

Envisioning Student Success for Neurodiverse Students

Dr. Elizabeth Coghill and Amber Arnold

Pirate Academic Success Center

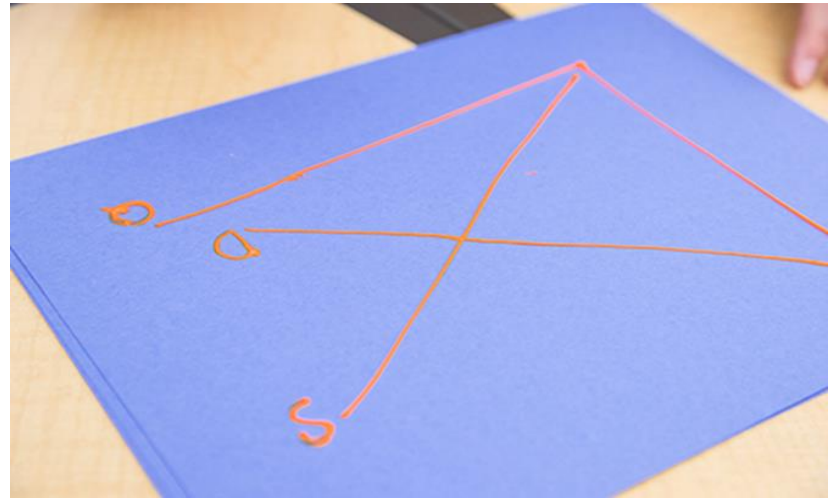
East Carolina University



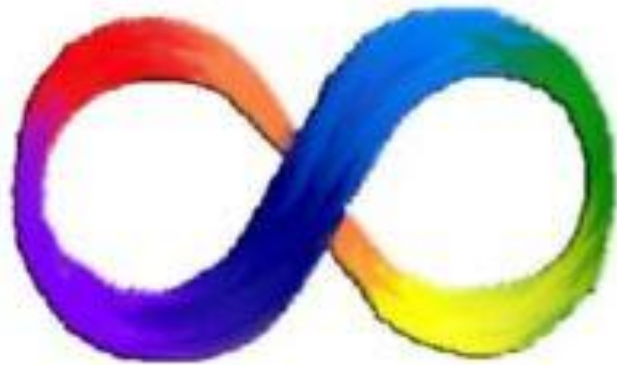
Our goals today

- ✓ Increase understanding of neurodiversity
- ✓ Explore barriers that impact neurodiverse student success
- ✓ Investigate the relationships between student advocacy, executive functioning, campus belonging and academic success
- ✓ Identify ways HE leaders can be campus champions

Meet Reagan and Lee

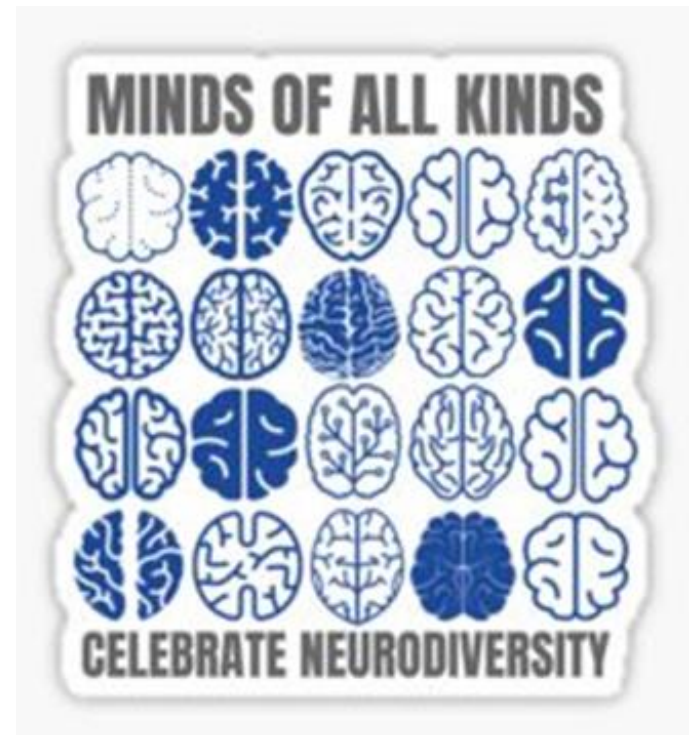


Neurodiversity



Neurodiversity

- https://www.youtube.com/watch?v=Nae_pWStWzw



What is neurodiversity?



“The basic premise of neurodiversity is that there is no “typical” mental capacity- no “normal” brain to which all other brains are compared.” (Armstrong, 2012)

- Neurodiversity is a perspective and advocacy position that individuals with a broad range of neurological differences have gifts and challenges.
- A neurodiversity perspective promotes consideration of changes to educational and work environments.

What is neurodiversity?

**When as educators, we regard students
with learning differences
in terms of their strengths,
we can envision and create
environments in which all learners
succeed.**

HE Outcomes for Neurodiverse Students

- **Low rates of disclosure** 24% of students disclose (Cortiella & Horowitz, 2014)
- **Difficulty adjusting** to college (Ahamann, Tuttle, Saviet & Wright, 2018)
- **Lower grade performance** and GPA (Ahamann et al.,2018)
- **Higher rates of class withdrawals and academic probation** (DuPaul, Dahlstrom-Hakki, Gormerly, Pinho, & Banerjee, 2017))
- **Lower graduation rates** with only 28% completion (Ahamann et al.,2018)
- 45% report **dissatisfaction with available support services** (Ahamann et al.,2018)

Barriers to Student Success

1. Self advocacy
2. Social connection and belonging
3. Experiences with faculty and staff
4. Connections to support services
5. Campus environment



Who's job is it?

- Learning Center
- Advising Center
- Faculty
- Disability Support



*Remove barriers and
unlock potential*



Self advocacy

Social connection and belonging

Experiences with faculty and staff

Connection to support services

Unwelcoming campus environment

Barrier 1: Self Advocacy

- Used to having resources and supports provided in high school.
- Parents functioned as advocates for support.
- Challenged by self advocacy and student identity.



UDL vs Accessibility/Accommodations

- Colleges provide reasonable accommodations under civil rights laws
 - colleges don't have to provide the same level of supports and services a student might have gotten in high school.
 - Students must register with that office to get accommodations
- A **reasonable** accommodation:
 - any modification or adjustment that will enable a qualified student with a disability to participate in a course, program, activity, or service
- Types of accommodations:**
 - Accessible classrooms and furniture
 - Course substitutions
 - Assistive technology
 - Enlarged font for printed materials
 - Testing
 - Interpreting
 - Notetaking
 - Materials in an alternative format
 - Priority registration
 - Reduced course load
 - Service animals



Self Advocacy-Knowledge

What if you didn't know?

- ✓ High school structure worked
- ✓ High school teachers provided unofficial "accommodations"
- ✓ Late testing or discovery

I really want to leave it behind me...

- ✓ Fear of college stigma
- ✓ Had help in HS but no longer "need it"
- ✓ Really don't think learning difference matters
- ✓ Medication, accommodations etc. aren't needed

Self Advocacy- Timing of Disclosure

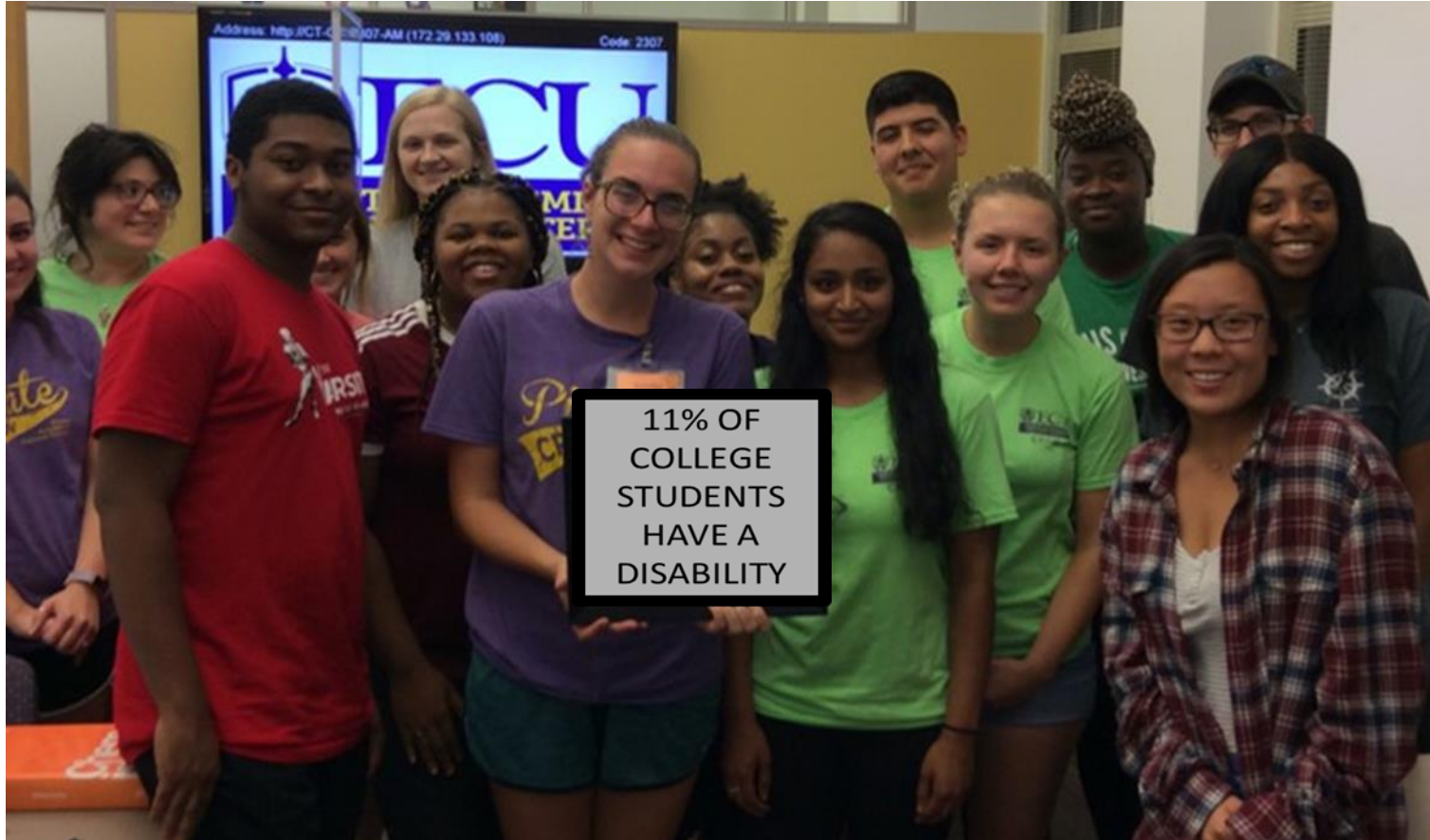
- According to Landmark College, only 24% of students with learning differences disclose at their college (Landmark blog, March 2019).



*Disclosure was key to
Matthew Elvington's
success*



Self Advocacy-Understanding Self and Needs



PASC Freshmen Learning Community at ECU



- Intentional recruitment
- Course redesign
- Peer cohorts and activities
- Parent meetings
- Peer Coaching with Executive Functioning and UDL supports



Barrier 2: Social Connections and Belonging

*If you feel like
you belong,
only then can
you succeed*



Social Connections and Belonging

Strayhorn (2012)- marginalized student groups

- Belonging related academic success
- Especially true for marginalized student groups like those with learning differences
- Heightened during times of transition
- Acceptance of self and cultural identity key to belonging



Neurodiverse students groups



The W&M Neurodiversity Student Group is an active presence on campus to encourage increased awareness and acceptance of neurodiversity.



The Neurodiversity Navigators is an educational program at Bellevue College in Washington State which supports peer engagement and academic success.

Suggestions for campus belonging

- ✓ ***Explore the development of a student organization*** devoted to neurodiverse students
- ✓ ***Include neurodiverse students*** in student organization planning processes
- ✓ ***Seek change to ensure representation*** of neurodiverse student groups

Barrier 3: Experiences with Faculty and Staff



Student Experiences with Academic Advisors

- Use advisors as a bridge to resources
- Challenged by structure of FYE courses and orientation
- Want help developing student identity and advocacy
- Require new outlook on course scheduling
- Need help handling probation, suspension and dismissal issues



Academic Advisor Scenario

A student schedules an appointment with you, their academic advisor, late in the semester, and registration has already started. He missed his first two appointments and hasn't completed his degree works plan yet. This is the first time you have met the student and the conversation isn't going very well. When you ask questions, there is little discussion and blank stares. How would you help this student?

Suggestions for Academic Advisors

- ✓ ***Produce materials with UDL in mind***
- ✓ ***Consider the student's individual differences*** in advising processes, FYE classes and orientation sessions
- ✓ ***Share issues, research and resources*** regarding neurodiversity in campus groups
- ✓ ***Initiate collaboration*** with professional organizations



Student Experiences with Faculty

- Reluctant to disclose or provide accommodations letters
- Struggle to complete lengthy assignments, follow specific requirements, or have multiple steps
- Challenged by group work and activities
- Struggle with social cues in the classroom
- Distracted or over stimulated by large classrooms and environment design

Faculty Scenario

A student in your class has given you an accommodation letter from DSS indicating visual impairment and a learning difference. Your assignments have already been created for your class, but some handouts are physical copies and not available digitally. How would you support this student in your class?

Suggestions for Faculty

- ✓ ***Utilize elements of Executive Functioning*** to scaffold course assignments and schedules
- ✓ ***Implement UDL strategies*** in the classroom
- ✓ ***Consider space and class size*** to address neurodiverse student needs
- ✓ ***Devote campus resources*** to faculty training and development

Student Experiences with Campus Offices

Student Experiences

- Residence Halls
- Cashiers Office
- Financial Aid
- Admissions
- Registrar
- Library

- Report difficulties in navigating campus resources and offices
- Need information shared in a multiple formats
- Challenged by maintaining communication with campus staff

Campus Offices Scenario

A student is looking for an office in the Old Cafeteria Complex (pick an office, any office!) They find their way to your office and ask how to get to where they are going. What do you do to help this student?

Suggestions for Campus Offices

- ✓ ***Change mission statements or websites*** include a commitment to serving neurodiverse students and UDL
- ✓ ***Make electronic resources*** available
- ✓ ***Share information*** in multiple formats
- ✓ ***Identify an ally or champion*** in each office

Barrier 4: Connections to Academic Supports

- Reluctant to utilize campus supports
- Fear stigma and disclosure
- Find traditional supports unfriendly to neurodiverse students
- Lack needed executive functioning skills



Changing supports for neurodiverse students at the Pirate Academic Success Center

- Redesign of academic coaching services
- Integration of Universal Design for Learning in tutoring services
- Space adjustments



Understanding Executive Functioning

- The BRIEF (Behavior Rating Inventory of Executive Functioning) indicates that there are eight main skills associated with Executive Functioning.

Inhibition

Shift

Emotional Control

Initiation/Task Completion

Working Memory

Planning/Organization

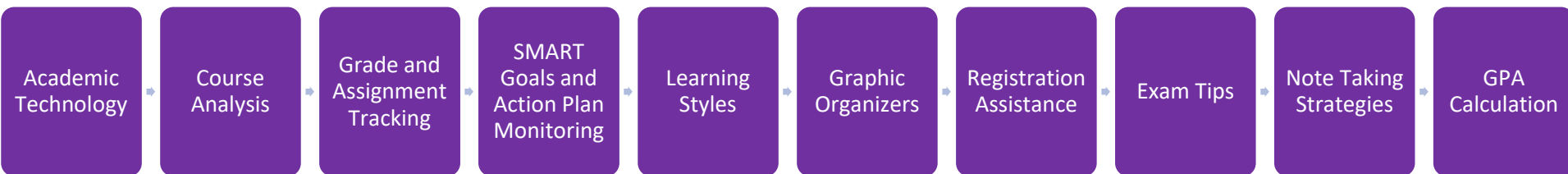
Organization of Materials

Self-Monitoring



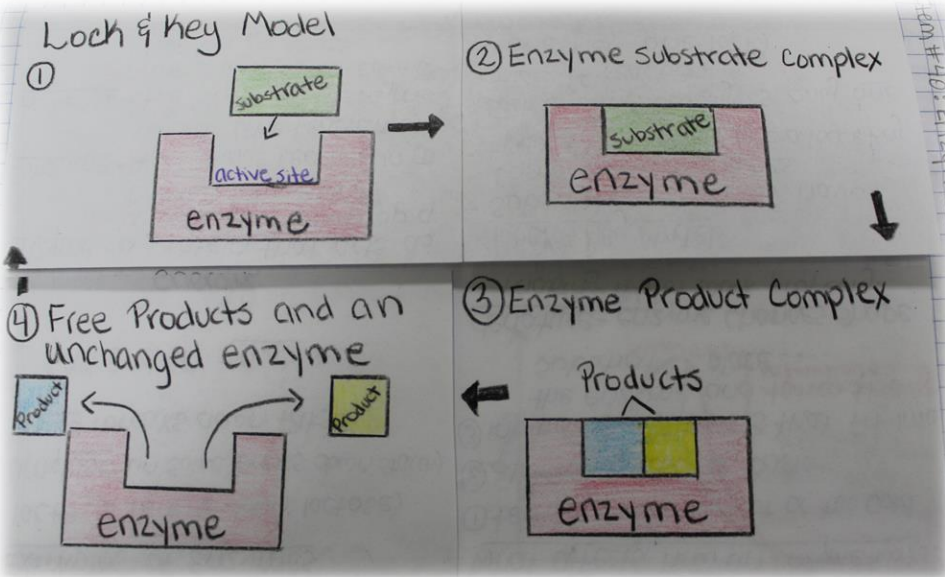
Initiation/Task Completion

- The ability to begin a task, independently generate ideas, and create problem-solving strategies
- **Academic Coaching**
 - Student Selected
 - 1-on-1 interactions
 - Full Academic Year



Working Memory: UDL

- Capacity to hold information in mind for the purpose of completing a task



enzyme - a protein that acts as a catalyst (speeds up a chemical reaction)

Substrate - the "things" reacting in a reaction (the reactants)

Active Site - the place on an enzyme where substrates come together to react

Lock & Key Model

- Substrates & enzymes have complementary shapes
- they fit together like a lock & key
- * Each enzyme catalyzes only one type of reaction. (one key = one lock)

Enzyme Characteristics

- ① Enzymes are reusable
- ② Enzymes are specific (one key for one lock)
- ③ Enzymes lower activation energy of reactions
- ④ Enzymes help make materials cells need.
- ⑤ Enzymes help break down molecules and release energy.

Graph

The graph plots Energy on the y-axis against time on the x-axis. Two curves represent the activation energy of a reaction. The red curve, labeled 'without', shows a high peak representing the activation energy without enzymes. The green curve, labeled 'with', shows a lower peak representing the activation energy with enzymes. Arrows indicate the difference in activation energy between the two curves.

Examples of Enzymes

- lactase (breaks down lactose)
- amylase (in saliva, breaks down starch)
- lipase (breaks down fats)

* All end in -ase *

What affects how an enzyme works?

- ① temperature - too hot or too cold
- ② pH - too acidic or basic
- ③ inhibitors - imposters that fit into the enzyme and take the substrate's place

denature - enzyme changes shape making it not work properly.

Working Memory: Graphic Organizers

Macromolecules

Carbohydrates

Functions

- short term energy
- store / move energy
- energy = glucose
- End in -ose

Examples

- Rice
- Beans
- Fruit
- Soda
- glucose
- cellulose
- starch
- glycogen

Monomer

- glucose / sugar
- Saccharide = sugar
 - ↳ monosaccharide = 1 sugar
 - ↳ polysaccharide = many sugars

Proteins

Functions

- repair / maintain cells
- storage / messengers
- transport / structure

Examples

- meat
- fish
- eggs
- beans
- hormones
- enzymes
- insulin
- hemoglobin

Monomer

20 different
Amino Acids

Lipids

Functions

- long term energy
- protect / insulate
- cell membrane

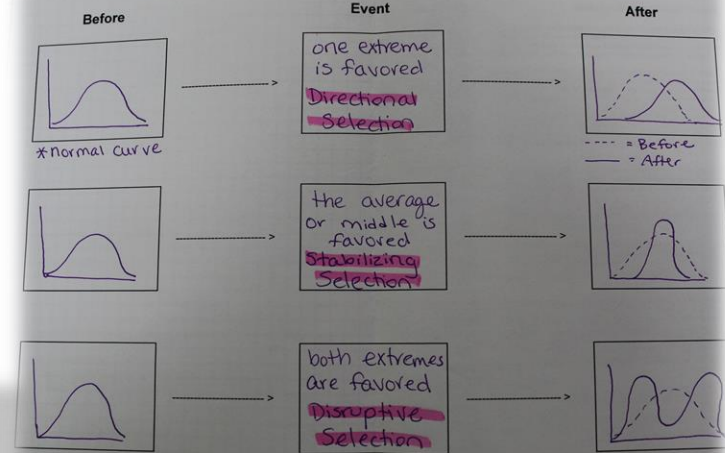
Examples

- oil / butter
- fish
- cheese / milk
- steroids
- waxes
- cell membrane (phospholipids)

Monomer

Fatty Acid
- or -
Triglyceride
- or -
Glycerol

Natural Selection Curves



Planning/Organization

- Ability to manage current and future demands

Planners

To-Do List

Binders

Color Coordination

ECU PIRATE ACADEMIC SUCCESS CENTER

Contact Us: info@piratesuccesscenter.edu, 252-737-3000, 2300 Old Collegeville Complex

Follow Us: ECU PASC

Monday, September 23

8:00 * Finalize read Submit

8:30 * SAP Section #1 before

9:00 * class at 9am

10:00

10:30 EDUC 3002

11:00

11:30 * Read Chapter 1 of Pacing

12:00 * Enque's Journey / Lunch!

12:30

1:00 Study Skills Apt

1:30 w/ Amber

2:00 FLEM 2123

2:30

3:00

3:30

4:00 MUSC 3018

4:30

5:00 < dinner break >

5:30 * view video 1 *

6:00 * weekly participation

6:30 * for MUSC 3018!

7:00 < brain break >

7:30 * finalize reading

8:00 * response

What's Due Today?

SAP Section #1

Weekly Participation

What do I need TO DO today?

1. Finalize reading response

2. Read Ch. 1

3. View Video 1

Tuesday, September 24

8:00

8:30 * Turn in Reading

9:00 * Response by 11am

9:30

10:00 EDUC 3002

10:30

11:00 < Go Get Lunch >

11:30

12:00 READ 3000

12:30

1:00 * Start Studying for

1:30 * Midterm next week

2:00 < brain break >

2:30 * Start typing the

3:00 * observational protocol

3:30 * for Video 1

4:00 < travel home >

4:30 < take a break >

5:00

5:30 < dinner w/ friends >

6:00

6:30 * Read Chapter 2 of

7:00 * Enque's Journey

7:30

8:00

What's Due Today?

Reading Response Assignment (Black)

What do I need TO DO today?

1. Start Studying for Mid-Term

2. Start the Observation for Video 1

3. Read Ch 2

ECU PIRATE ACADEMIC SUCCESS CENTER

MONDAY TUESDAY WEDNESDAY THURSDAY FRIDAY SATURDAY SUNDAY

7:00am

8:00am

9:00am

10:00am EDUC 3002 Speight 301 Speight 301 Speight 301

11:00am

12:00pm READ 3000 Speight 211

1:00pm Study skills Apt w/ Amber

2:00pm FLEM 2123 Speight 211

3:00pm MUSC 3018 Fletcher 0126

4:00pm

5:00pm

6:00pm

7:00pm

8:00pm

9:00pm

10:00pm

11:00pm

12:00am

HABIT TRACKER M T W R F S S

NOTES

REFLECTIONS ON HOW THIS WEEK WENT

To Do List

Check When Completed Task Deadline

☐ SAP Section #1 9/23

☐ View Video 1/Observational Protocol 9/27

☐ Weekly Participation Black Board 9/23

☐ Start Reading 'Enque's Journey' (2 chapters) 9/27

☐ Reading Response Assignment (Podcast) 9/24

☐ Reading Response Assignment (Jigsaw) 9/26

☐

☐ Upcoming Assignments due Next Week:

☐ Mid-Term Exam 10/2

☐ Video 2 Observational Protocol 10/4

☐ Weekly Participation Black Board 9/30

☐ Genderbread 10/3

☐ Read 'Enque's Journey' (3 chapters) 10/4

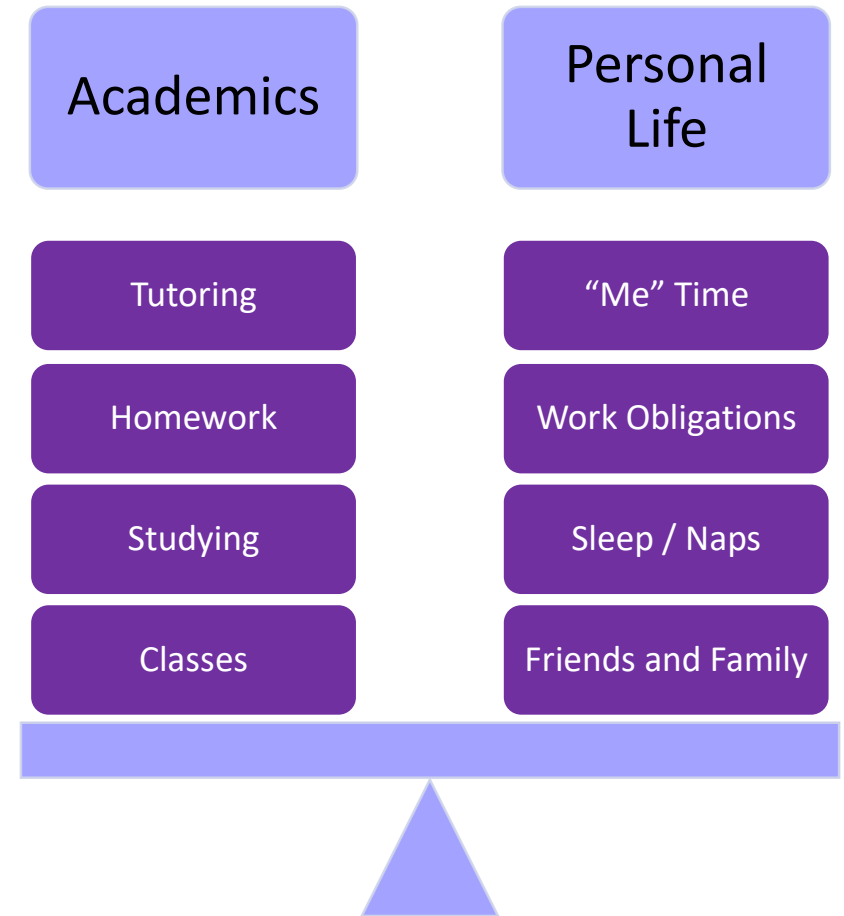
☐ Reading Response Assignment (Textbook) 10/3

☐

☐

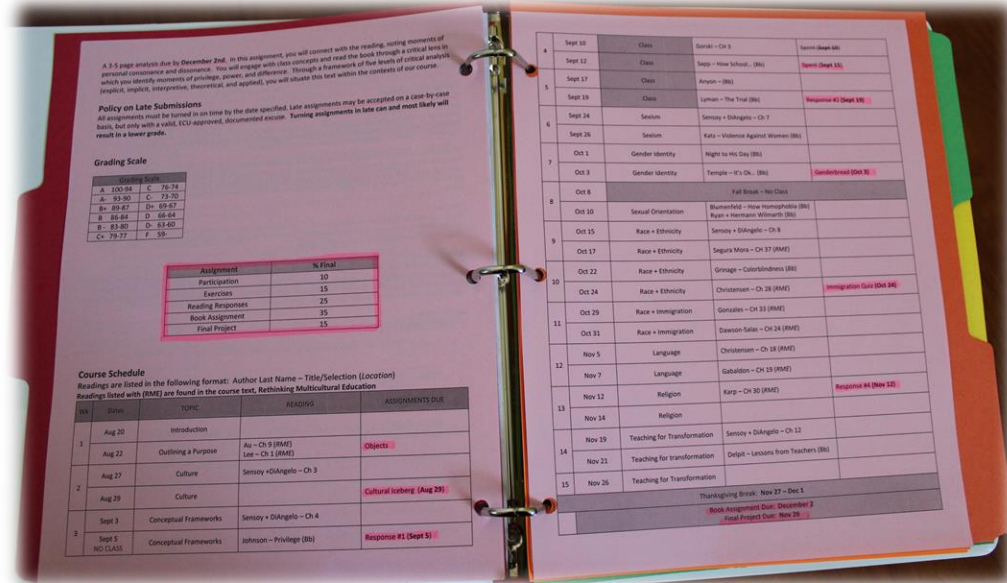
Organization of Materials

- Ability to impose order on tasks and demands
- Top discussion topic is course management and finding a balance in all activities
- Prioritizing courses and assignments by looking at due dates and length of time required to complete assignment

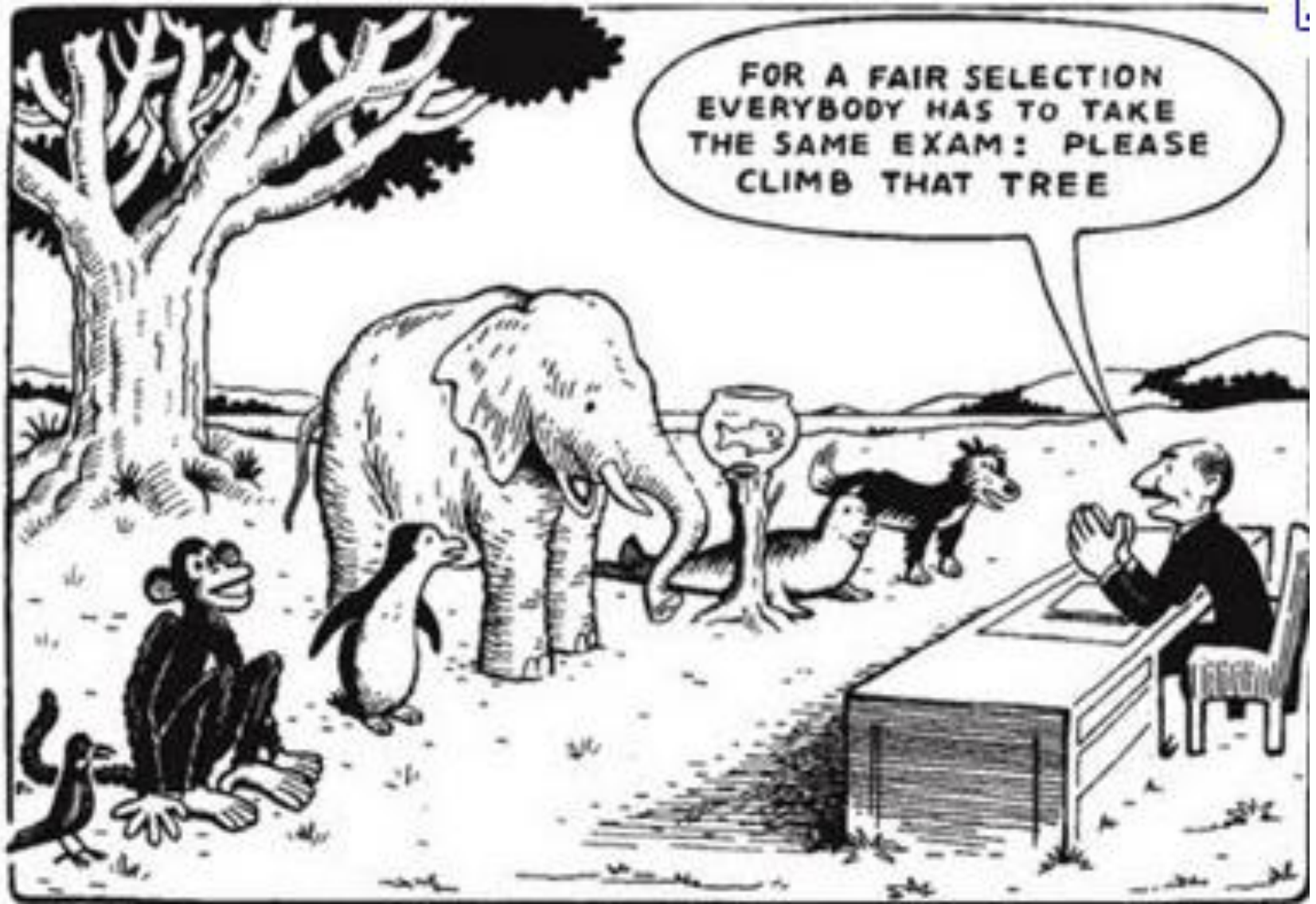


Self-Monitoring

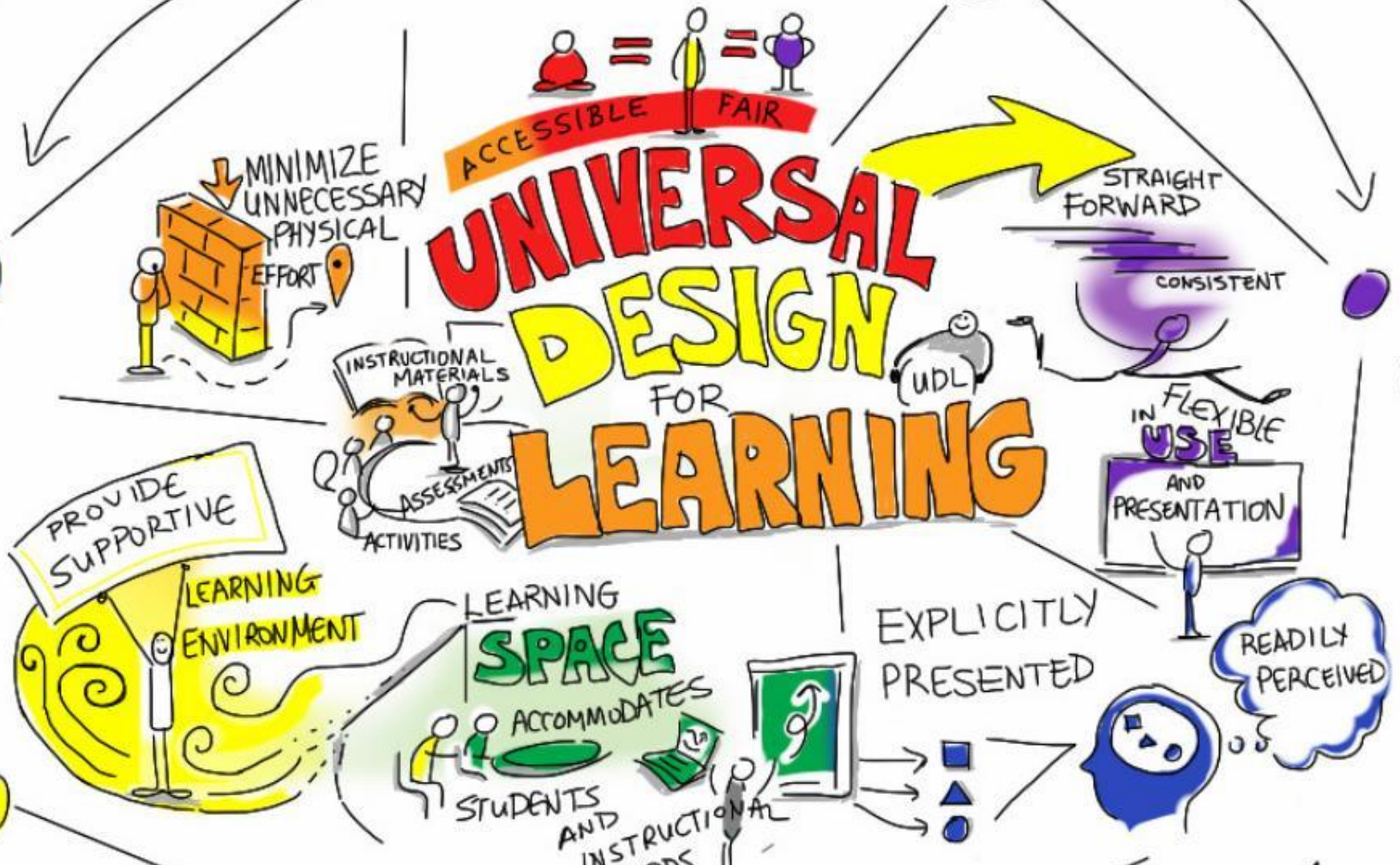
- Ability to monitor academic performance and to measure it against a standard of what is needed or expected
- Grade Tracker
- DSS Connection
- Family Meetings



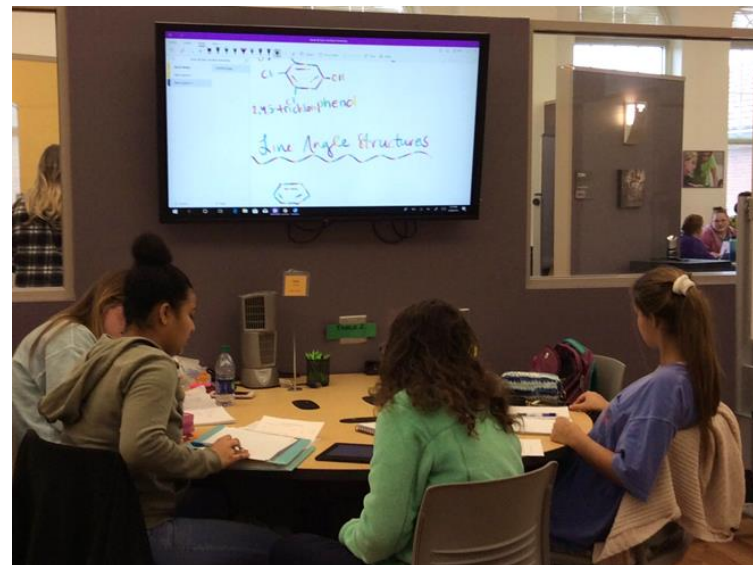
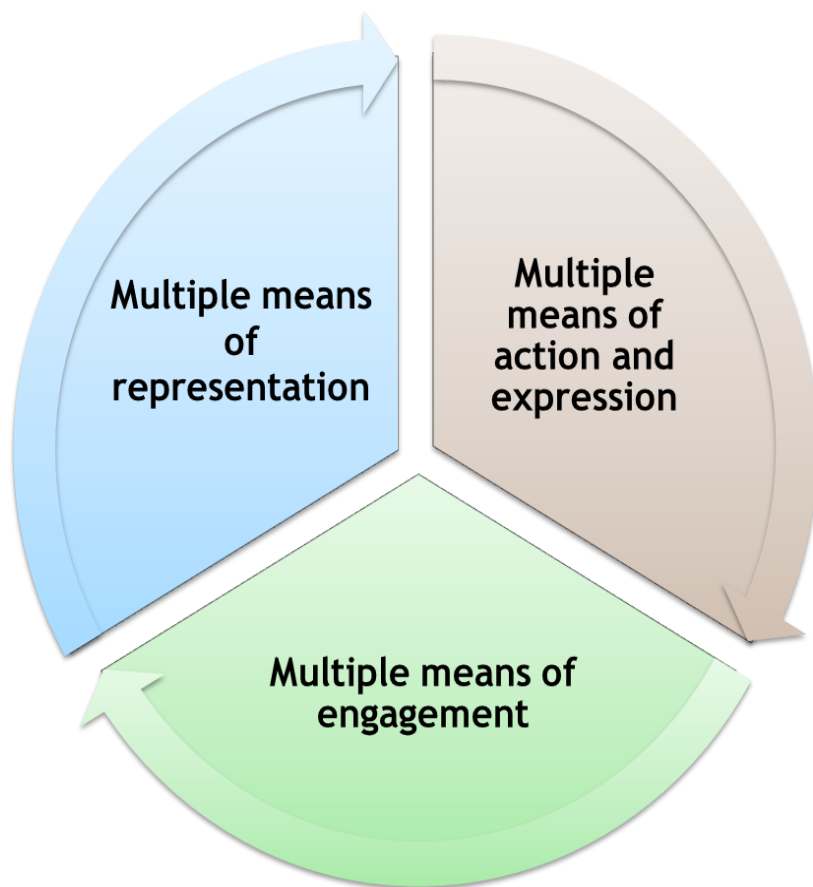
Course 3			
Course:		ELEM 2123	
Professor Email:		ECUprofessor@ecu.edu	
Instructor/Professor Name:		Dr. ECU Professor	
Office Location:		Speight 212	
Office Hours:		MWF - 11am - 1pm; or by appointment	
Office Phone Number:		252-328-xxxx	
Assignment	Due Date	%/Point Value	Grade
Apple Book Review	13-Sep	5%	
ECU Conceptual Framework	20-Sep	5%	
Upper Division Essay	20-Sep	15%	
Form A: Dispositions	5-Sep	5%	
1 Video Observation Protocols	27-Sep	9%	
2 Video Observation Protocols	4-Oct	9%	
3 Video Observation Protocols	18-Oct	9%	
4 Video Observation Protocols	25-Oct	9%	
Field Experience Hours Form (4 hours)	28-Nov	10%	
Video Observations/Discussion Board		10%	
Final Exam: Practicum Reflection Essay	28-Nov	10%	
Participation		4%	



Design for Learning



UDL Infused Tutoring



Barrier 5: Unwelcoming Campus Environment

- Quiet spaces are difficult to locate
- High distraction/stimuli in most campus locations
- Challenged to access supportive technologies beyond prescribed accommodations



Suggestions for campus environment

- ✓ ***Reconsider existing space allocations*** with neurodiverse students in mind
- ✓ ***Consider structural and design*** in long-term planning and construction projects
- ✓ ***Provide or accommodation guidelines*** in immediate and short-term adjustments to campus spaces.



Changing the PASC Environment



Campus Allies and Champions



College Star

- Network of support for students who historically have slipped through the cracks in our education system.
- Campuses learn together and implement effective strategies for teaching students with varying learning differences in postsecondary settings.



**How are you going to
become a campus ally for
neurodiverse students?**

Resources

- Check out our Neurodiversity Resource Guide
<http://libguides.ecu.edu/c.php?g=914006&p=6584305>

A black silhouette of the state of North Carolina is centered at the top of the slide. Overlaid on the right side of the map, in a large, white, lowercase, sans-serif font, is the word "nerd." followed by a period.

nerd.

Contact us!

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Amber Arnold	<u>arnolda19@ecu.edu</u>