Arizona State University

An exploratory investigation of the experiences of Black immigrant women in undergraduate STEM

Dr. Meseret F. Hailu, Assistant Professor of Higher & Postsecondary Education
Dr. Brooke Coley, Assistant Professor of Engineering

12/01/2020

Land Acknowledgement

Arizona State University is situated on the land of the Akimel O'odham (Upper Pima) people. We pay respect to their continuing presence in their homeland and throughout their historical diaspora.

ASU

Outline for Today's Presentation

I.   Study Background

II.   Theoretical Frameworks

III.   Summary of Methods

IV.   Emergent Findings

V.   Implications for Practice & Research

Black Immigrant Population Climbs

Black immigrant population in the U.S. rose to 4.2 million in 2016

Total foreign-born black population in the U.S., in thousands

4,173

2,435

1,447

816

1980   1990   2000   2016
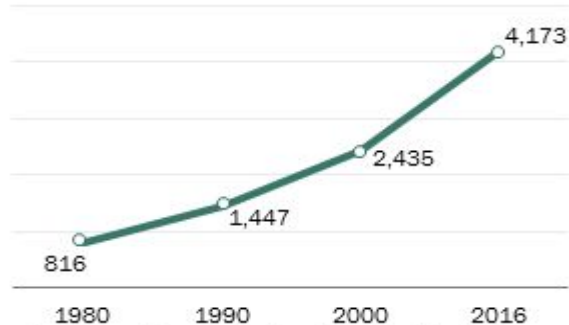
Note: In 2000 and later, foreign-born blacks include single-race blacks and multiracial blacks, regardless of Hispanic origin. Prior to 2000, blacks include only single-race blacks regardless of Hispanic origin since a multiracial option was not available.
Source: Pew Research Center tabulations of the 2016 American Community Survey (1% IPUMS) and the 1980, 1990 and 2000 censuses (5% IPUMS).
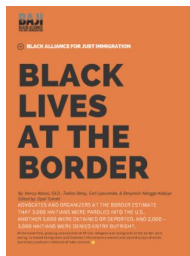
PEW RESEARCH CENTER

- 4.2 million Black immigrants in the United States from Jamaica, Haiti and Nigeria[1]

- Distinct experiences of Black immigrant women have been both under-studied and under-theorized

[1]Anderson, M.& López, G. (2018) Key facts about Black immigrants in the U.S. Retrieved from https://www.pewresearch.org/fact-tank/2018/01/24/key-facts-about-black-immigrants-in-the-u-s/

Sociopolitical Context

US steps up deportation of Haitians ahead of election, raising Covid fears

Trump administration justifies expulsions under public health law but critics say they risk spreading Covid in the Caribbean nation

BLACK LIVES AT THE BORDER

NPR Politics
@nprpolitics

President Trump will freeze green cards for new immigrants and sign an executive order to suspend H-1B, L-1, J and other temporary work visas for skilled workers, managers and au pairs through the end of the year.

POLITICS

Mississippi ICE Officials Accused Of Torturing African Detainees So They'd Sign Their Own Deportation Orders

Dozens of persecuted Cameroonians were returned to the country and have not been heard from since.

A BRIEF OVERVIEW OF BLACK IMMIGRANT WOMEN AND GIRLS IN THE U.S.

OFFICE NATIONAL DE LA MIGRATION

▲ About 25 Haitians who were deported from the United States arrive following a flight at Toussaint Louverture international airport in Port-au-Prince, Haiti, in June. Photograph: Jean Marc Herve Abelard/EPA

WASHINGTON
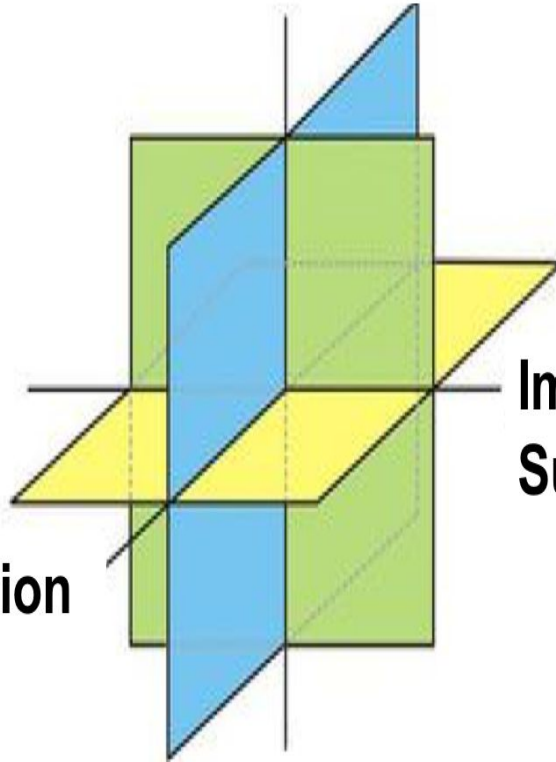
Protests Against Travel Ban Sweep Country

Dozens of protests were held across the country Sunday as Americans denounced President Trump's immigration executive order. From New York to Phoenix, tens of thousands of people voiced their solidarity with refugees and Muslims.

Anti-Blackness

Immigration/ Surveillance

Criminalization

Vulnerably positions immigrant students in context to politicized intersections marked by heightened xenophobia

Description of Generational Terminology

► **First generation.** Immigrants, or the first generation, are persons with no U.S. citizenship at birth. Immigrants include naturalized U.S. citizens, legal permanent residents (or green-card holders), refugees and other humanitarian immigrants, persons on certain temporary visas, and unauthorized immigrants. International students, who are often included in estimates of the first-generation immigrant population, are excluded from this analysis. (See the Appendix for details on estimating the number of "domestic" higher education students.)

► **Second generation.** This generation is composed of persons born in the United States to one or more immigrant parents.

► **Third or higher generation.** Members of this generation were born in the United States to only U.S.-born parents.

The first and second generations, together, make up what this fact sheet refers to as the "immigrant-origin population" and "students from immigrant families."
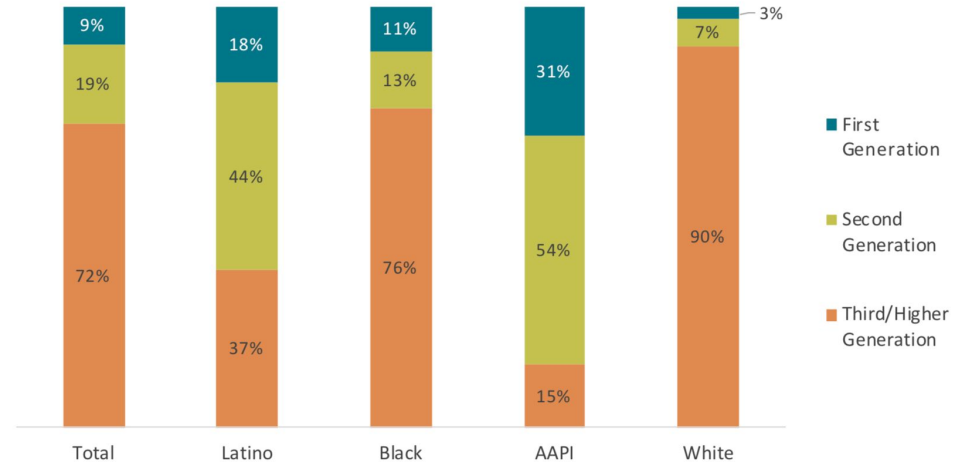
Immigrants in Postsecondary Education

Population Change between 2000 and 2018: All Adults and Students Enrolled in Postsecondary Education, by Immigrant Generation

All Adults

In Postsecondary Education

32%
82%
-5%

26%
131%
15%

■ First Generation ■ Second Generation ■ Third/Higher Generation
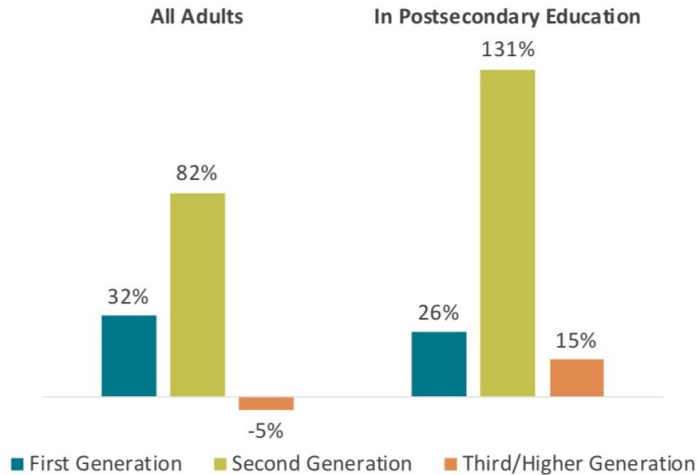
Students Enrolled in Postsecondary Education, by Race/Ethnicity and Immigrant Generation, 2018

	Total	Latino	Black	AAPI	White
First Generation	9%	18%	11%	31%	3%
Second Generation	19%	44%	13%	54%	7%
Third/Higher Generation	72%	37%	76%	15%	90%

■ First Generation
■ Second Generation
■ Third/Higher Generation

Data Source: Migration Policy Institute analysis of data from the U.S. Census Bureau's Current Population Survey (CPS) October 200and October 2018 Educational Supplement.

Experiences of Black Immigrant Students

- Tokenism, linguicism and negative stereotypes of African identity[2]
- Encounter a sense of cultural disconnection in both urban and rural schooling settings[3,4]
- Graduate students impacted by institutional positioning of their social identities–race, ethnicity/nationality, foreign status and age[5]
- Calls for *intersectionality lens* to understand the complexity of their experiences

[2]Agyepong, M. (2017). The struggles of invisibility: perception and treatment of African students in the United States. *Erasing Invisibility, Inequity and Social Injustice of Africans in the Diaspora and the Continent*, 56-75. [3]Kebede, M. S. (2018). Immigration, Race, and Rurality. *Making a Positive Impact in Rural Places: Change Agency in the Context of School-University-Community Collaboration in Education*, 79-100. [4]Kumi-Yeboah, A., Onyewuenyi, A. C., & Smith, P. (2020). Teaching Black Immigrant Students in Urban Schools: Teacher and Peer Relationships and Academic Performances. *The Urban Review*, 1-25. [5]George Mwangi, C. A., Changamire, N., & Mosselson, J. (2019). An intersectional understanding of African international graduate students' experiences in U.S. higher education. *Journal of Diversity in Higher Education*, 12(1), 52–64.

Institutional Context: Based on Critical Discourse Analysis

Black immigrant women are not explicitly mentioned in policy documents.

<u>Issue defining/conceptualization</u> the institution depicts STEM (not marginalized student-groups) suffering from underrepresentation

  Documents portrays rescuing STEM from extinction and seems to dictate intervention strategies that are often deficit-oriented

<u>Issue framing </u> doesn't have to be dichotomous (the choice between access and power)

The university can frame as "both...and," and aim to address both:

  -Lack of diversity (quantitative/access) goals, and
  -Lack of inclusion (qualitative/power) goals

ASU

CDA Major Finding: Rationale of Diversity

Underlying motivation to address the issue does not have to be either...or dichotomy

1. **Justice** – human right lens. Documents use terms such as equity, equality, and social/public/larger good.

2. **Benefits** – economic/monetary values, institutional image/status/rank, added perspectives as a result of diversifying student-body, or benefits to others (e.g. community, institution, or a country)

Purpose of the Study

This study seeks to use case studies to better understand how Black immigrant women use their cultural epistemologies to attain undergraduate degrees in engineering.

Research Questions

1. How do Black women describe their experiences in undergraduate engineering?

2. What strategies do first and second generation Black immigrant women use to persist in undergraduate engineering programs?

Theoretical Framing

IMAGE BY MARINA SOLVA

Critical Race Feminism

Highlights that racial and gender oppression are inextricably linked and thus supports unpacking the racialized experiences of Black immigrant women in educational spaces

Crenshaw (1990), Evans-Winters & Esposito (2010)

Theoretical Framing

Transnationalism

Posits that immigrants establish and maintain social relationships that link their country (or countries) of origin to their country (or countries) of settlement.

Vertovec (2001); Zembylas (2012)

Summary of Methods

- Qualitative, case study approach
- Data sources: **interviews** and 11 policy documents
- Data Collection
  - n= 13 who identify as immigrants (sample of 43 women).
  - Setting: Large Public University (LPU)
- Inclusion criteria: over 18, currently enrolled in undergraduate program, self–identification for race and gender

- Interview protocol and analysis driven by theory: investigation of gendered racism and migration experiences

Procedure for Data Analysis: Textual Coding

Round 1

We carefully read each transcript and highlighted striking sections of each person's responses (inductive coding).

Round 2

We read each transcript a second time and identified key words and/or phrases to serve as the analytical codes for a codebook.

Round 3

We re-read each transcript using the codebook and applied pattern coding to identify the broader themes present in the data.

A Note about Anonymity & Method

"Throughout the book, I anonymize interviewees, students, and some biographical details if they are not important to the analysis...I also anonymize the names of executives from for-profit colleges. I interviewed eleven presidents, directors, and other corporate-level for-profit college actors over the course of my research. I anonymize them because the individuation of for-profit colleges is mostly a distraction....As a sociologist, my faith is in **structures in and institutions--things that are bigger than individuals and that would hum along even if the people in them weren't minding the store**" (p. 25)

- Dr. Tressie McMillan Cottom in *Lower Ed* (2017)

Research Team Positionality

- **Meseret** - faculty member; research focuses on the retention of minoritized women in STEM pathways and professions.

- **Brooke** - faculty member; research focuses on Black engineering graduate education and virtual reality as a tool for developing empathetic and inclusive mindsets.

- **Atota** - a PhD student in Education Policy and Evaluation. He uses mixed methods to study: enhancing equity of higher education, particularly for international and underrepresented students.

- **Katreena** - a PhD student in the Engineering Education Systems and Design Doctoral program. Her research interests are broadening participation in engineering, engineering leadership and graduate student experiences.

- Important to research philosophy to locate ourselves.

Participant Demographics

Pseudonym	Immigrant Origin	Immigrant Generation	Major
Renata	African and Indian	2nd	Computer Systems Engineeirng
Griselda	Burundi	1st	Graphic Information Technology
Bethany	Ethiopia	1st	Chemical Engineering
Abby	Ethiopia	1st	Biomedical Engineering
Ashanti	Ethiopia/Somalia	2nd	Chemical Engineering
Khaleesi	Ghana	1st	Computer Science
Stacy	Haiti	2nd	Electrical Engineering
Diana	Jamaica	1st	Computer Systems Engineering
Jayden	Jamaica	1st	Air Transportation Management
Lilian	Jamaica	2nd	Graphic Information Technology
Olga	Nigeria	1st	Computer Systems Engineeirng
Hilda	Nigeria	1st	Manufacturing Engineering
Laken	Nigeria	2nd	Engineering Management
Ashley	Somalia	2nd	Biomedical Engineering
Samantha	Somalia	2nd	Computer Science

Emergent Findings

I. Salience of Intersecting Identities

II. Sources of Academic and Professional Support

III. Students' Ideas for Structural Changes

More about the Salience of Intersecting Identities

- Participants are aware of their social positioning based on their race, gender, and immigrant identity.
  - However, this is more of a structural awareness, rather than a sense of attachment to another country.
  - Rarely talked about culture, language appearing daily.

- For instance, they mentioned:
  - Logistical issues (ex. Work permits/residence visas)
  - Financial /mentorship obligations to family members
  - Feeling a sense of solidarity with other minoritized people.

Intersecting Identities: Cultural Solidarity

"I found I had a lot more in common with the students who were from outside the U.S., actually... I think it's kind of ... It does come down to the culture. Even though we didn't specifically talk about it, **there was this kind of understanding. I don't know really how to put it, but there's a different atmosphere.** It also, you can tell in the way people express themselves and interact with other people."

– **Renata, Computer Systems Engineering major**

Intersecting Identities: Accents as Markers

"That is what people would think like. There was this one girl in my group and it was actually surprisingly, it was all women. And for some reason they kept making her like she was dumb because she had a really thick accent. And I feel like I was the only person I was trying to include her into the conversation...**I think she was South Asian, but she was visibly dark. And she had a very thick accent and she was wearing ethnic clothing too. So I feel like people weren't, I don't know why, I just feel like they weren't seeing past that. And they were not letting her participate in our discussion or write stuff. And I was like, stop that.**"

–   **Ashley, Biomedical Engineering Major**

Intersecting Identities: Within-Group Diversity

"Within the Black community, I feel like they have a different experience, but that's from the inside. From the outside, they have the same experience as a non-immigrant Black student, because at the end of the day, LPU and non-Black people view us all the same, it does not matter where we're from, we are all still Black and they treat us the same way. **Now, once we get down to being in the Black community, in that already small circle, I feel like it is a different experience because you come from a different background. And it's not a bad experience, it's actually an experience that you can learn from. It is definitely different culturally, just from what you eat, what you wear, how you speak, your slang, how you dress, it's all different in that sense**, but you learn from one another."

- **Diana, Computer Systems Engineering major**

More about Sources of Academic and Professional Support

Tutoring centers

Success coaches/advisers

Faculty mentors

SWE & NSBE

Federal TRIO programs

Industry internships

Lab-based research experiences

Family connections – older siblings, parents, extended family

Friends in the same major

Success Coach as a Source of Academic Support

"I'm an online student. I liked the process before I actually started classes and then talking to the **success coach and all that is good.** I didn't have that at my other community college. I just kind of figured it out so I definitely appreciate all the resources that are here."

– **Lilian, Graphic Information Technology major**

SWE as a Source of Academic Support

"So I joined a club this year, which is the name of SWE, which is Society of Women Engineers. And they hosted me, **they have something going every day of every week and that's helped a lot with professional development because they bring a lot of people in who have jobs**. Have been working in the engineering field. It might not be chemical specifically, but in the engineering field…"

<div align="right">

– **Bethany, Chemical Engineering major**

</div>

TRIO as a Source of Academic Support

"I would say TRIO. I think it was a huge blessing for me to even get a job there. **I didn't know what they were at first.** I just went in there thinking they assist you with equipment that you don't have. At the time I didn't have a good laptop that would download Solidworks or whatever I needed for my classes, and I didn't have a calculator either. So they helped me with that and then I realized everybody in the office that I worked at, they were all people of color. It was easy for me to express to them whatever I was going through."

– **Hilda, Manufacturing Major**

More about Students' Ideas for Structural Changes

- Consistently, across all participants , the number one issue that interviewees brought up was financial pressures.
  - Almost everyone feels stressed about paying for school and paying back loans.

- Experience a lack of mentorship.

- Observe a lack of space for finding community.

Structural Change through Financial Aid

"The first thing, if I could, I would give them access to a scholarship only designed for them. **Not those scholarships for 1000 or 2000, the scholarships that don't matter really**. A scholarship that would allow them to pursue their career, their majors, even going to grad school without struggling at all."

– **Griselda, Graphic Information Technology major**

Structural Change through Recruitment

"That was like if I had that much authority, I'd definitely do more in the recruitment of **Black women engineers, like getting from a high school level, making sure that they understand that they can do it, that they can be engineers,** and that is a very realistic thing, if you put your mind to it. And providing that kind of access would be very nice for sure."

– **Abby, Biomedical Engineering Major**

Structural Change through Mentorship

"I think I would make a mentorship program because, if it's someone's first time in this field, **having someone who's already been through it and has some advice would be really helpful**... Because if you have so many different people with different experiences, and depending on what you need, you can go to different people to get different answers so that you can find what works best for you."

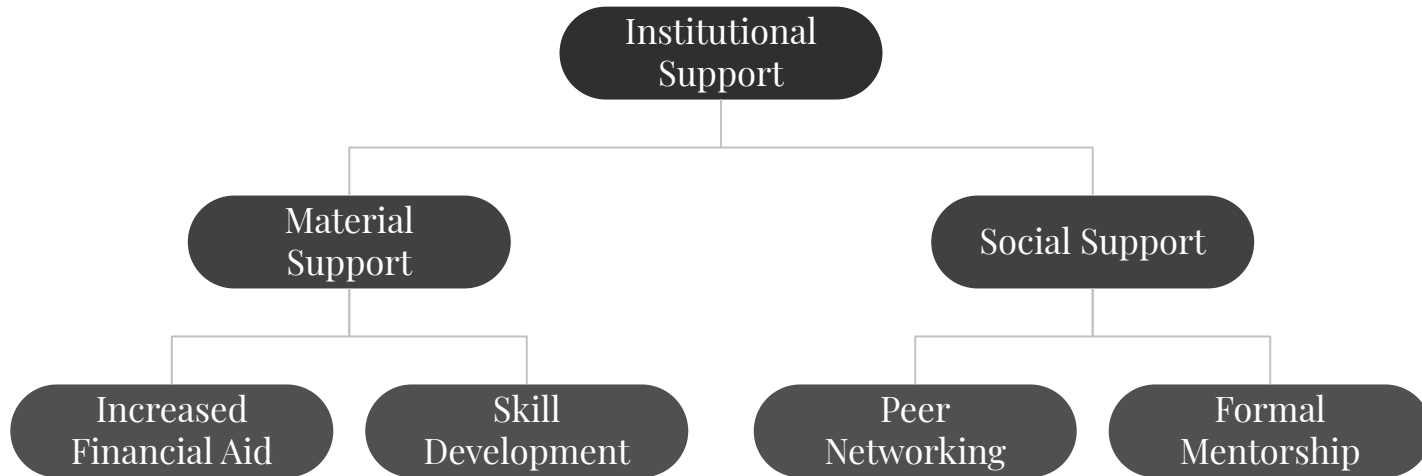–   **Olga, Computer Systems Engineering major**

So what now?

{ I. Increase financial support
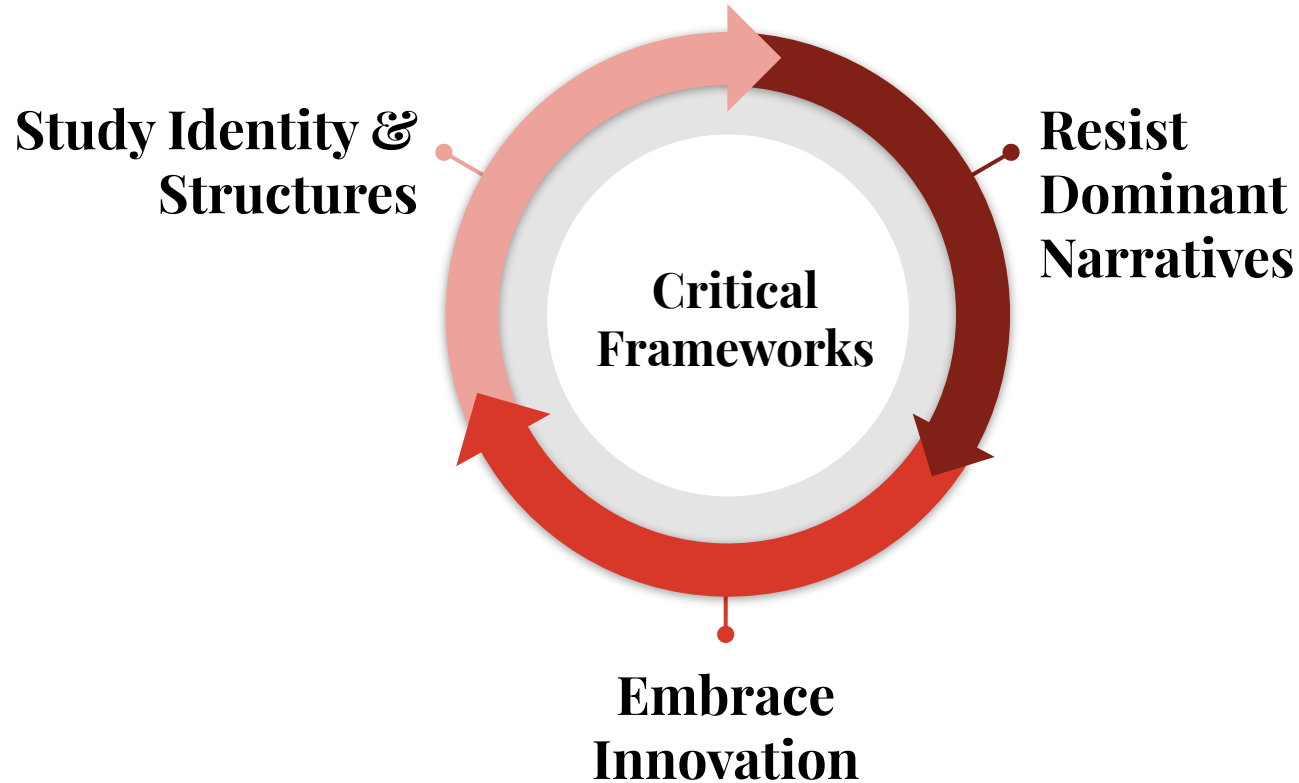
II. Build on students' ideas

III. Intersectional research

Implication for Practice: Increasing Financial Aid

Implication for Practice: Implement Students' Ideas

Implication for Research

Study Identity & Structures

Resist Dominant Narratives

Critical Frameworks

Embrace Innovation

Thank You!

Our Contact Information

Dr. Hailu
- Email:meseret.hailu@asu.edu
- https://www.meserethailu.com

Dr. Coley
- Email: bccoley@asu.edu
- https://coleyspacelab.com