



Reducing  
Identity Conflict  
in STEM via  
Culturally  
Relevant  
Conversations

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UNIVERSITY OF  
ILLINOIS AT  
CHICAGO

# Latin@s Gaining Access to Networks for Advancement in Science

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# Prompt

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What is one thing that you have in your office that speaks to or connects to your cultural heritage?



Target Majors

Biological Sciences

Biochemistry

Chemistry

Neuroscience

**Initiatives**



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# The UIC Latino Cultural Center

The Latino Cultural Center's mission is to engage the UIC campus and local communities to deepen understanding of the diverse cultural heritages and identities of Latinos, issues affecting their lives, and creative solutions they are using to improve community life.

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UIC Rafael Cintron Ortiz  
Latino Cultural Center  
(1976-Present)

First cultural center  
out of 7 centers at UIC

Mural Tours & Arts-Based  
Civic Dialogues



Gallery hosts Chicago's largest  
contemporary indoor mural, *El  
Despertar de las Américas*  
(The Awakening of the  
Americas)

Current Mural was painted in 1996  
by Hector Duarte & students



# Dialogue Goals - STEM & Cultural Heritage

Harness their cultural heritage as an asset to solve common challenges and shape a positive self-defined identity as Latinx and scientists.

Enhance academic, professional, and personal skills such as critical thinking, public speaking, listening, self-reflection, understanding differences across identities, and intersectionality.

Build community among program peers and a sense of belonging on campus.

Expand their capacity as agents of change to improve community life.







## Dialogue Approach

- Regular visits in small groups:
  - 6 Dialogue Series over the course of 2 years
- Arts & storytelling draw out connections between cultural heritage and STEM and the unique challenges that take place in that intersection
- Arc of dialogue model by the International Coalition of Sites of Consciousness



# Dialogue Topics

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Cultural Heritage & Identity

History of Science in Latin  
America and the Caribbean

Intergenerational  
Differences

Environmental and Climate  
Justice & Immigration





# Stereotype Threat & Imposter Syndrome

\* Stereotype threat is being at risk of confirming, as self-characteristic, a negative stereotype about one's group.

\* Stereotype threat can negatively impact Latinx science students.

\* 'Imposter syndrome' [is] a condition where high-achieving individuals either ascribe their accomplishments to luck and contingency rather than individual skill and merit.

# Social Capital

Science Leadership Workshop (Bios 294) jump starts fellows social capital by setting up:

1. Obligations and expectations for engaging in lab research;
2. Information channels;
3. Social norms.

Mentoring by faculty and the creation of a community of peer scholars strengthens fellows social capital and girds them against hostile agents.



# Measuring Success

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## Retention to Fall 2019 for Cohorts 1 + 2

- 98.8% of Fellows (N = 81)
- 85.2% of Control group (N=81)
- P-value 0.001
- *Includes students who graduated*

## First Year Retention Rates for Cohorts 1+2

- 100% of Fellows
- 88% of Control group
- P-value 0.001

# Measuring Success

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## First Term GPA

- Fellows: 3.21
- Control Group: 3.02
- P-value 0.33
  - *Not significant, but in reality can be the difference in competitive applications*

Data from 2020 AERA presentation



# Qualitative Student Feedback

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Students felt...

## More connected with a support network

- “Coming to the US and having those Dialogues made me realize my culture is amazing, and I should appreciate it and wish my friends in Brazil would appreciate it like me.”
- “I did bring up that sometimes I try to talk to my parents about what I am doing [in school], and it felt really good to have so many people here understand and give feedback on that.”

## Connected with cultural heritage and identity as scientist

- “[The cultural dialogues] did a good job of giving us pride in our identity and culture.”

## They have strategies to help solve challenges

- “...I think they [the Dialogues] are really beneficial in a self-reflection sort of way like the last cultural dialogue—“What’s a promise you want to make for your career?” That was beneficial to think ahead. ‘What are some of the barriers because of your race or gender?’—These conversations may not be comfortable, but I think they are beneficial just to help us think about it and to open our mindsets.”

# Qualitative Student Feedback

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Students felt...

## Better able to understand their own identities and others

- “So the one I liked was the one about Venezuela or somewhere in central or South America where a scientist started a school and the discoveries they made there. I thought it gave me more confidence to know that science isn’t just done by Europeans and Americans, but everyone around the world.”
- “Just knowing [there are others like us] has helped, but also some of us, we have gotten to know each other more. I think for the Dialogues we feel part of the group when it is taking place. I feel people are comfortable to discuss personal issues.”

## Empowered to create change in their own communities

- As reported by evaluator, “...another fellow noted she would engage in ethical research for her community, unlike those researchers who conducted research on her people without their consent or knowledge.” “I am inspired to be part of that support system that helps to bring out the best in future Latina STEM students.”



## Next Steps...



Continuing to interview fellows, especially after they present research at conferences



Begin to track fellows after graduation



Cohort 3 is in their first semester of research



Cohort 4 is currently being recruited

# Dialogue Sample Activity

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What is one object in your office that speaks to or connects to your cultural heritage?

How does this object speak to that connection?

Have you faced challenges tied to your cultural heritage and self-identity(ies)? How have you overcome them?



# Literature Cited

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