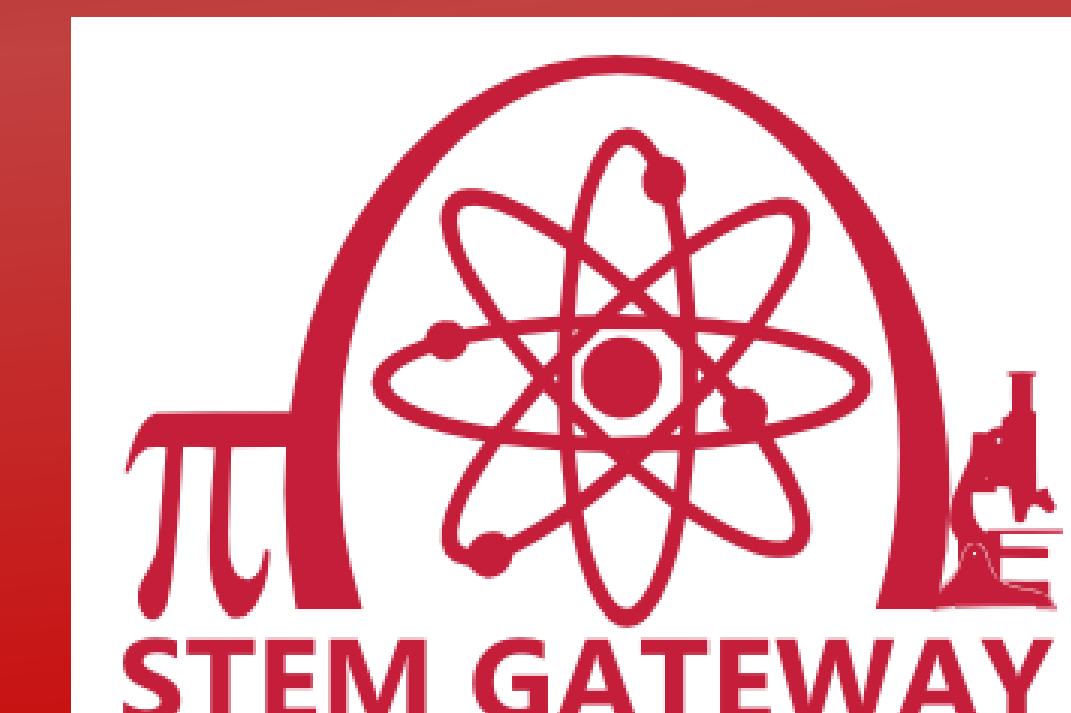




# Acknowledging and Adapting Cultural Constructs to Improve Teaching and Learning

By: Audriana Stark (astark@unm.edu)

Donald H. Wulff Diversity Travel Fellowship Awardee



## Background

Growing research shows that faculty's cultural constructs of teaching often do not align with students' cultural constructs of learning. Most US faculty have origins in northern European cultures (Rendón, 2009) and are likely to design and facilitate courses from *individuated* cultural epistemologies (Brayboy & Maughan, 2009; Fried, 1994). In contrast, Native American, Hispano, and Mestizo students describe learning strongly within a culturally *integrated* epistemology (Chávez et al., 2010a).

To help remedy the gap, STEM Gateway, a Title V funded project at UNM with a mission to increase the number of minority students that graduate with STEM degrees, offers a *Teaching for Diversity* workshops aimed at helping teachers create instruction inclusive of all students.

## What Teachers Did

### Participants:

STEM Gateway program instructors: STEM faculty, STEM graduate students, Student Affairs professionals.

### Procedure:

Participants are given the following preparation material:

### 1. Session objectives-

Participants will be able to...

- a)...Evaluate self and course in terms of cultural constructs of teaching and learning.
- b)...Determine ways of adjusting instruction and helping students to "swing" across the spectrum.

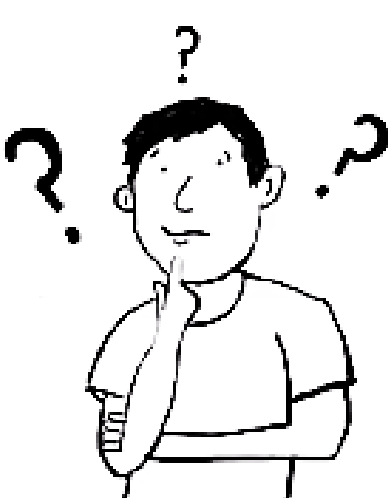


### 2. Reading material:

- a) *Motivating and Maximizing Learning in Minority Classrooms* by Irene Sanchez.
- b) *Understanding Student Differences* by Richard Felder and Rebecca Brent.

### 3. Guided reading questions:

- a) Name 4 ways in which students can differ from one another. List at least two that are "invisible".
- b) What can you do to increase inclusivity in your course?



## What Teachers Did Cont.

### During the workshop:

Participants are given the Cultural Constructs of Teaching and Learning worksheet (see below) and are instructed to...

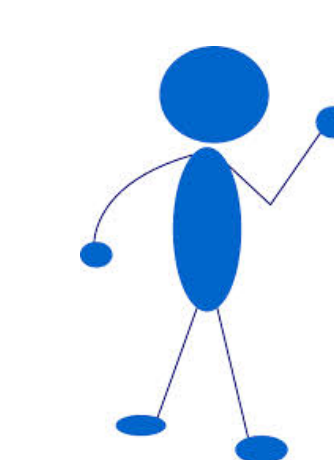
- 1) Plot where you fall on the cultural constructs of teaching and learning Individuated-Integrated spectrum.
- 2) Brainstorm ways of adjusting pedagogy so that teaching is inclusive of students who fall on both sides of the spectrum. This included modifying the worksheet for students.

## Cultural Constructs of Teaching and Learning

<b>Individuated</b>	Individuated ↔ Integrated	<b>Integrated</b>
In a culturally individuated worldview or epistemology, a compartmentalized, private, contextually independent conception of the world is common, assumed, and valued.		In a culturally integrated worldview or epistemology, an interconnected, mutual, contextually dependent conception of the world is common, assumed, and valued.
Knowledge, individual competence	<b>Purpose</b>	Wisdom, betterment of the lives of those with whom we are connected
Mind	<b>Ways of Knowing / Taking in information</b>	Mind, Body, Spirit/Intuition, emotions, through relationships
Verbal/linguistic, logical, mathematical, spatial	<b>Ways of Making Sense / Learning styles / processing information and knowledge</b>	Visual, intuitive/spiritual, natural interpersonal, intrapersonal, body/kinesthetic, musical/rhythmic
Compartmentalized and separate; belief that understanding how the parts work separately, abstractly, and in isolation will lead to the greatest understanding	<b>Interconnectedness of what is being learned</b>	Contextualized and connected, belief that understanding how things affect each other within the whole, pragmatically, and within community will lead to understanding
Learning is a private, individual activity. Responsible for one's own learning, personal space is private	<b>Space/Privacy/Responsibility</b>	Learning is a collective, shared activity. Responsible for one's own and others' learning, personal space is shared
Unconscious of cultural traits related to teaching and learning	<b>Cultural Consciousness</b>	Conscious of cultural traits related to teaching and learning
Linear, task oriented, can be measured and used, to be on time shows respect	<b>Time</b>	Circular/seasonal, process oriented, dependent on relationships, awareness and context; to allow for enough time shows respect
Provider and evaluator of knowledge – a few best perspectives and ways of learning, predetermined/bounded	<b>Role of teacher / control</b>	Facilitator of learning experience – multiple perspectives and ways of learning; emergent / constructivist
Primarily between teacher and students, primarily rely on explicit verbal messages	<b>Interactions and Communications</b>	Involving a wide variety of interactions between students and between teacher and students; High use of nonverbal and multiple streams of communication

Based on the work of Alicia Chávez, UNM, (Chávez, Ke & Herrera, 2009) adapted from Burton (2009); Cajete (1994); Chávez (2008); Guido-DiBrito and Chávez; Ibarra (2001); and Rendón (2009)

## What We Learned



- STEM faculty and graduate students tend to be skewed towards individuated side of the spectrum in most categories.
- Instructors from Student Affairs offices tended to be more integrated.
- All participants viewed traditional instruction of STEM courses as favoring individuated learning.



## Conclusions/Recommendations

It is up to us as faculty to design learning contexts that reflect all of our students by integrating teaching practices from a diversity of cultural epistemologies (Chavez, et al., 2012). Activities such as the one provided can be an effective way of engaging faculty with the cultural frame of their teaching, the cultural frame of their discipline, and with teaching to diverse populations.

I encourage you to plot where you are on the spectrum and think of ways to maneuver between the spectrum as you design activities for faculty at your institution.

## What's Next?

Future work should explore the development of concrete approaches to teaching that will help reach students across the spectrum and move students across the spectrum. These approaches can help keep students in STEM rather than exclude them because of cultural misalignments.

## A big "Thanks" to...

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