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Teaching Post Secondary Critical Thinking Skills to Neurodiverse Learners

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Maria Pena, Associate Director, Disability Resource Center

The practice and the need it addresses

The term Neurodiversity or Neurodivergent was first used by Dr. Judy Singer in her 1998 thesis. The term refers to a paradigm of thinking about individuals as having “Differences in Cognitive Functioning,” rather than deficits or defects in their mental processing, learning and comprehending information. Currently, the term “neurodiversity” is often used to refer to individuals who are on the Autism Spectrum. However the term’s applicability extends to individuals who have ADHD, NVLD, SLD, or ABI. Example: Every year in the United States, 50,000 students with neurodiversity (ASD) are now completing their high school education and are participating in post secondary endeavors, including higher education. Many students who are in need of learning skills in critical thinking.

“Critical Thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from or generated by observation, experience, reflection, reasoning or communication as a guide to belief and action.”

- From The Foundation for Critical Thinking
It is a challenge for professors in higher education to teach critical thinking skills to students who are neurotypical, and a more difficult process to instruct students in their courses who are neurodiverse.

Critical thinking also involves executive functioning skills and effective communication ability in order to grasp and understand college-level subject matter. This makes it even more difficult for neurodiverse students to make the transition into college level work.

***The goal for post secondary educators is to be able to teach critical thinking skills to neurodiverse learners in a manner that is malleable, and flexible, that caters to the students best learning modality. The professor in a particular discipline may not have the time to work one-on one with students who need the most assistance, so it behooves them to embed certain learning strategies into their curriculum.

Evidence this practice benefits UNLV Students

Strategies in the design and presentation of curriculum include more than just “Declarative Knowledge,” which is teaching using a lecture textbook format. Chandler, (2019) discusses the importance of alternative teaching modalities when working with students who are neurodivergent.

1. Utilize alternative methods of learning: when teaching a concept (declarative knowledge) utilize “Procedural Knowledge,” or the application of the concept to a classroom activity, or an individual student exercise that demonstrates the concept being taught.
2. Chandler also indicates that the use of what is termed “Metacognitive Knowledge, or allowing the students to self-examine their own thought processes of the information presented in class is helpful. “When students plan, draft, monitor, revise and reflect, they better retain information. We also know the confluence of the three types of knowledge, declarative, procedural and metacognitive, spurs critical thinking and a deep understanding of course material.”

Model of Curriculum Development:
Declarative -Lecture/Textbook Learning



Procedural - Application of Concept



Metacognitive - Student Processing



Critical Thinking Development

The application and consideration of these techniques are helpful in assisting students with all different learning modalities. Given their strengths and interests

*** Professors should ask students for feedback as to if they can view the topic presented differently than what is indicated in the curriculum

Resources and where to find them

The Foundation for Critical Thinking has a website with a plethora of resources on critical thinking.

Criticalthinking.org

Different Brains - has a website with information relating to different types of neurodiversity, effective learning skills, expert advice and articles.

Differentbrains.org

The Association of Higher Education and Disability is an excellent resource for information in the field of post secondary education, disability and academic accommodations for neurodiverse students.

AHEAD.ORG

The College Autism Network Supports research initiatives to assist students on the Spectrum with better achievement in college work.

Collegeautismnetwork.org

How other UNLV teachers might adopt this practice

Read the literature regarding the unique learning needs of students who are neurodivergent.

Meet privately with students to ask them the questions: How do you learn? What can I do to help you in that process?

Network with other faculty online in listservs and at conferences to augment your knowledge about best practices in the development of critical thinking skills for neurodiverse learners.

Talk to experts in the field of neurodiversity who work with students:

Think College - out of UCLA

The SALT Program - University of Arizona

Landmark College - an institution specifically for neurodiverse learners.