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Attending to T&L: Sociocultural faculty development for diversity-responsive SoTL

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Attending to T&L: Sociocultural faculty development for diversity-responsive SoTL

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Session 2392
NSF DUE Award 1611713
Overview of the session

Context: Retention of URM, FGS students in STEM

Problem: The importance of socio-cultural nature of teaching & learning

Intervention & Methodology:
1. Designing the Intervention
2. Iteratively Studying the Intervention

Findings & Adaptability:
1. Increase in faculty intercultural awareness
2. Intentionality in teaching
3. Increased participation in formal SoTL that include a sociocultural perspective
Increasing diversity of STEM undergraduate population at EMU

URM: NSF’s abbreviation for under-represented minority (5-year average retention rates, * = sig @95% conf. int.)
Future of SoTL: the socio-cultural nature of learning

...tendency for the SoTL to be interpreted as empirical inquiries into the relationship between instructional strategy and the students’ learning of the material taught...

...without also paying attention to the disparate identities and resulting diversity in the challenges and motives experienced by different students...

...SoTL would be greatly enhanced if it listened not only to psychologically-based theories of learning and of instructional design but also, in particular, to philosophy, ethics, sociology, anthropology, history and aesthetics.”

(Kreber, 2013, 12)
Sociocultural pedagogy: interactive, dynamic, dialogic, not simply tactical

**Tac**
- If I deploy active learning strategy X, they should be able to learn. If they don’t, they probably aren’t able to handle the material/major.

**Didactic:** I teach, implement X, they learn.
Tactical pedagogy plus Sociocultural lens

- Who am I? How does that influence learning?
- Who are you? How does that influence learning?
- How are learning and teaching like “crossing cultural borders”?
- Who are we together?
  - Reflection about learning
  - Invitation
  - Communication patterns
  - Power
  - Risk/Safety
- Responsiveness in process
Teaching & Learning requires more than tactical pedagogy

What Matters in Border Crossings

Learner/Teacher
- Awareness
- Identities
- Relationship
- Invitation
- Communication

The Learning Process

Our Intentionality in Pedagogy and Interactions

Sociocultural Tools for Faculty

Courageous Conversations with each other

Discarding the Deficit Lens

Growth Mindset about self and others

Cultural Iceberg tool
Learning as a Sociocultural Endeavor
Sociocultural Awareness Tool
(Senge, 2009, Moule, 2012)

THE ICEBERG MODEL

EVENTS
What is happening?

PATTERNS OF BEHAVIOR
What trends are there over time?

SYSTEMS STRUCTURE
How are the parts related?
What influences the patterns?

MENTAL MODELS
What values, assumptions, + beliefs shape the system?

Increasing Leverage

The Iceberg Concept of Culture

Like an iceberg, nine-tenths of culture is below the surface.

Surface Culture
Most easily seen
Emotional level - low

Food, dress, music, visual arts, drama, crafts, dance, literature, languagae, celebrations, games

courtesy, contextual conversational patterns, concept of time, personal space, rules of conduct, facial expressions, nonverbal communication, body language, touching, eye contact, patterns of handling emotions, notions of modesty, concept of beauty, courtship practices, relationships to animals, notions of leadership, tempo of work, concepts of food, ideals of child rearing, theory of disease, social interaction rate, nature of friendships, tone of voice, attitudes toward elders, concept of cleanliness, notions of adolescence, patterns of group decision-making, definition of insanity, preferences for competition or cooperation, tolerance of physical pain, concept of "self", concept of past and future, definition of obscenity, attitudes toward dependents, problem solving roles in relation to age, sex, class, occupation, kinship, and ...

Shallow Culture
Unspoken Rules
Emotional level - high

Deep Culture
Unconscious Rules
Emotional level - intense
Sample Inquiry Activity: Are you aware of your deep cultural iceberg?

Culture stems from our mental models, and “is the way in which a group of people solves problems and reconciles differences” (Trompenaaur & Hampden-Turner, 1998)

Rules and Relationships (Handout, p. 1 Exercise #1) Universalism ___________Particularism

Let’s do STEPS 1-4 together.
Learning Incompatibilities may arise at the borders between cultures
Gay 1994 as cited by Kroeger & Bauer, 2004

The greatest incompatibilities in teaching and learning, sometimes arise “outside of” the content that we teach. Why might students have reacted negatively to syllabus?

They arise in the “spaces” of
- values orientation,
- interpersonal relations;
- communication styles;
- time usage;
- performance styles;
- procedural rules;
- systems of problem solving and cognitive processing.
Lack of Safety at Cultural T & L Learning Borders (Aiekenhead & Jegede, 1999)

- **Border Crossing**: When safety is reduced, self-esteem is at risk and deep culture is threatened.
- **Impact**: The border is too hazardous to continue with deep cultural learning and identity formation.
Intervention & Methodology
Professional Learning Community

for diversity responsive teaching

Participants: two cohorts of STEM and writing faculty who teach “gate-keeper” courses (voluntary participation)

Description of Intervention:

• Unconscious **Bias Training** (August)
• Bookend half-day **workshops** (August/May)
  • on awareness/beliefs and best practices
• **Faculty course in PLC Model** (Sept-April)
  (a) face-face “class” 1x/month
  **Read-Try-Reflect**
  (b) online reading
  (c) Assignment to apply to teaching, and
  (d) Online written reflection activity 1x/month
Enculturation as Student-Scientists and Professor-Teachers

Cognitive Apprenticeship for Students

- Expert/Master: Beliefs, behavior, culture
- Community of Practice
- Periphery of a Community
- To:
  - Collaboration
  - Interactions
  - Engaging
- Beginner/Novice

Culturally-Responsive Teaching Apprenticeship for Faculty

- Faculty Beliefs
  - Learning as Identity formation
  - Capacity versus deficit
  - All cultures as valid

- Learning as a collaborative/shared process by prof/students
- Culturally responsive instructional practices that facilitate engagement and interactions, safely.

(Lave & Wenger, Aikenhead)

(Chavez & Longerbeam; Hurtado; Englund, et al 2018)

Diagram: https://johnmill.wordpress.com/2010/04/10/visualisations-of-learning/
Goals of the Intervention

To provide a more effective faculty development program that

a) cultivates faculty **habits** of diversity awareness, **belief** in student capacity, and use of culturally responsive instructional practices.

b) increases **awareness** of the teaching process as laden with socio-cultural factors

Which **catalyzes**

a) Scholarly teacher (teacher scholar) identity development

b) SoTL informed by sociocultural reflective inquiry
# Intercultural Awareness

**Reflective and Pragmatic Activities** to recognize enculturation of themselves/students

## Sample Topics

- Unconscious Bias Training
- **Perceptions of Faculty Behavior by Students of Color**
- Deficit vs. Capacity mindset of professors
- Imposter Syndrome (First Gen)

## Activities

- *Intercultural Development Inventory (IDI)*
- **Role-play: Analyzing “cultural messages” of professor communication**
- Syllabus review for cultural “invitation”
Pedagogical tools
reflective and pragmatic activities to incrementally test out intentional shifts in practice

Sample Topics

- Active Learning Strategies
- *Understanding by Design*
- Questioning strategies
- Rapid Student feedback

Activities

- Redesign a lesson with active student learning/participatory lectures
- Peer Syllabus Review: re-design for clarity, capacity-language, culturally responsive language
Methodology: Data collection/Coding
(Merriam & Tisdell, 2016)

Simultaneous data collection and analysis allows rudimentary, iterative analysis to shape and understand the intervention. (p. 197)

Data sources
- Personal documents: online forums by participants
- Research generated artifacts:
  - field notes, course documents by researcher
  - Participant artifacts: new syllabi, lesson plans, concept maps about culturally responsive teaching, course eval of Diversity Teaching course

Coding Processes
Category Construction: Pre-coding, Round 1, Round 2
Coding with validity/reliability checks: Triangulation, Member/Peer Review, Audit trail, Rich-thick descriptions
Findings

#1: A sociocultural model of teaching and learning can shift faculty perspective of learning as “an individual endeavor” to **learning as a “shared endeavor”**.

#2: A sociocultural faculty support model increases the use of *intentional* pedagogical supports while maintaining academic rigor.

#3: A sociocultural faculty support **model increases SoTL participation** among faculty and the study of intentional pedagogical shifts AND sociocultural factors.
Finding #1: Learning Ownership & Teacher Identity Coding Descriptors

<table>
<thead>
<tr>
<th>DESCRIBERS</th>
<th>CERTAINTY: it’s them, not me</th>
<th>QUESTIONING: not sure?</th>
<th>CERTAINTY: it’s us</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEARNING IS THE RESPONSIBILITY OF THE STUDENT</strong></td>
<td>Not sure who is responsible for learning</td>
<td>Learning is the joint responsibility of professor and student</td>
<td></td>
</tr>
<tr>
<td><strong>STUDENT SHOULD</strong></td>
<td>Students/ teachers could</td>
<td>Student &amp; teacher should</td>
<td></td>
</tr>
<tr>
<td><strong>DEFICITS</strong></td>
<td>deficit with conjecture</td>
<td>Capacity</td>
<td></td>
</tr>
<tr>
<td><strong>WITHOUT CONTEXT</strong></td>
<td>Delayed teacher efficacy</td>
<td>Growing teacher efficacy</td>
<td></td>
</tr>
</tbody>
</table>
Sample 1: Perspectives on Learning Ownership

<table>
<thead>
<tr>
<th><strong>Individual:</strong></th>
<th><strong>Questioning:</strong></th>
<th><strong>Shared:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>it’s them, not me</td>
<td>not sure?</td>
<td>it’s us</td>
</tr>
</tbody>
</table>

...there is a subset of the class that doesn’t understand the expectations for college...

10% still had the wrong answers after (pedagogical intervention). I’m not sure where this takes me.

I did many more small-group activities, and the students far exceeded my expectations in terms of their ability/willingness to engage with vigor.
### Sample 2: Teacher Identity Formation

<table>
<thead>
<tr>
<th>Certainty:</th>
<th>Questioning:</th>
<th>Certainty:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little efficacy</td>
<td>I want to use case studies for drawing student into discussion... but I struggle with finding questions that are worth discussing... I tried and feel like I failed...</td>
<td>Greater efficacy</td>
</tr>
<tr>
<td>...how do we modify assignments and expectations... Without “dumbing down” those assignments &amp; expectations?</td>
<td></td>
<td>The learning process cannot be setup in an immovable plan and be expected to move forward without adjustment.</td>
</tr>
</tbody>
</table>
Representative example of changes through time (Participant 1)

September (Red): There is a subset of the class that doesn’t understand the expectations for college.

December (Yellow): Syllabus review...provided a reminder for me to discuss the rationale behind assignments and not just the mechanics of the assignments.

May (Yellow-Green) Different cultural backgrounds may mean students heavily prioritize family. I’m seeing the importance of relaxing some standards (e.g., deadlines), while maintaining others (the quality of work). Giving the areas for growth is absolutely critical, but also make sure they have the support needed to do those things.
Finding 2

Increased use of Intentional Pedagogical Tools

- **Support tools** (feedback loops, questioning strategies)
- **Pedagogy** (Syllabus work, Understanding by design, Active learning)

While Maintaining Rigor

- Building Capacity through Support
- High expectations
- Rigor vs “gotcha”

With Intercultural Awareness

- Awareness of self and others (culture, bias, identity)
- Explicit culture of discipline
- Intent to create safety, invitational
Finding 2

Increased use of Intentional Pedagogical Tools

my other assignments are much more ambiguous in terms of how I evaluate them. I rewrote my grading practices ...to clarify exactly how I plan to evaluate each

While Maintaining Rigor

High expectations is important ...where there is a disconnect, there must be assessment to discern missing links – followed by support...and not always by instructor.

With Intercultural Awareness

always designed my syllabi around what I appreciated as a student.
Finding 2/3: sustained emphasis on pedagogy plus sociocultural awareness

<table>
<thead>
<tr>
<th>Tactical pedagogy tools (77-88% of respondents)</th>
<th>Sociocultural concepts (66-77% of respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Understanding by design (backward)</td>
<td>• Rigor with intentional support</td>
</tr>
<tr>
<td>• Questioning approaches</td>
<td>• Cultural Perceptions</td>
</tr>
<tr>
<td>• Intentional structure (pre-class support, active learning)</td>
<td>• Participatory lectures (shared learning in the classroom)</td>
</tr>
<tr>
<td>• Using student feedback (stop-start-continue)</td>
<td>• Imposter Syndrome</td>
</tr>
<tr>
<td></td>
<td>• Implicit/ unintentional bias</td>
</tr>
</tbody>
</table>
Finding 2/3: Increased pedagogical appreciation occurs before behavioral change

Comparison to other schools
Finding 3: Behavior plus sociocultural awareness equals SoTL that contains:

• Intentional, scaffolded structure
• Rigor with support
• Using Student feedback (in real time)
• Cultural Iceberg
• Imposter Syndrome
• Cultural Perceptions
Sample: SoTL projects in progress

Sociocultural factors

- **Faith** Animating Learning in Engineering
- Statistical Reasoning Learning Environment to Improve *attitudes towards and skill in* Stats
- Safety-related *Attitudes and Behaviors* of General Chemistry Students
- Does *‘Warm defender’ model* of research mentorship improve student outcomes (*efficacy, identity*)?
- Does providing *social reference points* about study hours increase study behavior (particularly FGS)?
Samples of “the big take away”

- Trying to see my classes **through the eyes of others**.
- An understanding of how **culture** can impact teaching and faculty/student relationships.
- **Questioning my assumptions** and being **willing to change**.
- **Listening** - thinking through what it's like to be in this class, in this situation in college, as a minority and/or first gen? How does what I do in class, what we do as a department, make any sense to them? How does it mesh with, & how does it inform who they see themselves in relation to science and their intended profession?
Implications for Faculty Development & Adaptability
Required Features of Intervention

**APPLIED**
Faculty need to contextualize pedagogical learning to a targeted course with freedom to reject/adopt/adapt. (andragogy—self-directed learning)

**EXTENDED**
Year-Long

**PEDAGOGY PLUS**

**ITERATIVE/REFLECTIVE**
Read it-Try it-Reflect on it

Professional Learning Community provides a **SAFE SOCIAL NETWORK**
Transferrable Elements of Model

- Early institutional buy-in
- Small, voluntary pilot: cohort model within a discipline
- Institutional support for SoTL for promotion and tenure
- Faculty leader/facilitator
- Professional Learning Community
  - online learning platform
  - sociocultural elements beyond “teaching strategies”


Sociocultural Vygotsky map image: http://cmap.upb.edu.co/rid=1161955317109_1638800174_82659/vygotsky.cmap

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