

# Accessibility Education:

## A New Certificate and Undergraduate Minor in Accessibility Studies

Naomi Jeffery Petersen  
*Professor, Accessibility Studies*  
*Central Washington University*

# Accessibility Education

## Today's Workshop

Why?

1. Marketable skills.
2. Meaningful.

What is it?

Online courses.



How do you make it happen?

# The Wildcat Commitment to Diversity and Accessibility





# Every Student a Successful Student





# Every Career an Accessible Career



# Context



- Regional Comprehensive University
- Undergraduate Teacher Candidates



# Educational Assessment Course

- Performance Assessment Design
- Planning / Teaching / Assessment Cycle
- Integrated Instructional Decisions



The instructional challenge in an  
education course... ...walk the talk!

- Teach what they need to learn
- Demonstrate how they will need to teach...
  - Engaging ALL students, of ALL abilities.





# A disaster waiting to happen....

*A tried and true lesson that had not been tried on a truly representative group.*

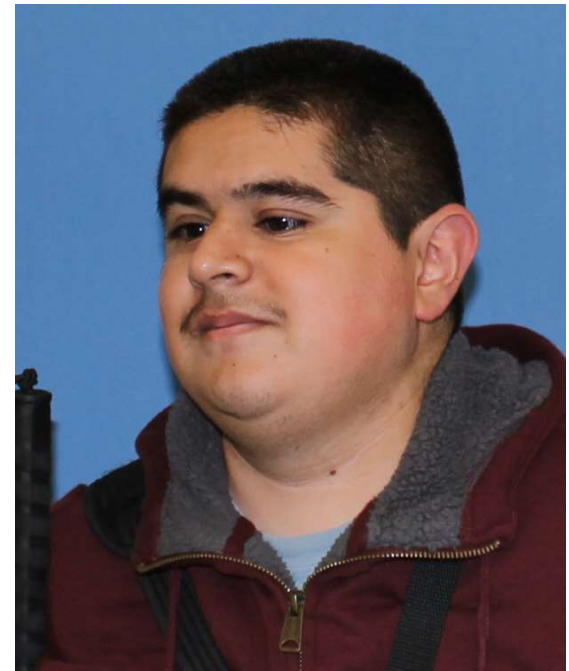
## Conceptual Engagement

- Graphic Organizer
- Metaphor

## Personal Participation

- Manipulating (five card “foldable”)
- Reading
- Writing

## Reality check!



# Building your classroom from the Ground Up

## Task 1 Planning

A: Context for Learning

- Individual Students
- Group Cultures
- Classroom Culture



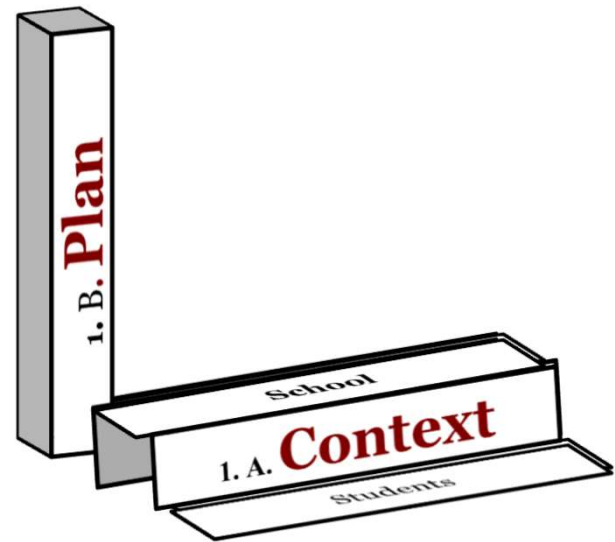
## Task 1 Planning

B: Lesson Plans

C: Materials

D: Assessment Plans & Materials

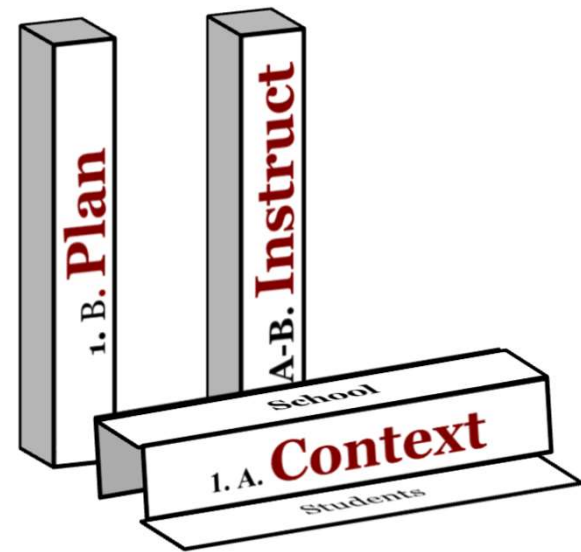
E: Reflective Commentary.



## Task 1 Planning

## Task 2: Instruction

A: Video recordings  
B: Commentary



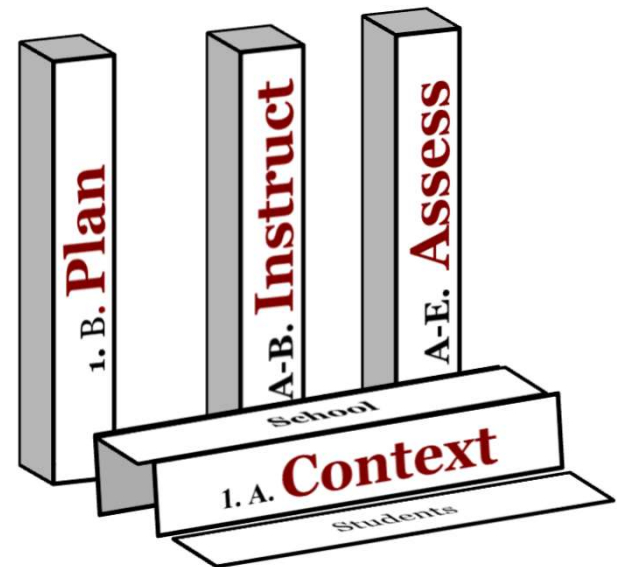


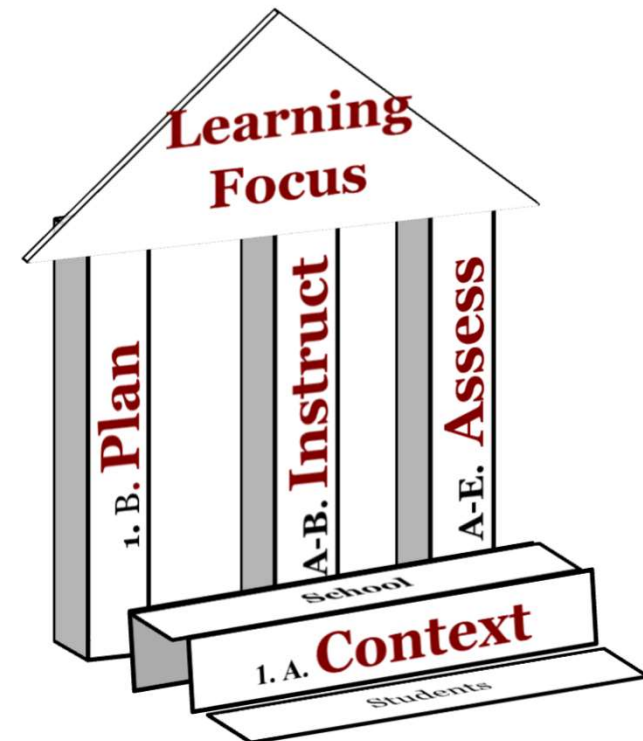
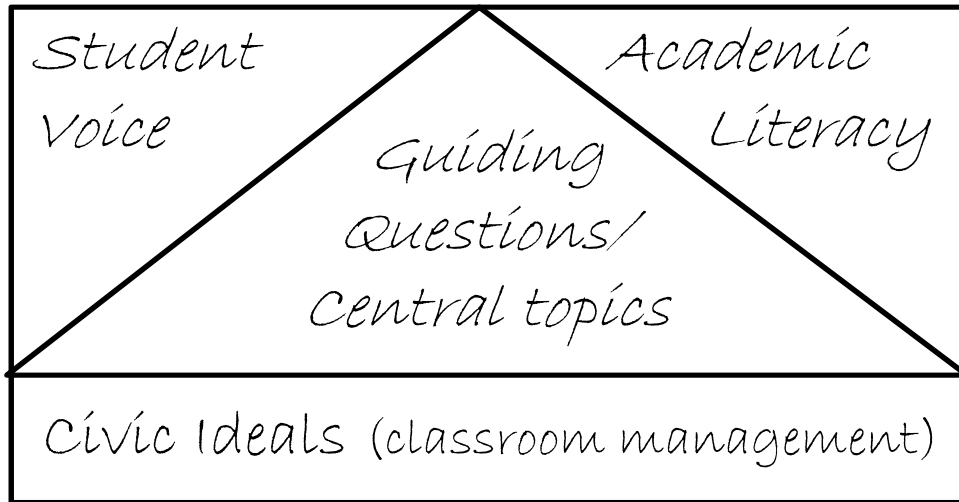
**Task 1 Planning**

**Task 2: Instruction**

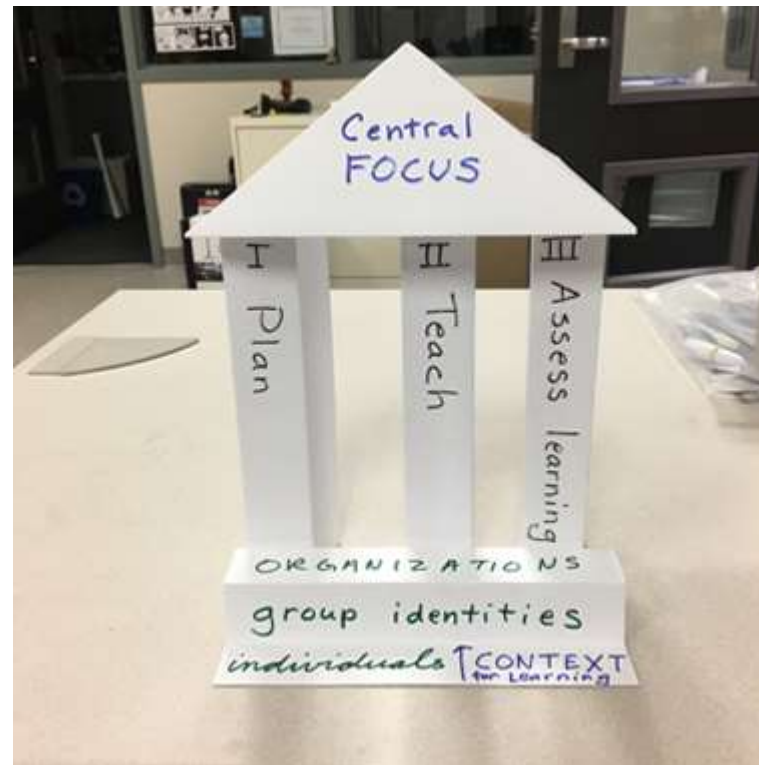
**Task 3 Assessment**

*A: Student Work Samples*  
*B: Evidence of Feedback*  
*C: Assessment Commentary*  
*D: Evaluation Criteria*  
*E: Student Self-reflections*





# Inspired Instruction



Petersen, N.J. (Fall, 2013). House of cards: An edTPA orientation activity. *Northwest Journal of Teacher Education*, 11(2). 163-186.

<http://nwate.files.wordpress.com/2012/08/northwest-journal-of-teacher-education-fall-2013>

# A disaster waiting to happen....

*A tried and true lesson (that had not been tried on a truly representative group).*

Conceptual Engagement

Graphic Organizers

Metaphor

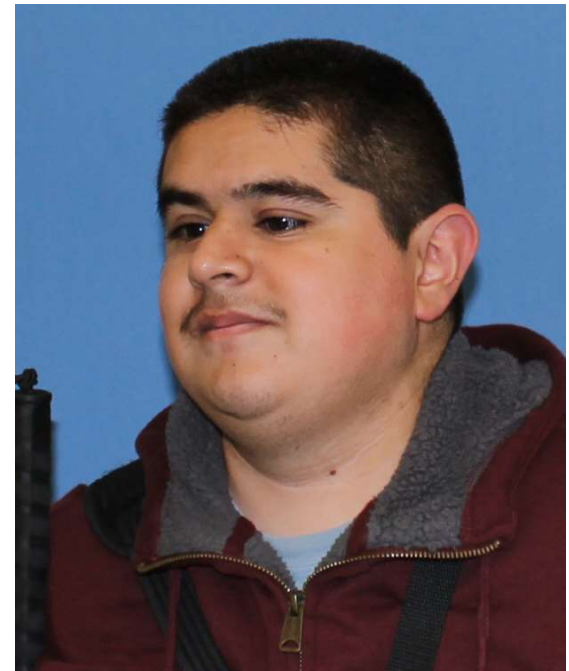
Personal Participation

Manipulative (have card "ldable")

Real

**“able-ism”**

Reality check!

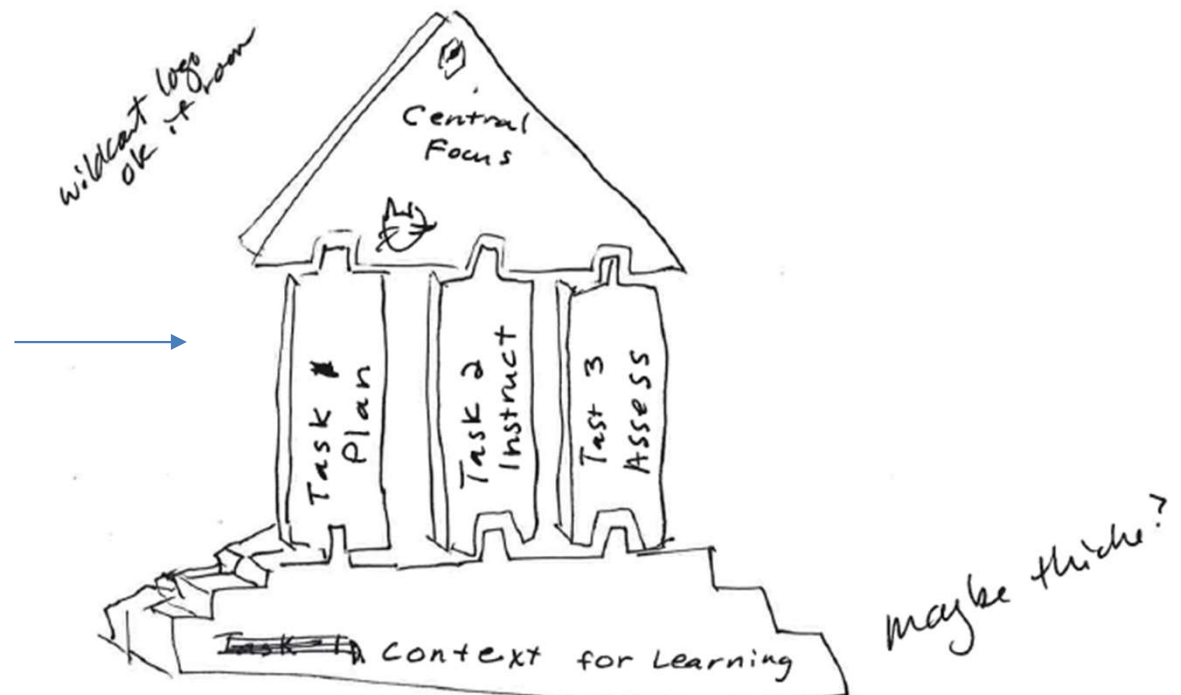
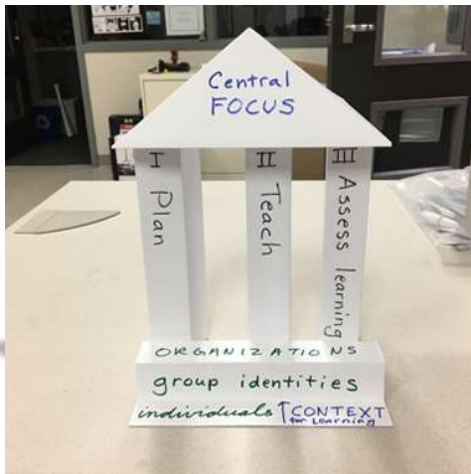




# An inspiration

## Multimodal Education Center

- Conveniently Located
- Demonstrating Cool Stuff
- Lots of Helpful Folks



# An impromptu project

Phase I: *In-class discussion of core concepts*

Phase II: *Collaboration initiated*

Phase III: *Initial prototyping and feedback*

Phase IV: *Design Process refinement and streamlining*

Phase V: *Final Product*



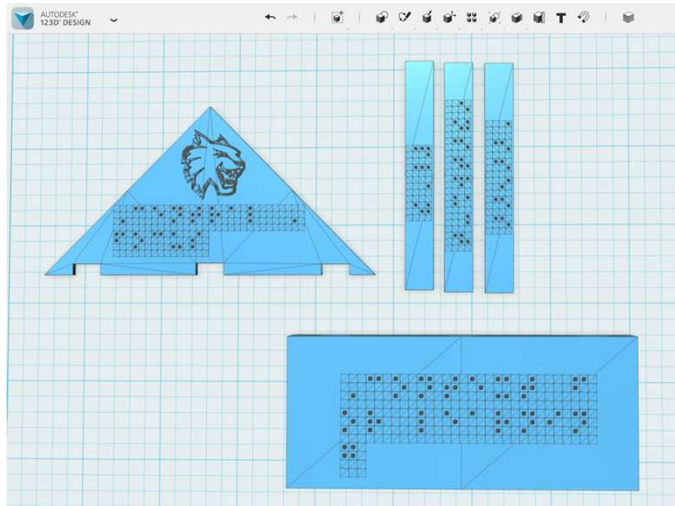
# Tools

- ❖ Adobe Illustrator
- ❖ Ultimaker 2+ 3D printer with polylactic acid (PLA)

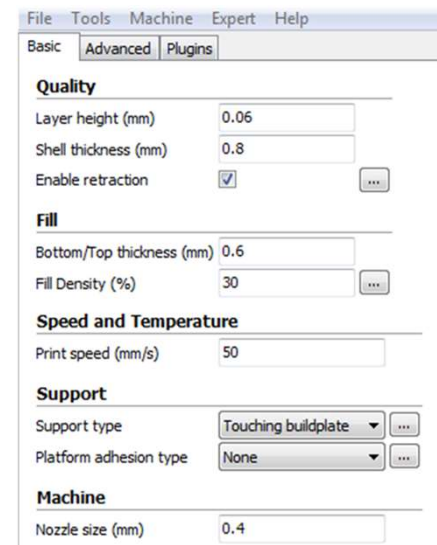


- ❖ Text to Braille Converter by [Lumi Industries](#) (*freeware*)
- ❖ 123d Design by [Autodesk](#) (*freeware*)
- ❖ Cura 3D printing slicing software by [Ultimaker](#) (*freeware*)

1. Lumia text to Braille converter
2. 123d Design development/  
modeling



3. Cura 3D slicer settings



# Collaboration



- **Disability Services**

*Wendy Holden, Director*

- **Professional Education Program**

*Naomi Jeffery Petersen, Faculty Coordinator*



# Our prototype!

- Dozens of design hours!
- Several printing failures ☹️
- LOTS of learning about the logic of Braille  
...and the logic of 3-D.

Hollingsworth, F., & Petersen, N. J.  
(Nov, 2017) Tactile teachables:  
Expanding accessibility with 3D printing.  
*Educause (Editors' Pick)*.  
<https://er.educause.edu/articles/2017/11/>



# But a new inspiration trajectory...

*Classroom Teachers could use this knowledge*

Phase I: *Discussion of core concepts*

Phase II: *Collaboration*

Phase III: *Prototyping and feedback*

Phase IV: *Design Process*

Phase V: *Final Product*

*Let's keep track and  
write a manual for  
others to use*

*There's a crying need for people with these skills!*

*Let's offer classes!*



## Online Certificate or Minor

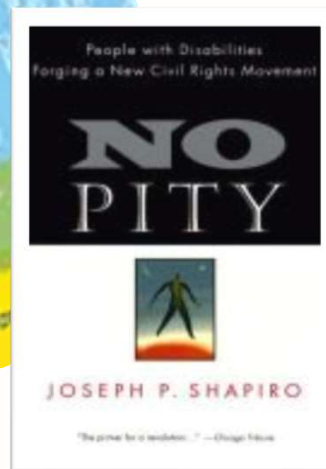
Developing competence in recognizing where, when, and how to include people with varying degrees of ability.

[www.cwu.edu/Accessibility-Studies](http://www.cwu.edu/Accessibility-Studies)

## ASP 305 Accessibility & User Experience.

Quality of life and quality of accessibility in everyday experiences and changes in laws and attitudes about the need for accessible design. Current careers requiring competence in accessibility.

4 credits. Fall, Winter, Spring, Summer.



## ASP 325 Universal Design

Proactive accessibility design for high incidence problems in community, leisure, occupational, and personal living spaces. Technology, adapted architecture, differentiated activity. Diversity and equity.

Credits. Online. Fall , Summer





## EQUALITY VERSUS EQUITY



In the first image, it is assumed that everyone will benefit from the same supports. They are being treated equally.



In the second image, individuals are given different supports to make it possible for them to have equal access to the game. They are being treated equitably.



In the third image, all three can see the game without any supports or accommodations because the cause of the inequity was addressed. The systemic barrier has been removed.

## ASP 435 Accessible Information Design

Standards for public communication, such as advertising and agency  
 effective Job coaching. Issues of disclosure and advocacy.  
 legislation and court decisions. Social justice and

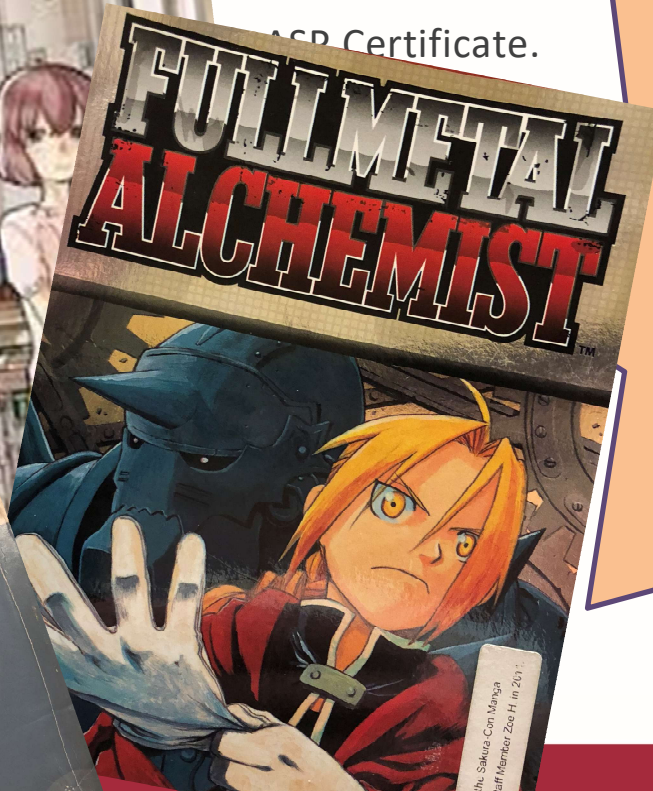
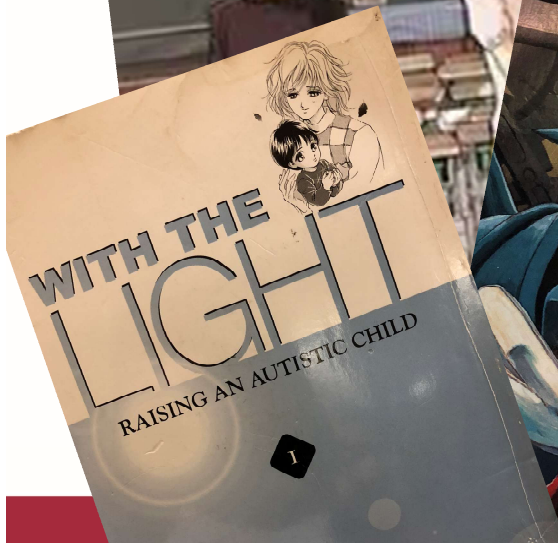
5 credits. Online. Winter, Summer.



## Special Topics in Accounting

Elective, Fall 2019

ASCP Certificate.



**Freaks,  
& Heroes**  
Disabilities &  
Depicted in  
Popular Media &  
Games

## ASP 490 Accessibility Internship

## ASP 492 Accessibility Practicum

Field experience in a real-world context for observing, analyzing and investigating principles and issues crucial to developing competence in understanding efforts to minimize barriers for all people, especially those with specific limitations in their perception or mobility.

1-12 credit. Arranged individually.

## ASP 485 Accessibility Capstone

Experiential-based capstone course. Accessibility competence demonstrated in portfolio and capstone project. Laboratory time will include a variety of service learning, professional visits and applied practical experience. Strategies for engaging stakeholders in trouble-shooting accommodations.

Prepare an Accessibility Plan with Practical Recommendations

ually.



# But how did the new degree program actually happen?

- Phase I: *Curriculum Development Procedures*
- Phase II: *Collaboration, Communication*
- Phase III: *Prototyping and feedback*
- Phase IV: *Curriculum Approval*
- Phase V: *Recruiting*

## What could go wrong?

*One example of a university phenomenon*



*Two groups serving the same population: **Students!***

**Faculty**



**Disability Services**

# Disability Services



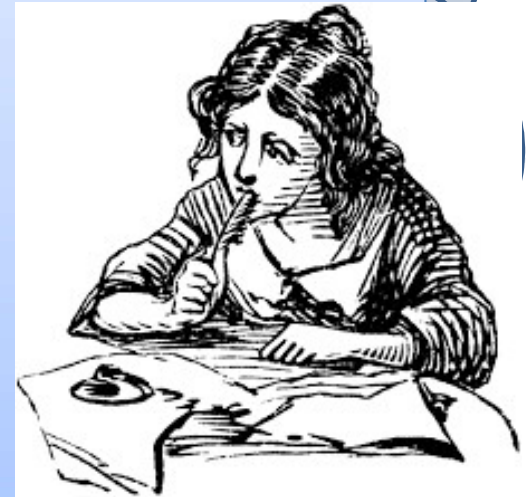
- Identifies need.
- Develops methods.
- Provides support.

# Faculty



for Grants in order to research

- Research
- Research
- Research
- Write proposal to present findings
- Research
- Research
- Research
- Write proposal to publish article
- Research
- Research



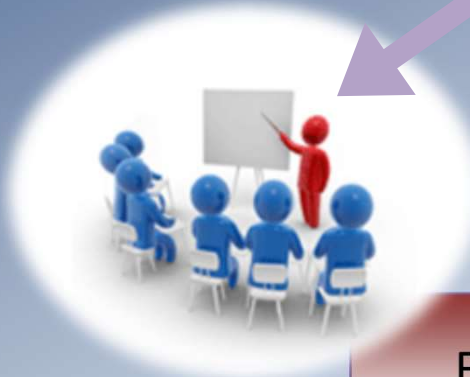
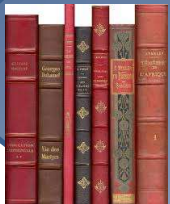


# Disability Services



- Identifies need.
- Develops methods.
- Provides support.

**Faculty**



Expects implementation.

**Students**



About **2 in 10** adults  
live with a **disability**



## How Common are Specific Disabilities?









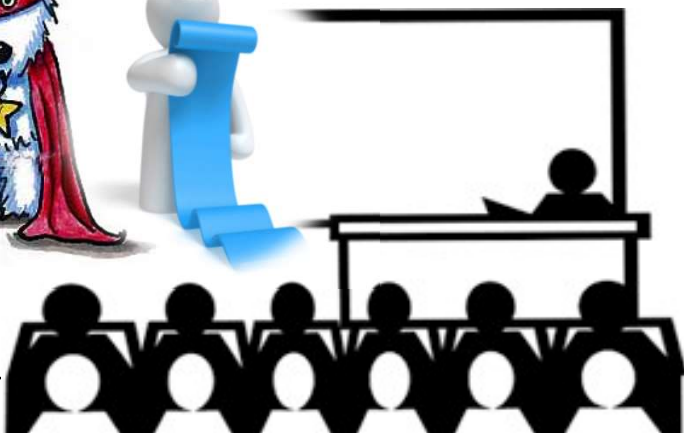



United States  
**Census**  
Bureau

U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU  
[census.gov](http://census.gov)

Source: Americans with Disabilities:  
2010, from Survey of Income and  
Program Participation

Strengths Weaknesses Opportunities Threats











<p>SWOT</p>	<p>Opportunity</p> 	<p>Threat</p> 
<p>Strength</p> 		  
<p>Weakness</p> 		

# Strategy to raise faculty awareness:



## Propose a new degree program!



<p>SWOT</p>		
 	 <p><i>Universal Design for Learning</i> = Better Focus &amp; Format</p>  <p>= Better Visibility and Voice</p>	
	<p><b><i>Not enough resources and expertise.</i></b></p>	

# How is the program going?

- Courses are offered regularly.

Course	Summer	Fall	Winter	Spring
ASP 305 Accessibility & User Experience	X	X	X	X
ASP 325 Universal Design	X		X	
ASP 435 Accessible Information Design	X			X
ASP 485 Accessibility Capstone	X			X

- Courses are revised in response to assessments.
- Qualified faculty are cohesive and dynamic.
- Online application system is working well.

# The program continues to develop.

- Students are requesting optional internships.
- A graduate specialization is in progress.
- An interdisciplinary major is in progress.
- The new general education program includes ASP courses.



# Courses are used as electives by other programs

- Museum Studies
- Sports Management
- Family and Child Life
- Social Services
- Interdisciplinary Social Science

Widespread advising materials 😊

## Accessibility issues are a component of anthropological study.

### **Social Model of Disability**

- Unlike the medical model.
- Environment is the disabling factor.
- Stigma is a significant cultural barrier.

### **Anthropology**

- Being human is an integration of biological, cultural, material and linguistic capacities.
- Focus on culture and cultural diversity.





*Choose an ASP class to complete your degree conveniently.*

### **Anthropology Degree Programs**

- BA Anthropology
- BS Anthropology
- Anthropology minor
- Museum Studies minor
- Forensic Certificate
- BS Primate Behavior and Ecology

### **Electives**

- 4 cr
- 8 cr (including statistics)
- 12 cr
- 7 cr
- 15 cr
- None

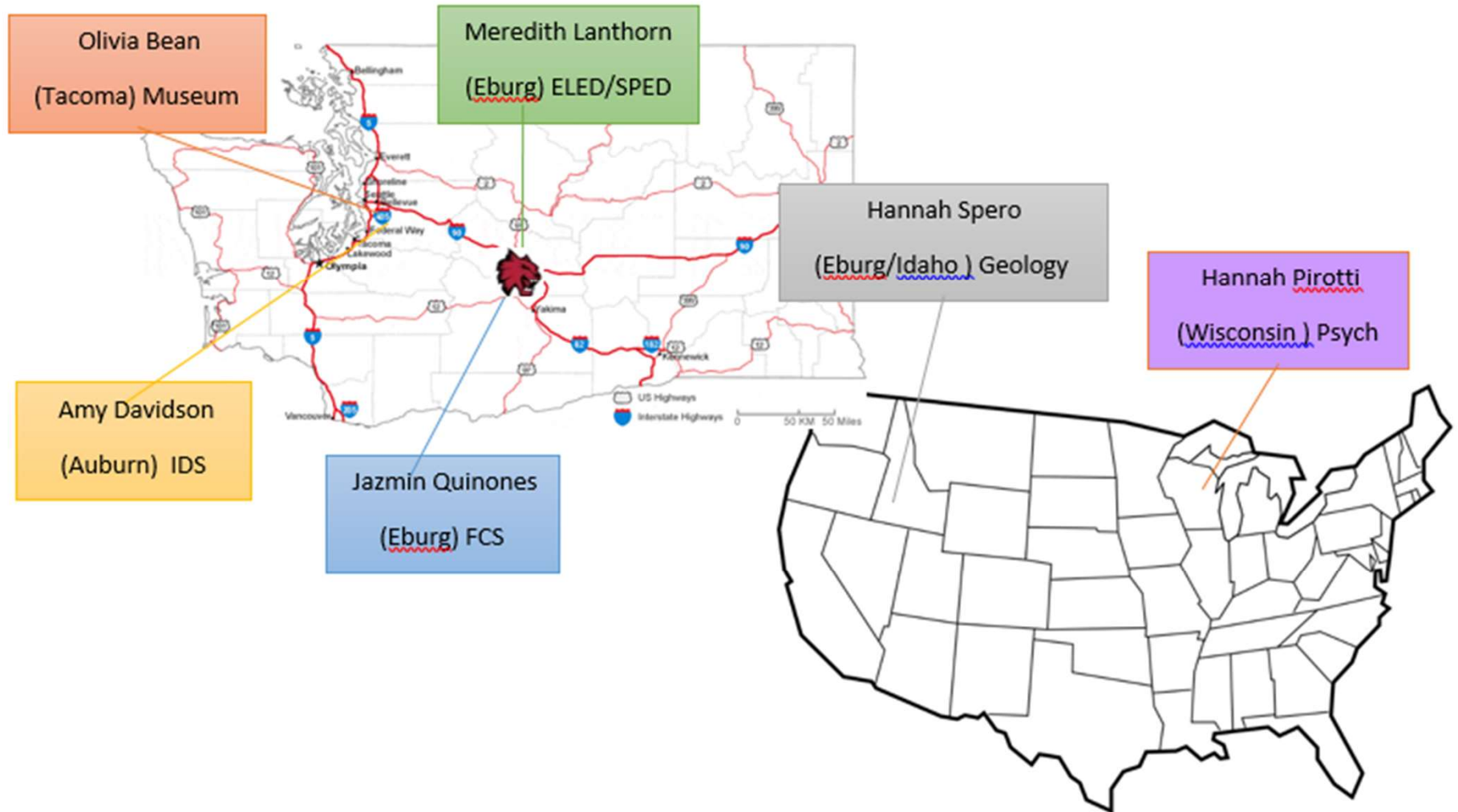


# Program Landmarks

- June 2016 Curriculum developed.
- Feb 2017 Degrees approved.
- Mar 2017 First course offered.
- May 2017 [Diversability Day](#) launch.
- June 2017 First integrated summer session.
- Sep 2017 First program completers.



# Students are completing the program.



# Does Everybody Get to Play?

## A Study of Accessibility in Ellensburg Parks & Recreation



By Jazmin Quinones

- *Family & Consumer Science Major*
- *Accessibility Studies Minor*



# Project Goals

- Identify barriers
- More kids with disabilities playing outside with others





305

325

435

Elective

Capstone

## ASP 305 Accessibility & User Experience.

4 credits. Fall, Winter, Spring, Summer.

### LEARNER OUTCOMES:

1. Identify assumptions of mobility, perception, cognition, and engagement regarding common life activities (i.e. ableism).
2. Define disability etiquette.
3. Distinguish between theoretical models of disability, e.g. medical, social, economic, functional, identity, moral, charity, and destiny, and examine the implications of beliefs and attitudes about disability on public and personal perceptions of disability.
4. Differentiate categories and levels of disability and common barriers associated with them (i.e., eligibility and entitlement).
5. Define assistive technologies and their uses.
6. List prominent legal documents and landmark events related to disability and human rights.
7. Survey current careers requiring competence in troubleshooting accessibility.

# Adults with Autism Navigating the Bus System in Kenosha, Wisconsin

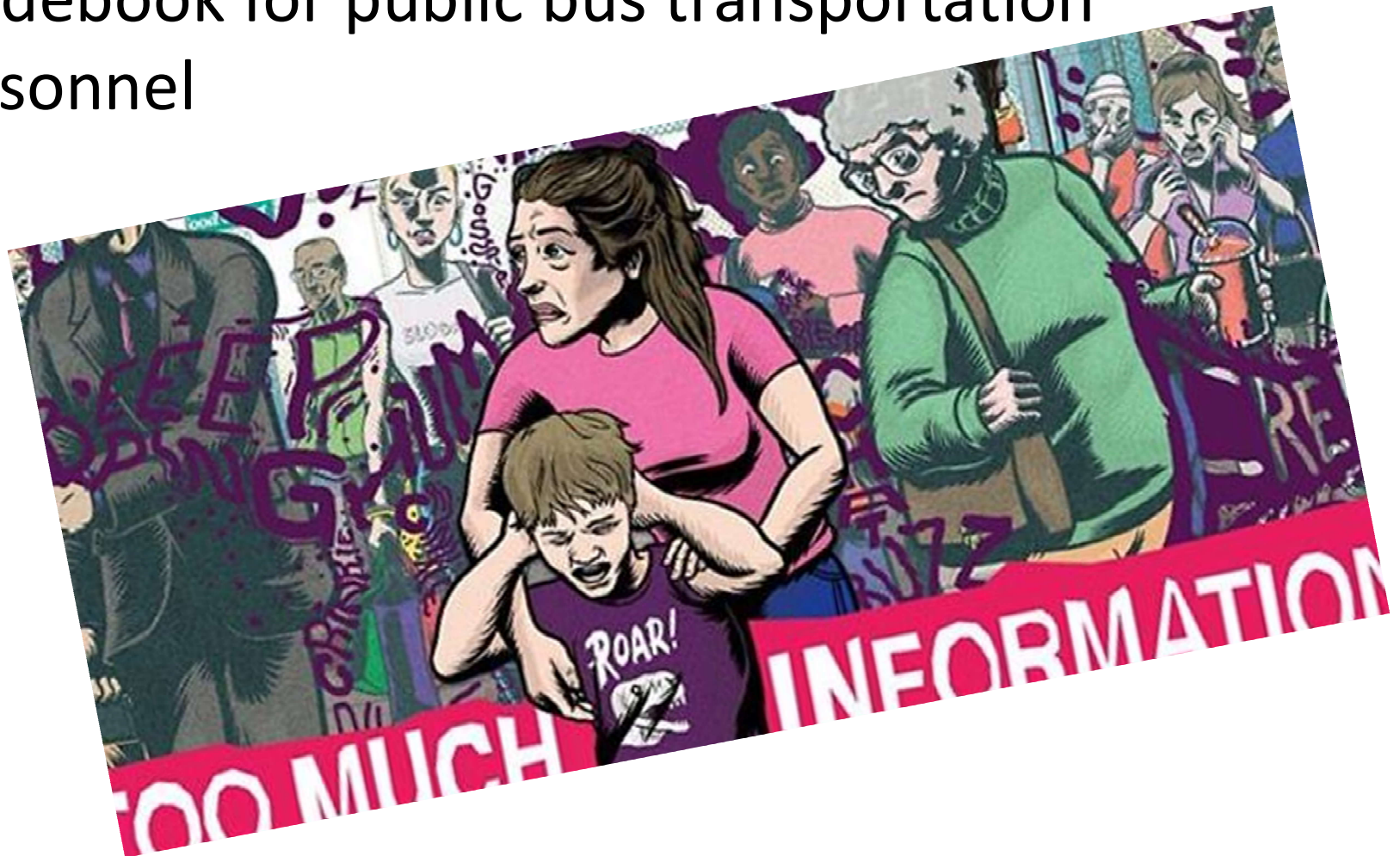


By Hannah Perotti

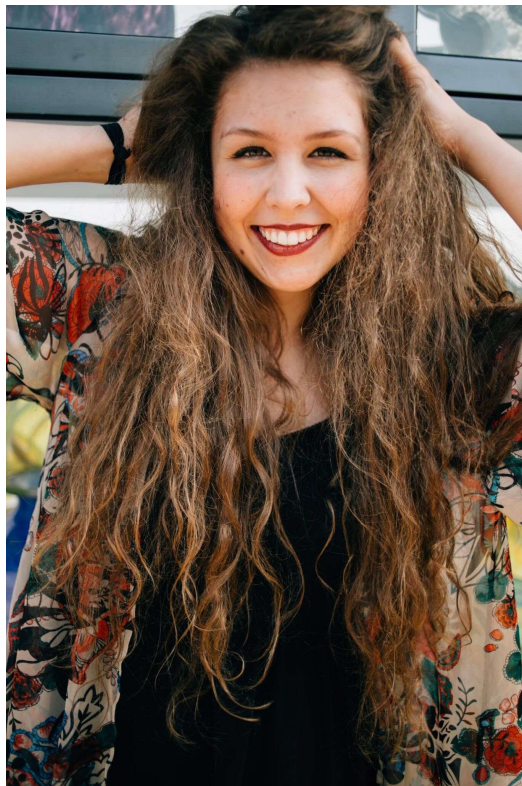
- *Psychology Major*
- *Accessibility Studies Minor*
- *(pre-Mental Health Counseling Masters)*

# Project Goals

- Universally designed buses
- Guidebook for public bus transportation personnel



# Accessible Museum Experiences



By Olivia Bean

- *Anthropology Major*
- *Museum Studies Minor*
- *Accessibility Studies Minor*
- *Religious Studies Minor*



# Project Goals

- Work with the low-vision and blind community.
- Recreate the Hot Shop.
- Create an inclusive exhibit.



305

325

435

Elective

Capstone

## ASP 325 Universal Design

4 credits. Online. Fall , Summer

### **LEARNER OUTCOMES:**

1. Analyze scenarios of interaction for effective inclusion of people with disabilities and limitation.
2. Define principles of universal design.
3. Identify technological applications useful for designing individual accommodation and universal access.
4. Explain compliance with statutory and case law related to disability and human rights, e.g. ADA, in terms of safety, liability.
5. Outline risk management strategies in the context of cost-benefit analyses of implementing accommodations.



# Accessibility at the White River Ampitheatre

By Meredith Lanthorn

- *Elementary Education Major*
- *Special Education Major*
- *Accessibility Studies Minor*
- *American Sign Language Minor*



# Project Goals

- Improved signage, audibility, and facilities.



- More enjoyment and participation at concerts by people with disabilities

305

325

435

Elective

Capstone

## ASP 435 Accessible Information Design

5 credits. Online. Winter, Summer.

### LEARNER OUTCOMES:

1. Identify common barriers to inclusive information in terms of content and medium.
2. Analyze rhetorical implications of accessible information design.
3. Define and illustrate guidelines.
4. Identify and assess technological applications useful for making information accessible.
5. Interpret policy and law as applied to making advertising and other public communication accessible.
6. Outline stakeholder responsibilities and interactions.
7. Explain the importance of communication in emergency circumstances.

# Guidelines for Accessible Documents at Green River Community College

By Amy Davidson



- *Interdisciplinary Social Sciences Major*
- *Accessibility Studies Minor*

# Project Goals

- Educate and promote the importance of accessible documents in a higher education setting.
- Provide guidelines and resources for creating accessible documents.



**305 UX**

**Stage 2 UD**

**Stage 3 IT**

**Elective**

**Capstone**

## ASP 485 Accessibility Capstone

2-3 credit. Online. Arranged individually.

### **LEARNER OUTCOMES :**

1. Identify common barriers to inclusive information in terms of content and medium.
2. Analyze rhetorical implications of accessible information design.
3. Define and illustrate guidelines.
4. Identify and assess technological applications useful for making information accessible.
5. Interpret policy and law as applied to making advertising and other public communication accessible.
6. Outline stakeholder responsibilities and interactions.

**NOTE:** Requires comprehensive program exam and colloquium presentation.



# Improving Tsunami Hazard Inundation and Evacuation Maps for Port Angeles in the Puget Sound of Washington

By Hannah Spero

- *Geology Major*
- *Accessibility Studies Minor*



# Project Goals

- Future tsunami hazard map revisions
- Emergency management planning
- Re-evaluation of infrastructure
- Saving lives



# How Accessible is the CWU Mobile App?

By Humberto Avila

- *Special Education Major*
- *Accessibility Studies Minor*



*Not accessible? Not acceptable!*



The **Accessibility Studies Certificate** adds value to every career path.

- Know your rights!
- Become an advocate!
- Learn how to spot barriers and solve problems!

Go to [www.cwu.edu/accessibility-studies](http://www.cwu.edu/accessibility-studies)

Or contact Dr. Petersen at [NJP@cwu.edu](mailto:NJP@cwu.edu)

**Only 20  
credits!**

**Online!**

# Points of Pride

- Hosted a panel on disabilities depicted in the media Sakura-Con.
- Featured on package of Lammily wheelchair doll accessory.



[https://youtu.be/08w11\\_GfUJA](https://youtu.be/08w11_GfUJA)



*An online student's  
view of the  
Accessibility Studies  
Program Director*



Dr. Naomi Jeffery Petersen

NJP@cwu.edu

[www.cwu.edu/Accessibility-Studies](http://www.cwu.edu/Accessibility-Studies)