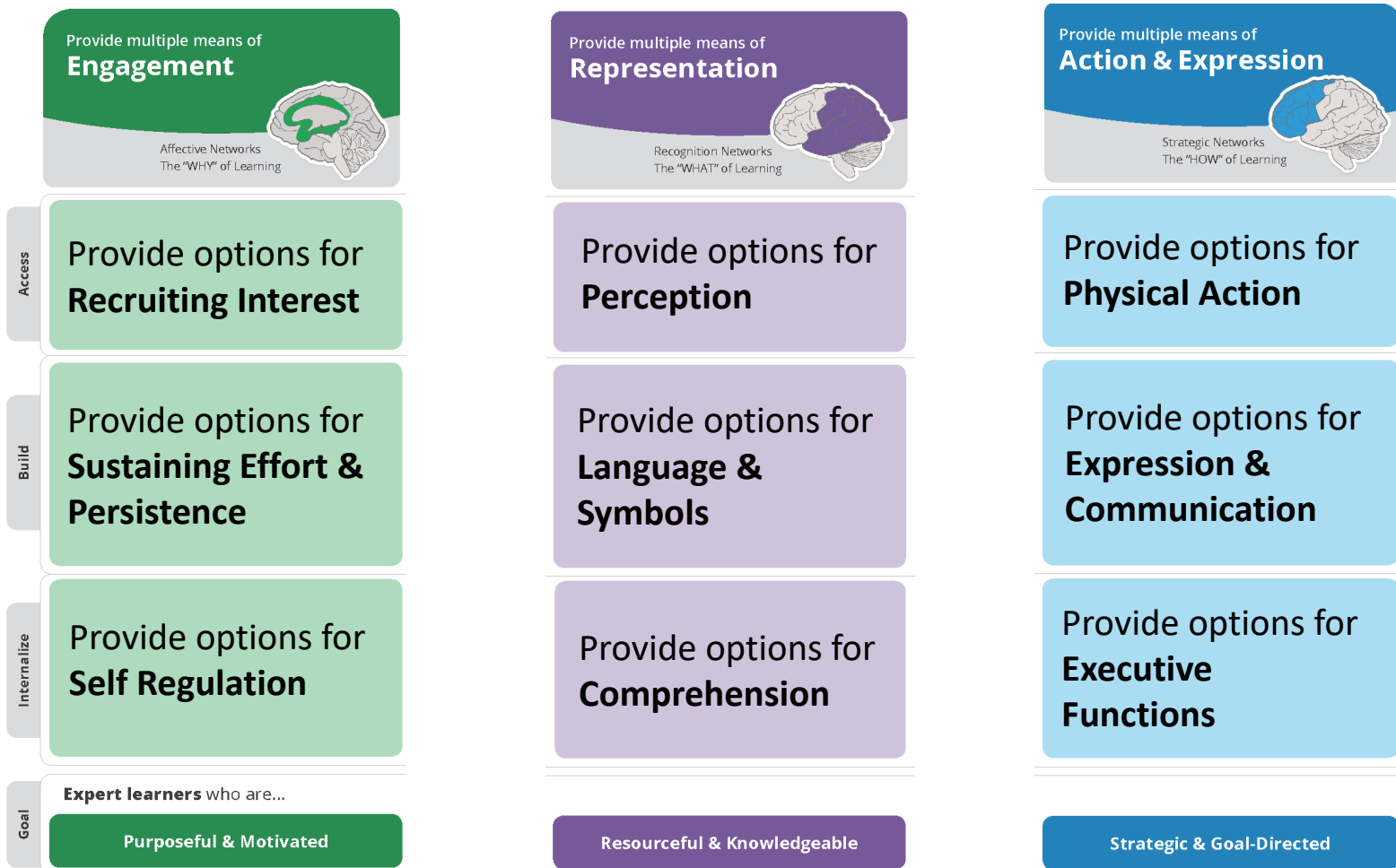
**“How”**  
of learning

# What is an example of how student brain network differences are evident in the classroom?

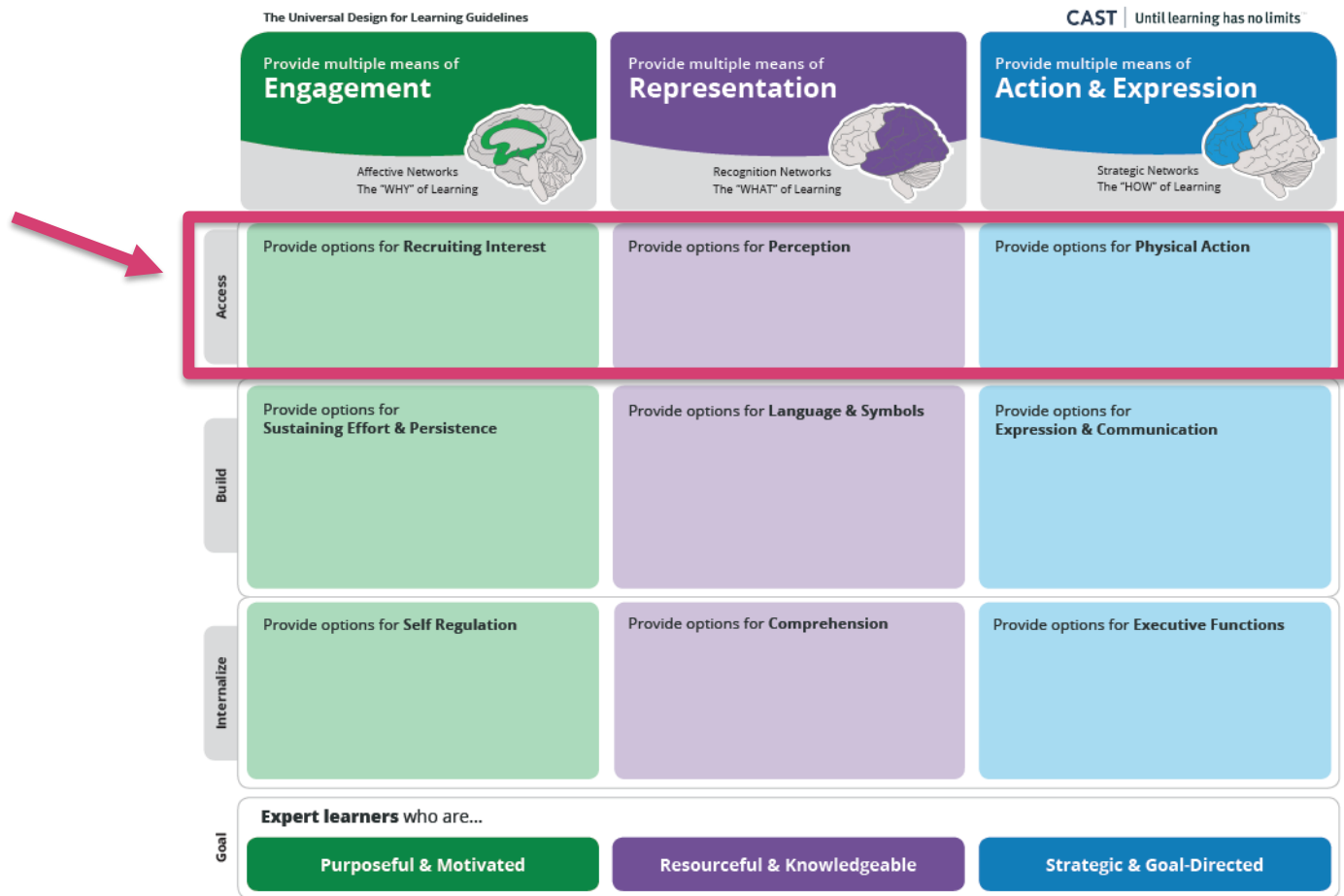


Respond  
via chat.

# Universal Design for Learning



# Accessibility is an integral facet of instructional design, grounding the UDL framework.



## Access

### Provide options for **Recruiting Interest**

- Optimize individual choice and autonomy
- Optimize relevance, value, and authenticity
- Minimize threats and distractions

### Provide options for **Perception**

- Offer ways of customizing the display of information
- Offer alternatives for auditory information
- Offer alternatives for visual information

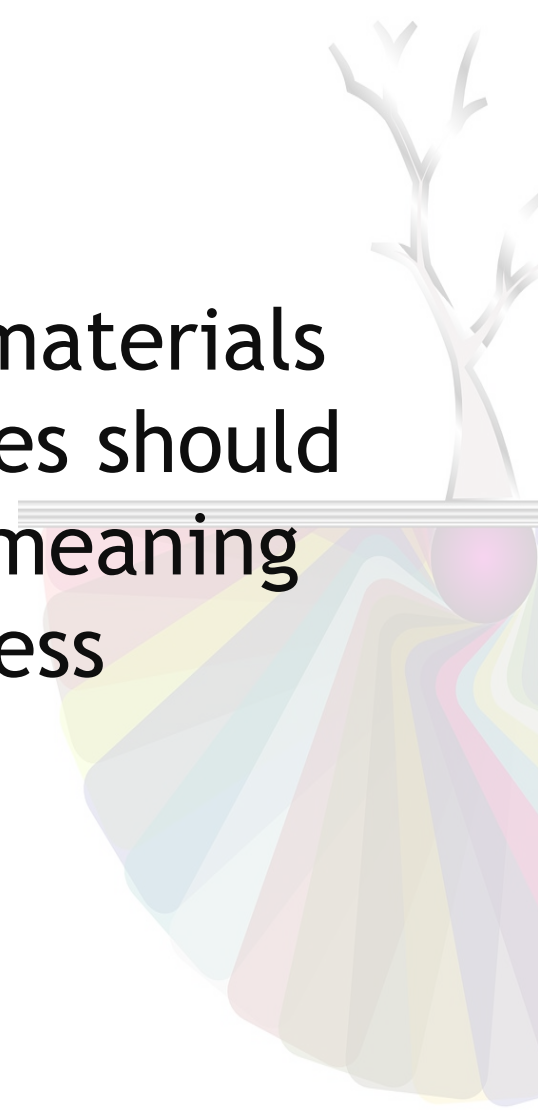
### Provide options for **Physical Action**

- Vary the methods for response and navigation
- Optimize access to tools and assistive technologies



# Comparable Alternatives

- ➔ Accessibility of educational materials for individuals with disabilities should provide *comparable access*, meaning that the content and timeliness should be comparable in the alternate formats.



# Web Content Accessibility Guidelines



**Perceivable**



**Operable**



**Understandable**



**Robust**



# Alternative Text

In Word docs, right click image, and choose **Format Object**.

The screenshot shows the Microsoft Word interface with the 'Format Picture' task pane open. The task pane has two tabs: 'Shape Options' and 'Text Options'. Under 'Text Options', there are sections for 'Text Box' and 'Alt Text'. The 'Alt Text' section is expanded, showing a 'Title' field with the text 'CUIN 3111 course banner' and a 'Description' field with the text 'Course banner with Houston city evening skyline in the background. In the foreground appears - CUIN 3111: EdTech for Elementary Teachers, University of Houston | Education'. A red arrow points to the 'Layout and Properties' icon (a square with a plus sign) in the 'Text Options' section.

**Format Picture**  
Shape Options | Text Options

Layout and Properties

Text Box

Alt Text

Title

CUIN 3111 course banner

Description

Course banner with Houston city evening skyline in the background. In the foreground appears - CUIN 3111: EdTech for Elementary Teachers, University of Houston | Education

UNIVERSITY of HOUSTON | EDUCATION

CUIN 3111- EdTech  
*for Elementary Teachers*  
UNIVERSITY of HOUSTON | EDUCATION

Course Name: **CUIN 3111: Educational Technology for Elementary Teachers**  
Semester/Year: Fall 2020

Instructor: Lydia Ugwu  
Office Room: 315 Farish Hall / Virtual via Microsoft Teams  
Office Hours: By appointment  
Email: [lougwu@uh.edu](mailto:lougwu@uh.edu)

Instructor: Phuong Nguyen  
Office Room: 315 Farish Hall / Virtual via Microsoft Teams  
Office Hours: By appointment  
Email: [pmnguyen9@uh.edu](mailto:pmnguyen9@uh.edu)

Page 1 of 11 3730 words English (United States) 100%

# Alternative Text

In PowerPoint, right click image, and choose **Format Picture**.

**Format Picture**

- Size
- Position
- Text Box
- Alt Text**
  - Title: Geographic representation of DSMOOC learners
  - Description: There are two visual representations in this image of the where the DSMOOC learners live. In the left image, a world map displays darker parts of the world that have higher number of students in the MOOC. The United States is shaded darkest. Africa, Oceania, and parts of South America are shaded lightest. In the

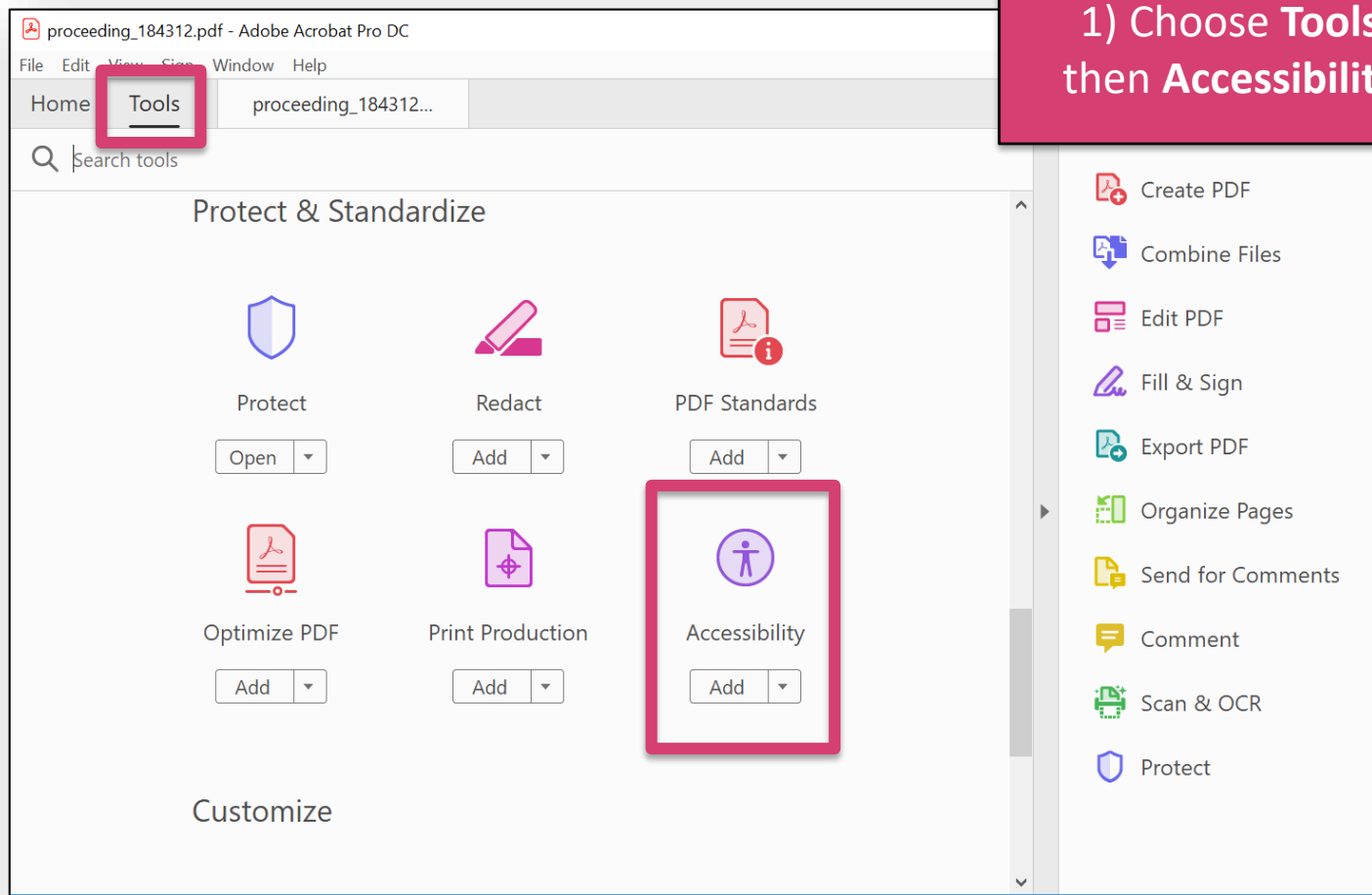
Slide 12 of 37 | English (United States) | Opening file in Protected View | 61%

# Alternative Text

In Blackboard LMS, insert/edit image, and type image description and a title.

The screenshot shows the Blackboard LMS interface. On the left is a sidebar with navigation options like 'Dashboard', 'Course Content', and 'Course Management'. The main area displays 'CONTENT FOLDER INFORMATION' with fields for Name, Color of Name, and Text. A red arrow points to the 'Image' icon in the toolbar. An 'Insert/Edit Image' dialog box is open, showing the 'General' tab. The 'Image Description' field is highlighted with a red box and contains the text 'World globe with "1" in ce'. The 'Title' field also contains 'Unit 1 icon'. Below the fields is a preview of a globe image. The dialog box has 'Cancel' and 'Update' buttons at the bottom.

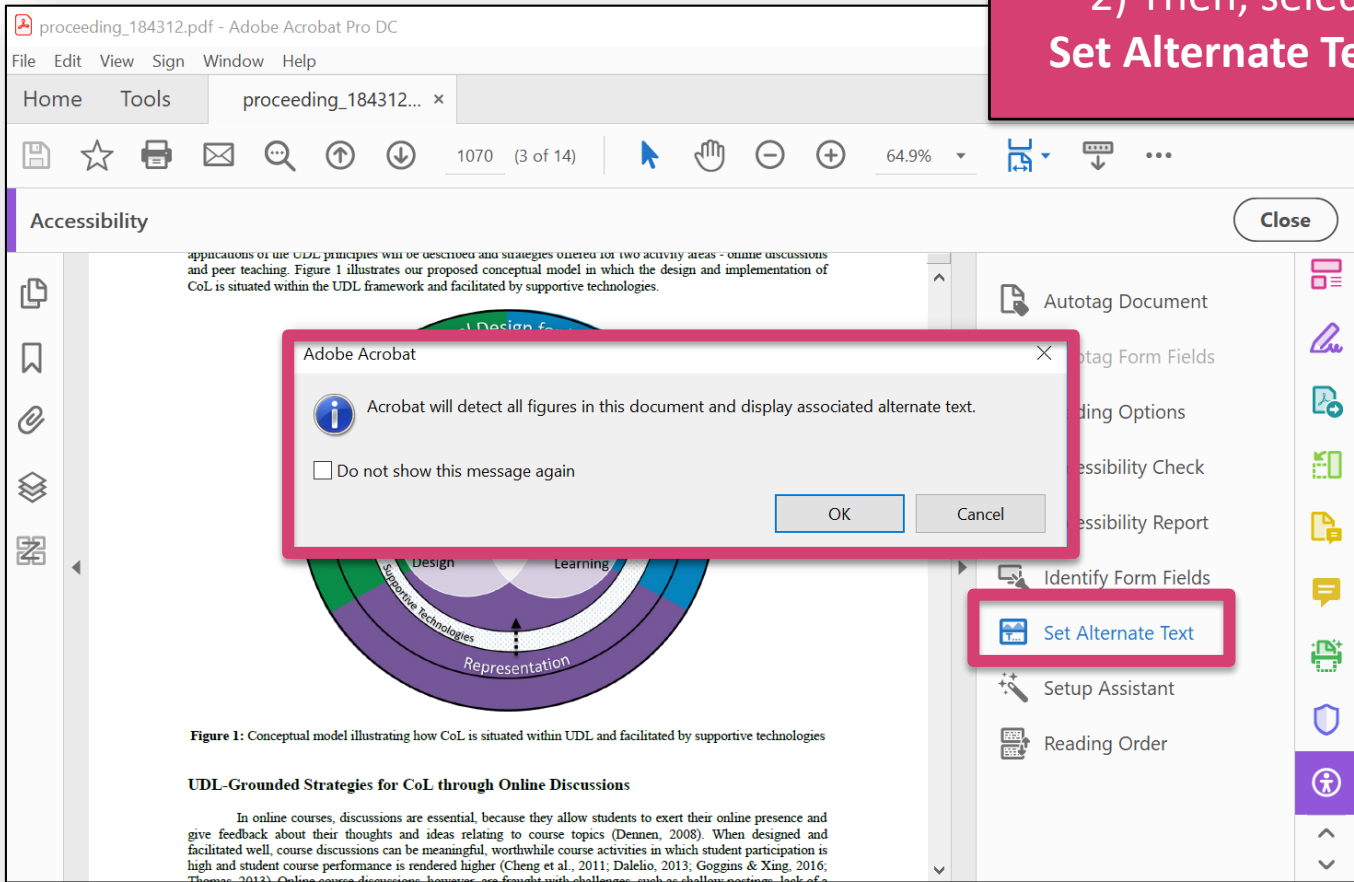
# Alternative Text



In Adobe Acrobat,  
1) Choose **Tools**,  
then **Accessibility**.

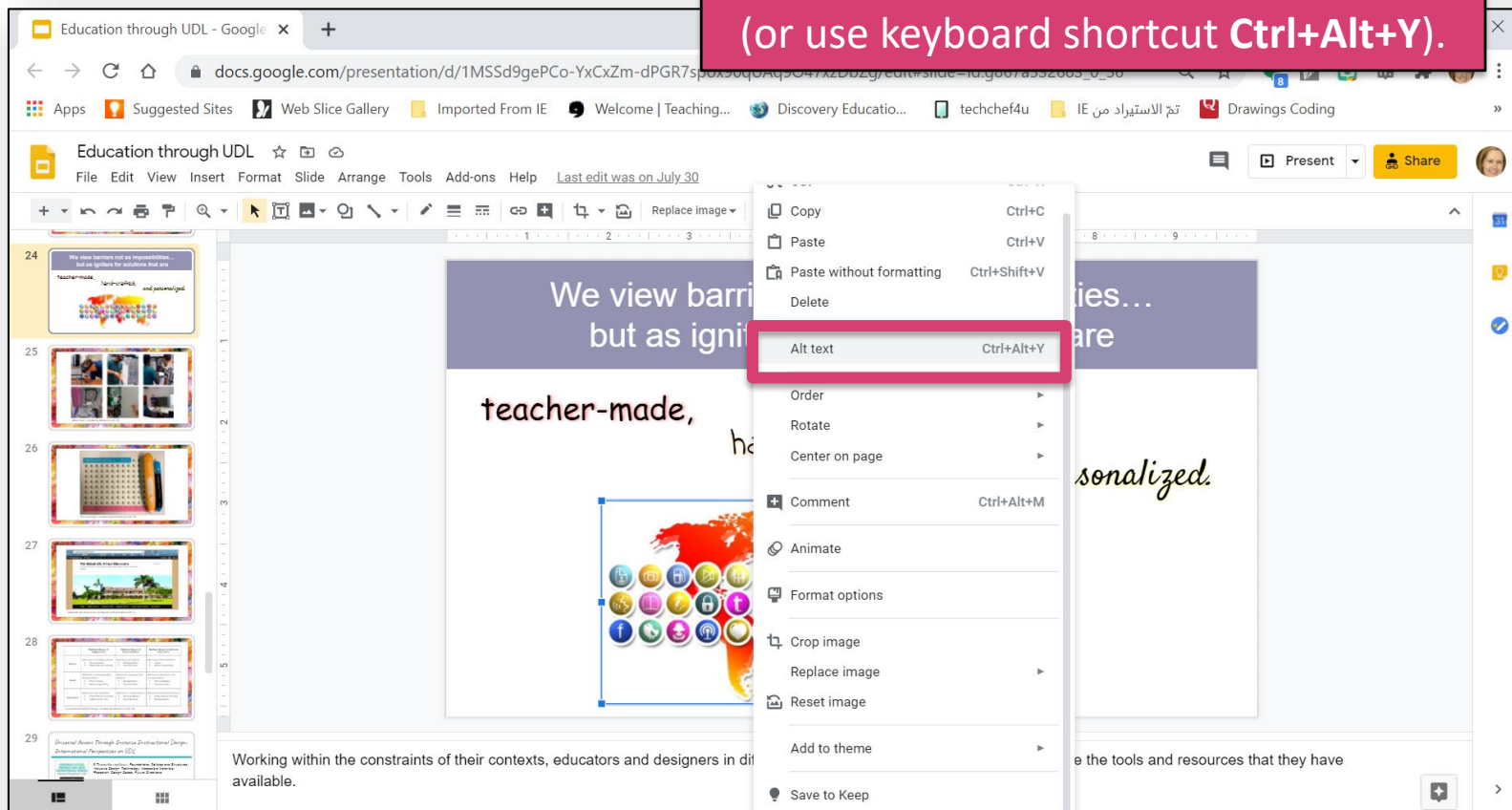
# Alternative Text

2) Then, select  
Set Alternate Text.



# Alternative Text

In Google Slides, right click on an image, and choose **Alt text** (or use keyboard shortcut **Ctrl+Alt+Y**).





# Closed Captioning

In PowerPoint (Windows 10/Microsoft 365), click **Slide Show**, then **Start Subtitles**.

Always present with subtitles

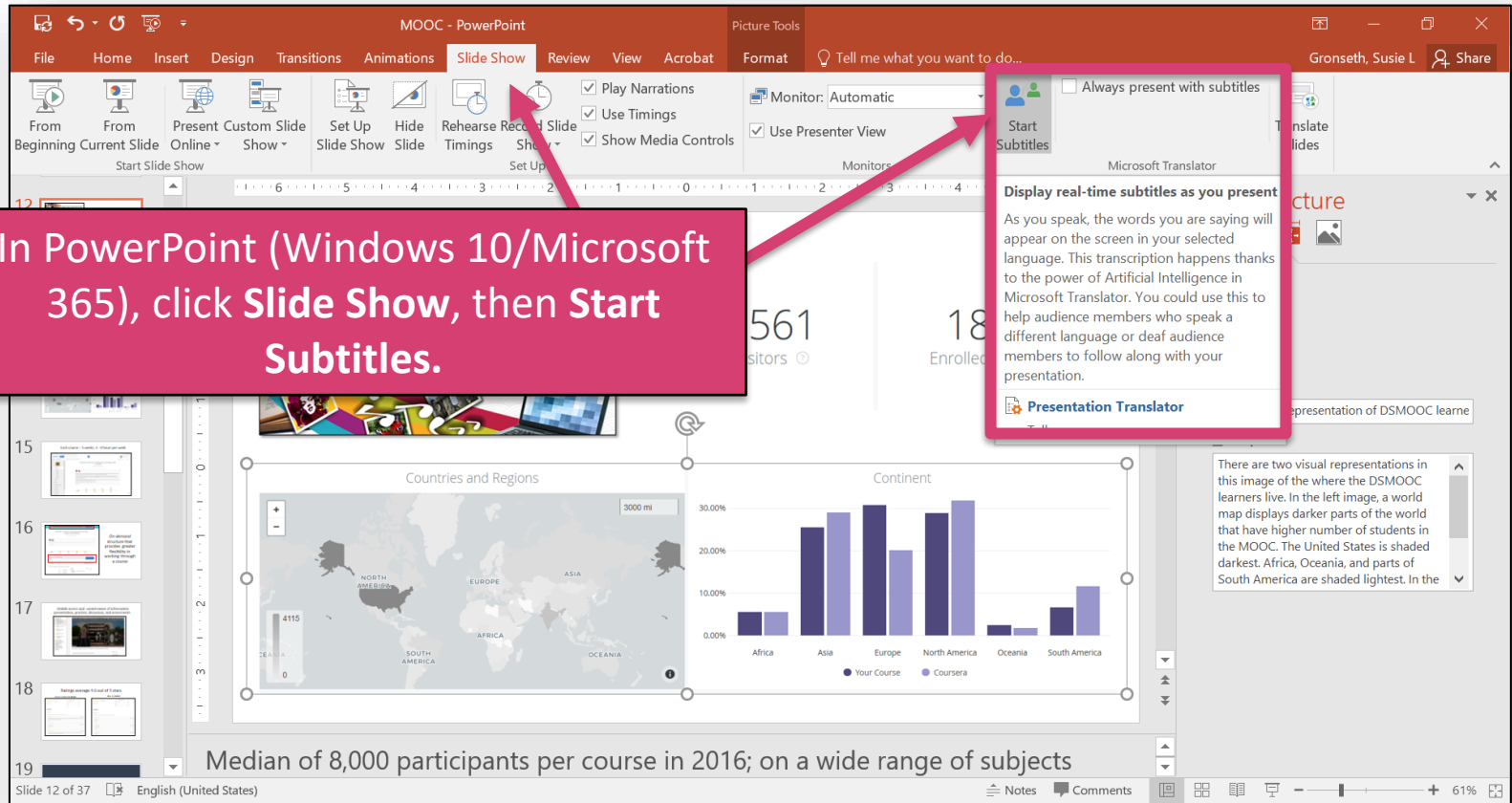
**Start Subtitles**

Microsoft Translator

**Display real-time subtitles as you present**

As you speak, the words you are saying will appear on the screen in your selected language. This transcription happens thanks to the power of Artificial Intelligence in Microsoft Translator. You could use this to help audience members who speak a different language or deaf audience members to follow along with your presentation.

[Presentation Translator](#)



Median of 8,000 participants per course in 2016; on a wide range of subjects

# Closed Captioning

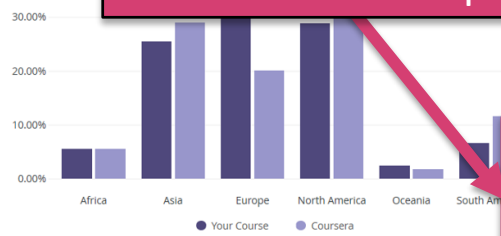
In PowerPoint (Windows 10/Microsoft 365), live auto captions can be set to appear at the top or bottom.



111,561  
Unique Visitors

18,121  
Enrolled in Course

Captions can be saved into a transcript.



- Hide subtitles
- Settings
- Save Transcript
- Unmute audience
- Stop Subtitles

online course come from the areas of North America, Europe and Asia.

Most of the for the digital storytelling mook come from.

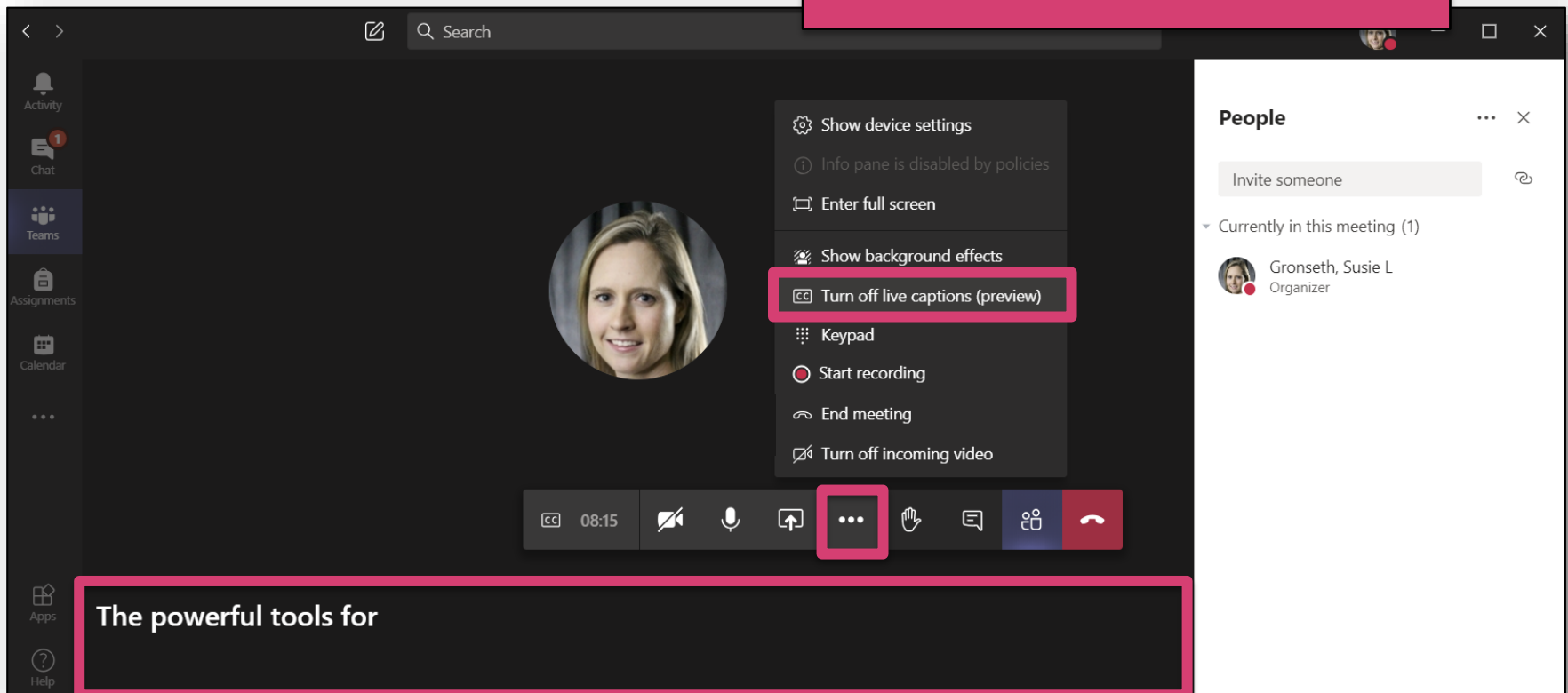
www.translate.it/IYRLG

Mute

...

# Closed Captioning

In a Microsoft Teams synchronous meeting, live auto captions can be turned on by each user.



# Closed Captioning

Videos uploaded to Microsoft Stream can be auto-captioned. Captions are compiled into a searchable transcript.

The screenshot shows a Microsoft Stream video player interface. The video content displays a Google Calendar with a red arrow pointing to a specific event. A pink box highlights a subtitle on the video: "And we are recording now so you can see that it gives you a". To the right, a transcript sidebar is open, showing a list of captions with timestamps. The transcript text is as follows:

Timestamp	Transcript Text
00:03	And we are recording now so you can see that it gives you a
00:07	little pop up at the top that says you're recording just so
00:11	you know, and you can dismiss that and then. And you can see
00:16	that I started the recording.
00:18	And then I'm going to stop the recording.

# Closed Captioning

In Flipgrid, closed captions can be enabled in different languages as part of the process in creating a discussion topic.

The image shows a screenshot of the Flipgrid 'Topic Essentials' form. The form includes fields for 'Title', 'Prompt', 'Recording Time', and 'Video Moderation'. A dropdown menu for language selection is open, showing options such as 'Off', 'English (United States)', 'English (United Kingdom)', 'Spanish (Spain)', 'Spanish (Mexico)', 'French (France)', 'Italian (Italy)', 'Japanese (Japan)', 'Portuguese (Brazil)', 'German (Germany)', 'Arabic (Egypt)', 'Russian (Russia)', 'Hindi (India)', and 'Chinese, Mandarin (Simplified, China)'. The 'English (United States)' option is highlighted. The 'Recording Time' is set to '1 minute 30 seconds'. The 'Video Moderation' section has a toggle switch that is currently turned off. The 'Media' section has a placeholder for adding a media resource. At the bottom right, there are 'Cancel' and 'Create Topic' buttons.

**Topic Essentials**

**Title**  
Add a title for your Topic

**Prompt**  
Add a question to start your discussion

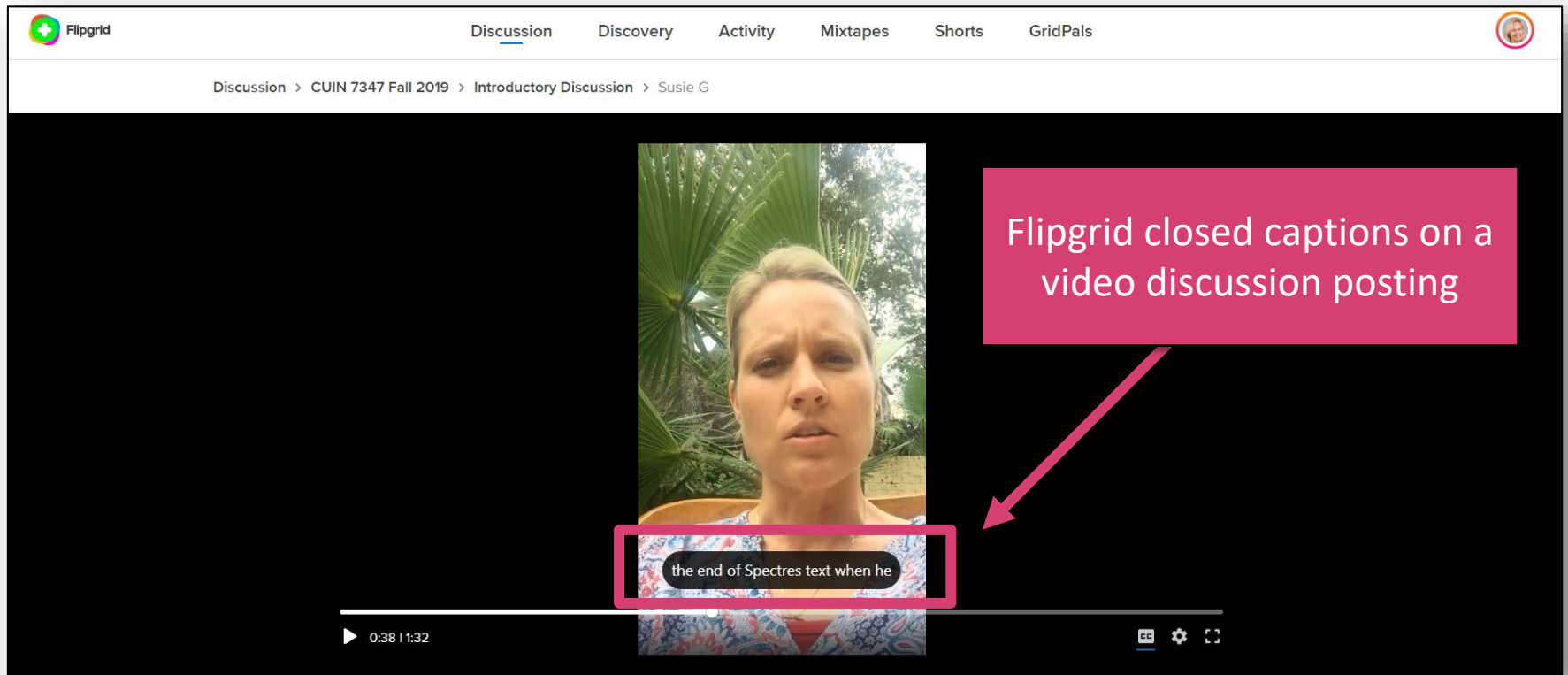
**Recording Time**  
1 minute 30 seconds

**Video Moderation**  
New videos will be hidden from students until you activate them. Previously submitted videos will remain active.  
[Learn more about Moderation.](#)

**Media**  
Add a media resource to engage your students.

Cancel **Create Topic**

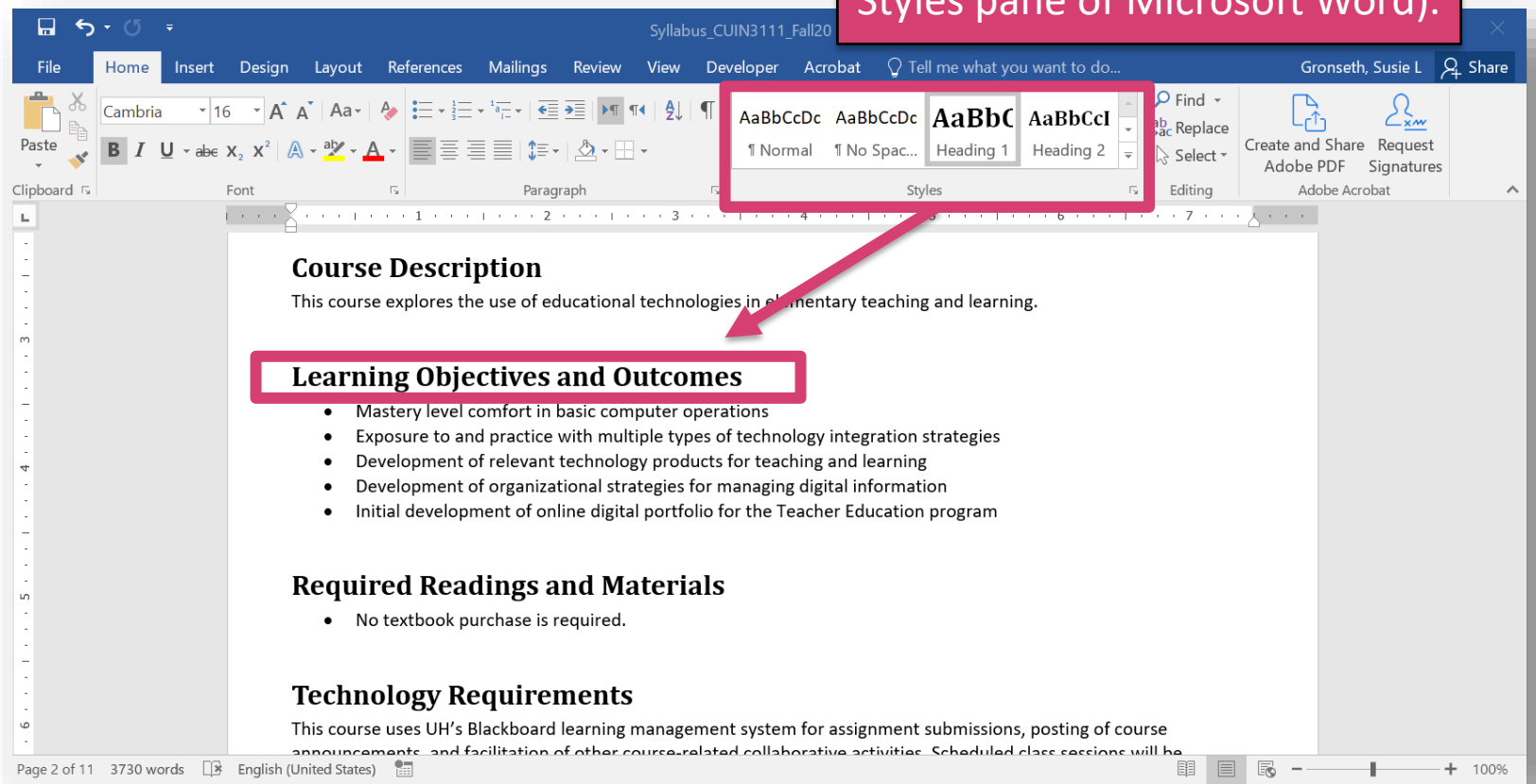
# Closed Captioning

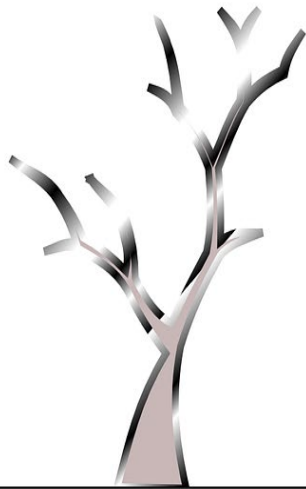


The image shows a screenshot of a Flipgrid video player interface. At the top, the Flipgrid logo is on the left, and navigation links for Discussion, Discovery, Activity, Mixtapes, Shorts, and GridPals are on the right. Below the navigation, a breadcrumb trail reads: Discussion > CUIN 7347 Fall 2019 > Introductory Discussion > Susie G. The main content area features a video of a woman speaking. A pink rectangular box highlights a closed caption at the bottom of the video that reads "the end of Spectres text when he". To the right of the video, a larger pink box contains the text "Flipgrid closed captions on a video discussion posting", with a pink arrow pointing from this box to the highlighted caption. The video player controls at the bottom show a play button, a progress bar at 0:38 / 11:32, and icons for closed captions, settings, and full screen.

# Headings

Use headings in text documents (located in the Styles pane of Microsoft Word).





**Why do you think this tree icon (with its abstract, colorful root system) was selected as the visual theme for this session?**



Respond  
via chat.



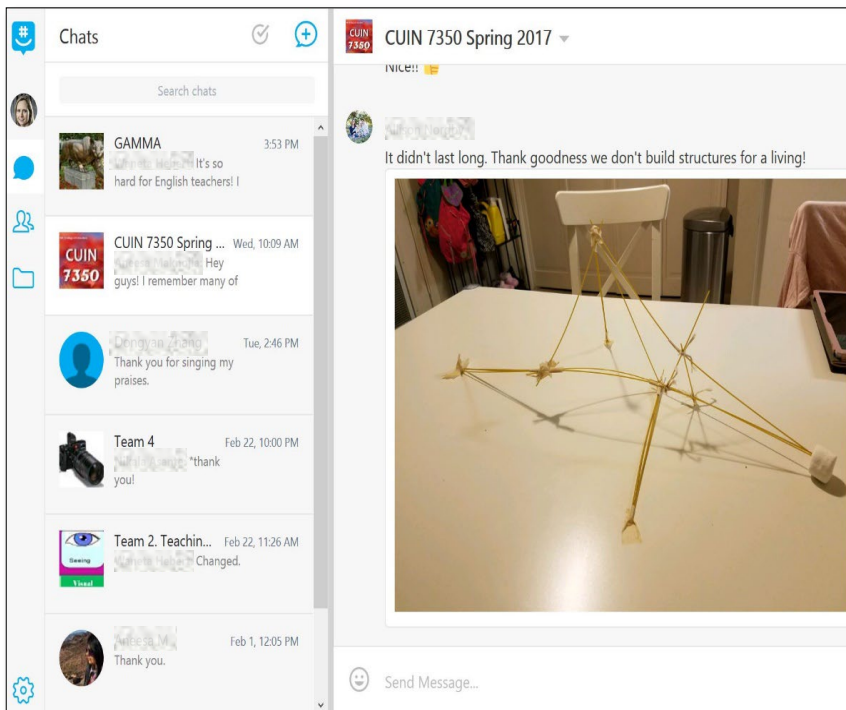
# Strategic Flexibility

involves planning for learner variability  
from the start of curriculum design

Ultimately, connect to your learner needs.  
You are not expected to implement every  
guideline in every lesson.

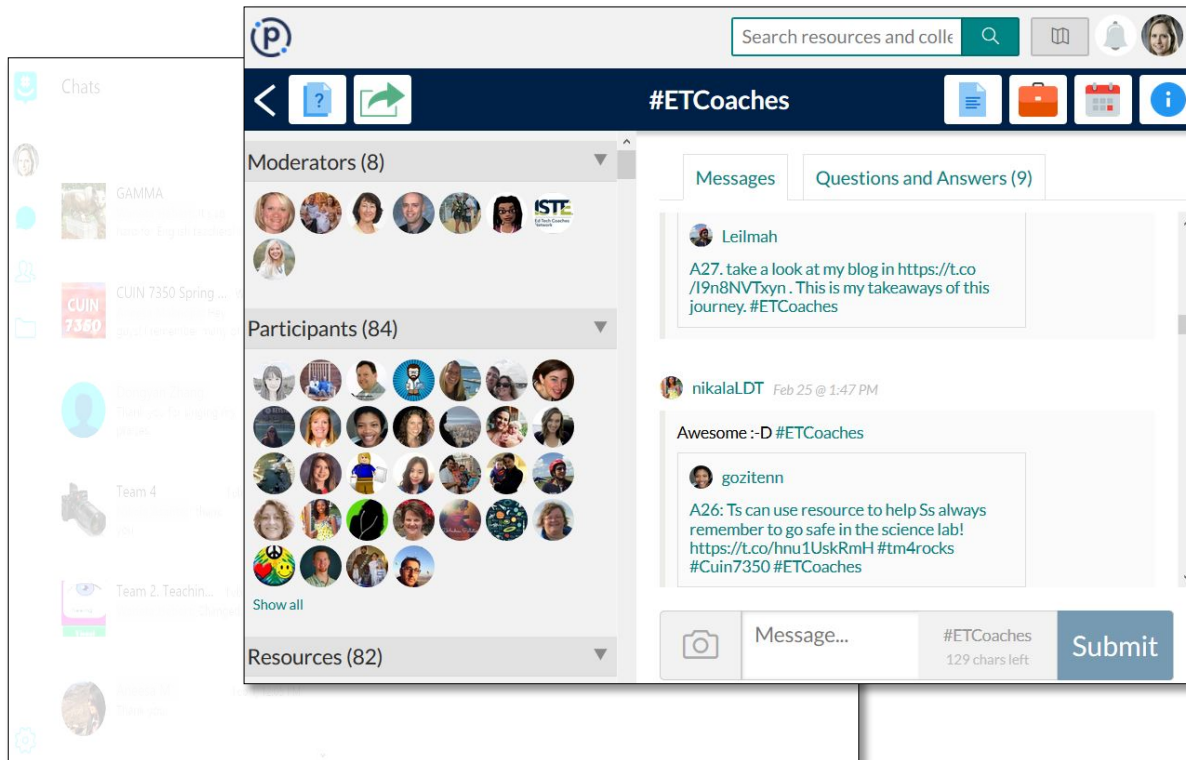
# Where can we incorporate flexibility?

## *Discussions and communications*



# Where can we incorporate flexibility?

*Discussions and communications*



# Where can we incorporate flexibility?

## *Discussions and communications*

The image displays three overlapping screenshots from an online learning platform. The top screenshot shows a chat interface for '#ETCoaches' with moderators and participants. The middle screenshot shows a search bar and a list of resources. The bottom screenshot shows a discussion thread titled 'Transitioning to Online Learning' with several user comments.

**Search resources and coll**

**#ETCoaches**

Moderators (8)

Messages Questions and Answers (9)

Participants (84)

Resources (82)

Search

padlet

Most Visited Getting Started

https://padlet.com/susiegronseth/onlinelearning

Transitioning to Online Learning

When you have experienced online learning from a student's perspective (not necessarily just in this course but in your online learning experiences in general), what have you found to be most supportive and helpful in the way the course materials are organized or delivered or something that the instructor has done to make the online experience more engaging or enjoyable?

**Anonymous 7h**

**Crisa Van Den Bossche**

What I have found to be the most supportive in an online learning environment is frequent teacher feedback. One professor replied to our discussion boards with a video each week which was nice, another replied to each discussion topic which helped deepen our conversations.

The feature of my online classes I find most engaging are the synchronous portion. I had a lot of reservations about taking online classes and struggled with the lack of face to face interaction. Meeting twice a month online is an engaging way to cross those hurdles with online classes.

**Anonymous 1d**

**Kasey Henson**

One of things for this particular course I most like is the checklist that is provided with each module. This is the first time the professor has included a checklist of everything that needs to be completed, and that has really made a difference for making the ease of participating in an online class. I did most of my Bachelor's degree in face to face format because I could, but having a full time job and family severely limits that. I would never consider pursuing the master's program if I couldn't have done it entirely online. However, there are limitations in the online format. The worst is that I hate group

**Nguyen Mai Phuong 1d**

**Phuong Nguyen**

I changed much of my perspective about online course since I started with my PhD. degree last semester. Before, I would always prefer face to face class, in which I thought I could ask more questions, meet friends and involve in more authentic learning environments. I also provided online learning for my class as an "extra" activity to help them to back up and strengthen their skills when we do not have enough time in face to face class. Now, when I decided to take online class for my PhD. degree. I found it very helpful because of the course flexibility. I could manage

**Anonymous 1d**

I didn't have any experience in taking online courses before I got into this master's program. This is my second semester. I just took two online courses so far. In two other courses, I am in the face to face class. However, I can still get access to the online part and I like this kind of hybrid class. I like the discussion with professors and classmates in the face to face class. I also enjoy getting access to online resources so that I can read the articles, watch the videos again and again because I don't wa Double click anywhere, drag files in, or click here to post. **important points. I like most of my online courses so far**

**MURAT KALAYCI 2d**

**Interaction & Feedback**

Like almost all of my classmates, I have taken numerous online classes both in my current doctoral program and also in my masters program 12 years ago. I was not fond of online courses. I was thinking that online courses are missing that human contact, the experiences that you cannot transmit through Internet. Interactions between the instructor and students and also among other students in an online course can hardly be equal to the interactions occur during face-to-face class. For almost all of the online courses I have especially missed the interaction.

# Where can we incorporate flexibility?

## Discussions and communications

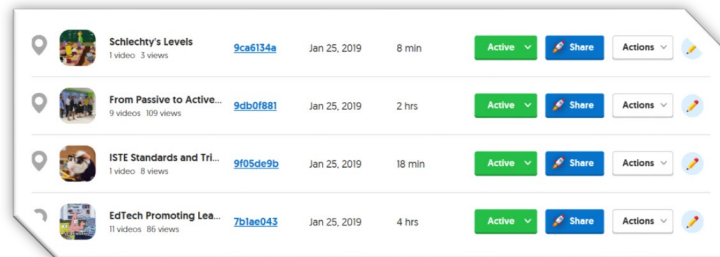
The image displays three overlapping screenshots from an online learning environment:

- Left Screenshot:** A sidebar menu titled "Chats" showing various communication channels like "GAMMA", "CUIN 7360 Spring...", "Team 4", and "Team 2. Teachin...".
- Middle Screenshot:** A discussion board for "#ETCoaches". It features a search bar, a list of moderators (8), and a grid of 84 participants. A post titled "Transitioning to Online Learning" is visible, with two anonymous replies. One reply from Crisa Van Den Bossche discusses the value of frequent teacher feedback, while another from Kasey Henson shares her experience with an online class.
- Right Screenshot:** A video player interface for a "FLIPGRID" with code "c203e7". The video shows a woman wearing a top hat and a mustache, holding a sign that says "HOUSTON My Happy Place!". Below the video, there is a "Back to CUIN 7303" link, a "Week 15 Course Announcement" dated Nov 29, 2017, and a "Link to Week 15 in the CUIN 7303 Calendar" button.

# Where can we incorporate flexibility?

## Active learning assignments

Online course handout example - <http://bit.ly/7350-2-2>



This week, we are focusing on Chapters 3 and 4 in *Learning First, Technology Second*. I challenge you to make some of the concepts from these chapters “come to life”! Get into your creative space and think about how you could demonstrate some of these ideas by acting them out yourself, enlisting help from family/friends, using props as needed, etc.

Choose one of the four topic options below and post a video Flipgrid posting (up to two minutes) that demonstrates your selected idea (I’ll explain how to use Flipgrid next). You can tell the viewer what the concept is that you are trying to convey at the beginning or end of your recording or you can put the idea into the title of your video post.

### Here’s your options –

1. **From Passive to Active:** Demonstrate what it looks like when learners move from being passive to active social learners (with or without the use of technology).
2. **Schlechty’s Levels:** Select an educational technology tool (from [Table 4.2](#) or beyond) and demonstrate a comparison of how it could be used at two of the levels in [Schlechty’s model](#).
3. **EdTech Promoting Learner Engagement:** Select an educational technology tool (from [Table 4.2](#) or beyond) and demonstrate how it could be used to promote learner engagement.
4. **ISTE Standards and Triple E:** Select one of the [ISTE Standards for Students](#) (such as #1: Empowered Learner) and demonstrate connections you see between that standard and the Triple E Framework.

# Best Practices

## *Providing multiple means of engagement*

- ➡ Support student self-regulation by creating and communicating clear activity structures
  - Outline timeline of activities with calendar of deadlines
  - Provide time estimates
  - Describe expectations for participation
  - Identify assessment criteria for participation and performance
- ➡ Gather student input for preferences, scheduling, and interaction
  - Use technology to manage organizational aspects (e.g., Whenisgood, Doodle)
  - Facilitate collaborative note-taking using cloud-based shared documents (e.g., Google Docs, Dropbox, OneDrive)
  - Offer asynchronous alternatives to synchronous activities

## Example of synchronous and asynchronous discussion options

For Discussion 2, you have two options –

**Zoom session:** The authors from Ch. 8 “Universal Design for Learning in China,” will be presenting highlights from their chapter in the [Zoom session on Mon., Jan. 27, 4-5pm](https://zoom.us/j/123456) (<https://zoom.us/j/123456>). The session will introduce key points from Chapter 8 and highlights from the rest of Section 2 (about 15-25 min.). The remainder of the time will be to discuss questions from those that attend. You can use a microphone to engage in the session, and text chat is also available in the session.

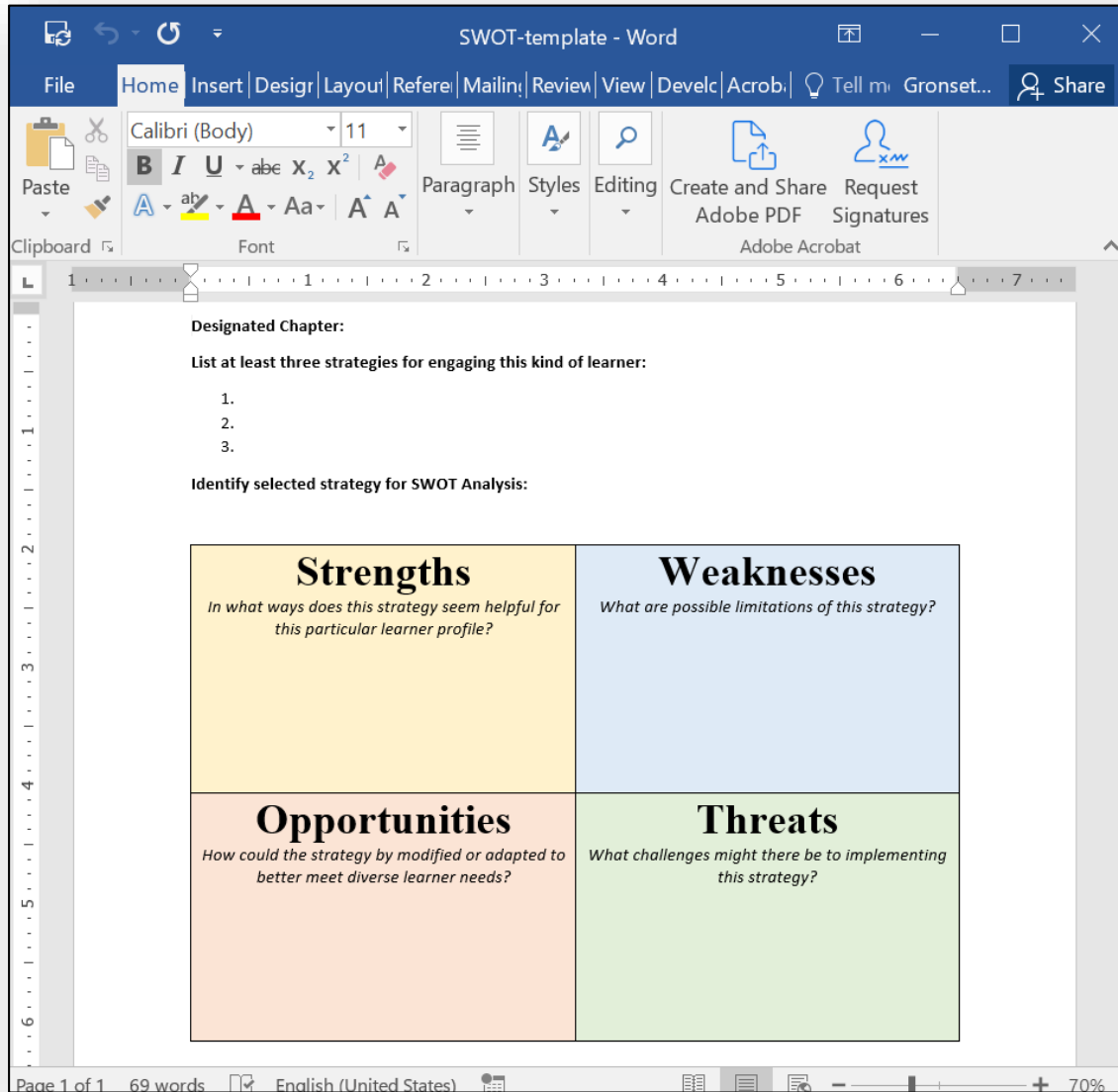
**Bb Discussion Board:** The presentation in the Zoom session will be recorded and provided to you in this unit’s folder by Wed., Jan. 29. [Watch the recording](http://bit.ly/Disc2-asynch) (<http://bit.ly/Disc2-asynch>). Then, for the asynchronous follow-up discussion, consider UDL as a philosophical stance, and like the authors, think about how UDL fits in your cultural or organizational context. In what ways do you think it aligns with philosophy or policy in your context? In what ways do you think it would require some changes? Post your thoughts on this in the “Discussion 2 – Asynchronous Follow-up” Bb forum. Return to the Discussion Board after others have added their thoughts and post a reply to someone’s posting. This option will run Wed., Jan. 29 to Mon., Feb. 10, 9am.



# Best Practices

## *Providing multiple means of representation*

- ➡ Vary the formats of content
  - Consider how information can be represented through text, images, audio, and video
  - Share pictures, writing, and audio/video recordings in discussions
  - Strategically utilize tools in synchronous sessions - web camera voice, chat, virtual whiteboard, polling tools, demonstration through shared screens, breakout rooms, real-time challenges
- ➡ Incorporate reflection opportunities and prompts
  - Embed prompts to summarize, synthesize, and apply
  - Utilize varied formats of journaling, word cloud creation, memes, concept maps, video posts, podcasts
  - Involve students as leaders to “wrap-up” units and discussions



# Example of a breakout room discussion scaffold

Download:

<https://bit.ly/SWOT-discussion>

# Best Practices

## *Providing multiple means of action and expression*

- ➡ Vary types of discussion formats
  - Utilize graphic organizers as scaffolds for discussion
  - Support shared brainstorming, drafts of work, exploration of terms, and examples of concepts
  - Incorporate instantaneous communication via group chat (e.g., Microsoft Teams, GroupMe, WhatsApp)
- ➡ Support varied practice and demonstration of knowledge and skills
  - Facilitate collaborative online concept mapping of course concepts (e.g., Lucidchart, Mindmeister, Coggle)
  - Collectively establish group norms
  - Build in opportunities for leadership roles and commitments

Course Evaluations  
Blackboard Help

**Course Management**

- Control Panel
- Content Collection
- Course Tools
- Evaluation
- Grade Center
- Users and Groups
- Customization
- Help

**2. Policies and Structures for Reducing Learning Barriers**

Jan. 27-Feb. 2 Ch. 5-6 • Discussion 2  
Feb. 3-9 Ch. 7-10 • Quiz / Journal 2

**3. Inclusive Classroom Design and Instructional Strategies**

Feb. 10-16 Ch. 11-13 • Discussion 3  
Feb. 17-23 Ch. 14-17 • Quiz / Journal 3  
Project 1

**4. Technology Innovations for Inclusive Learning**

Feb. 24-Mar. 1 Ch. 18-20 • Discussion 4  
Mar. 2-8 Ch. 21-23 • Quiz / Journal 4

**Campus Closure**

Mar. 9-15 - Spring Holiday  
Mar. 16-22 - Campus closure due to Coronavirus

**5. Issues in the Design of Accessible Instructional Materials**

Mar. 23-29 Ch. 24-26 • Discussion 5  
Mar. 30-Apr. 5 Ch. 27-30 • Quiz / Journal 5

Example of course organization -

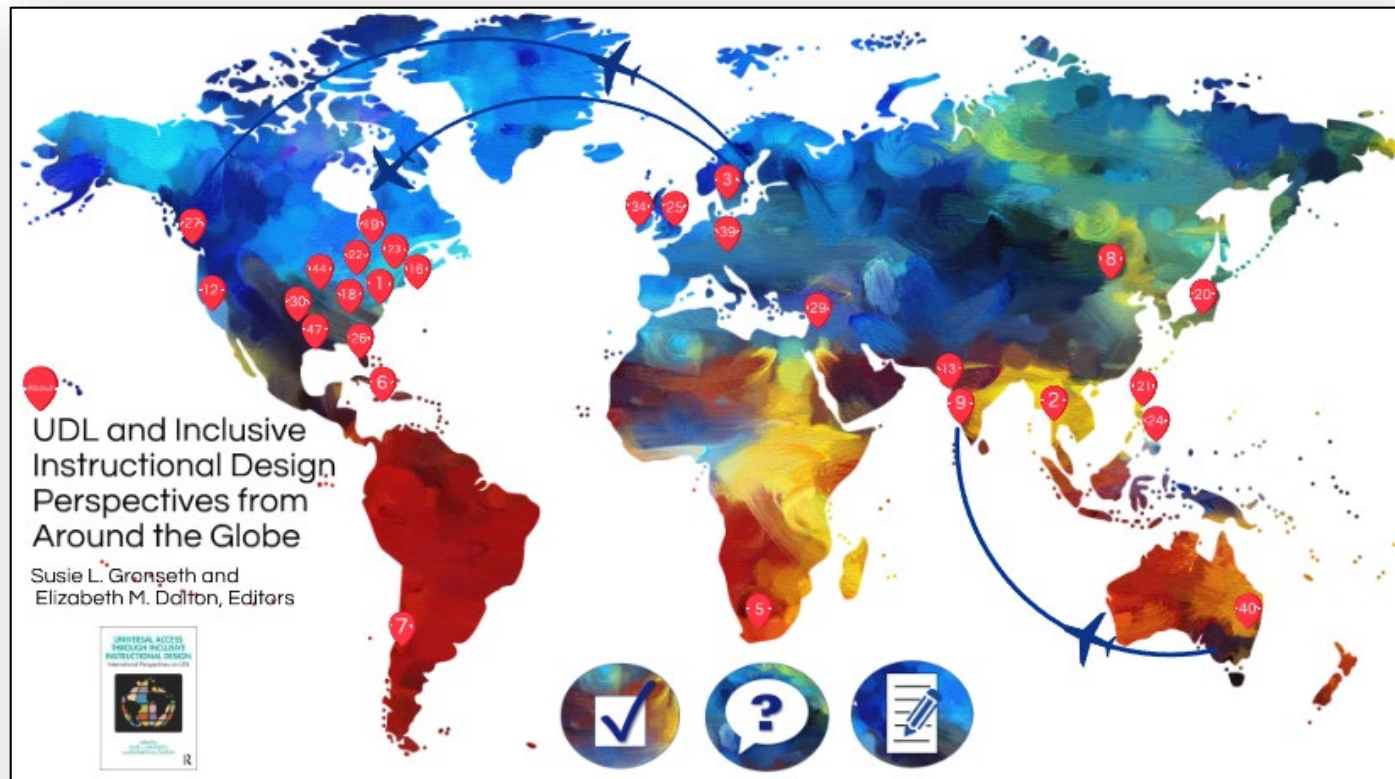
- Content grouped by module
- Key dates, readings, activities

Recognize  
access  
barriers

Design accessible  
online course materials

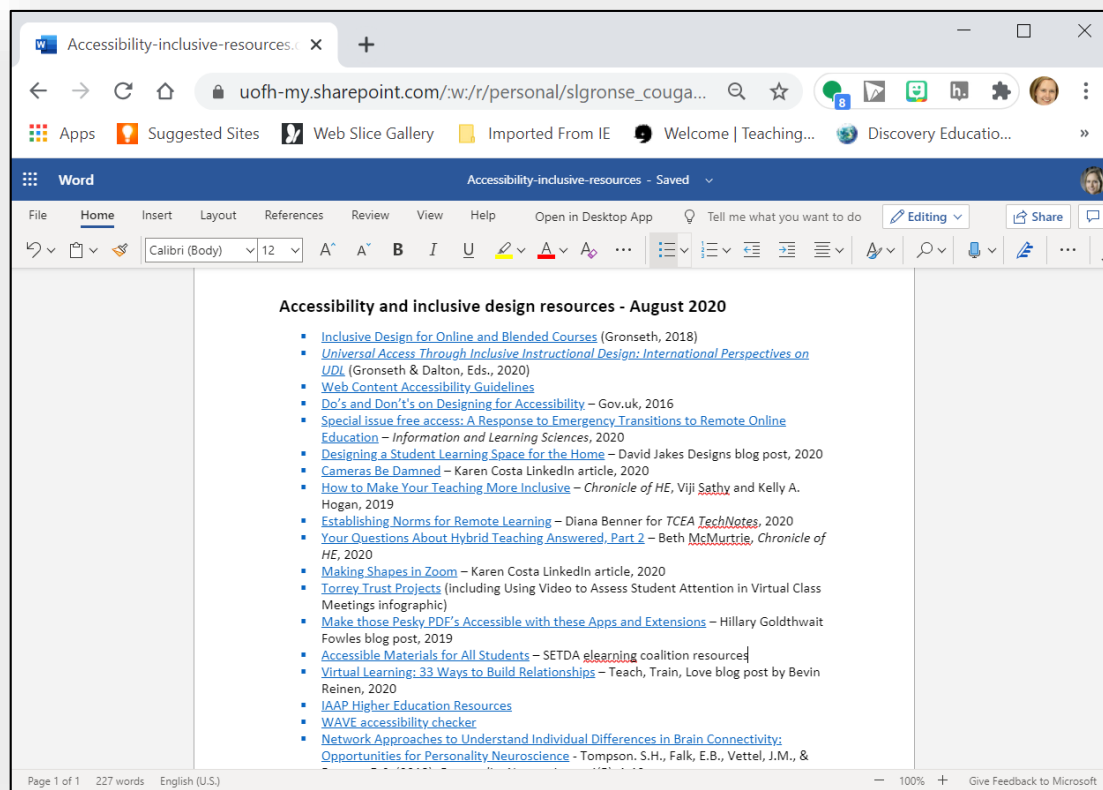
Apply  
inclusive  
strategies

# Resources



<https://internationaludl.weebly.com/>

# Resources



<https://bit.ly/access-inclusive-resources>

# How to Make Online Teaching Accessible and Inclusive



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