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# Preparing to Tackle Equity, Diversity, and Inclusion in Science Education

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# Why Do I Do What I Do?



“With so many educators, parents, teachers, and students struggling right now, it is imperative that we do all we can to provide them with the necessary tools needed for student academic success. I ask the question, are we all really in this together?”

~A. Conerly

**Multicultural  
Equity Division  
Director**

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Education is the key to unlock the golden door of  
freedom.

(George Washington Carver)

Equity is the intentional consideration, formulation and implementation of practices, policies and procedures within an organization to deter systemic biases that can hinder the measurable outcome of programming as well as create barriers that can affect student achievement within demographic subgroups in comparison to institutional expectations and performance standards. Equity fosters accountability between stakeholders involved in the decision-making process and those designated to perform within the organization. (© SJD Opportunity, Inc., 2020)

Equity demands accountability.

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# Why is this work Important?



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# Keys to Establishing an Equitable Mindset: The A-List Approach©

- Assess the entire system without bias or barriers.
- Address the pros and cons of the system.
- Alter the system by redesigning a plan of action.
- Activate the plan of action.
- Assess again and again to ensure accountability.



## Steps in Preparing teachers in the Classroom

→ **Structure**

What is the structure of current college programs?

→ **Coursework**

What type of coursework is required to obtain the knowledge, skills, and degree?

→ **Field Experiences**

Who have you partnered with in order to provide adequate training for the classroom?

# Let's Look At Ourselves First



**Diversity** refers to the demographic subgroups within educational institutions. The Next Generation Science Standards (NGSS) released in April 2013 identified student diversity, through seven case studies noted in Appendix D – “All Standards, All Student: Making the Next Generation Science Standards Accessible to All Students. The four accountability groups defined in No Child Left Behind (NCLB) Act of 2001 and the reauthorized Elementary and Secondary Education Act [ESEA], Section 1111(b)(2)(C)(v):

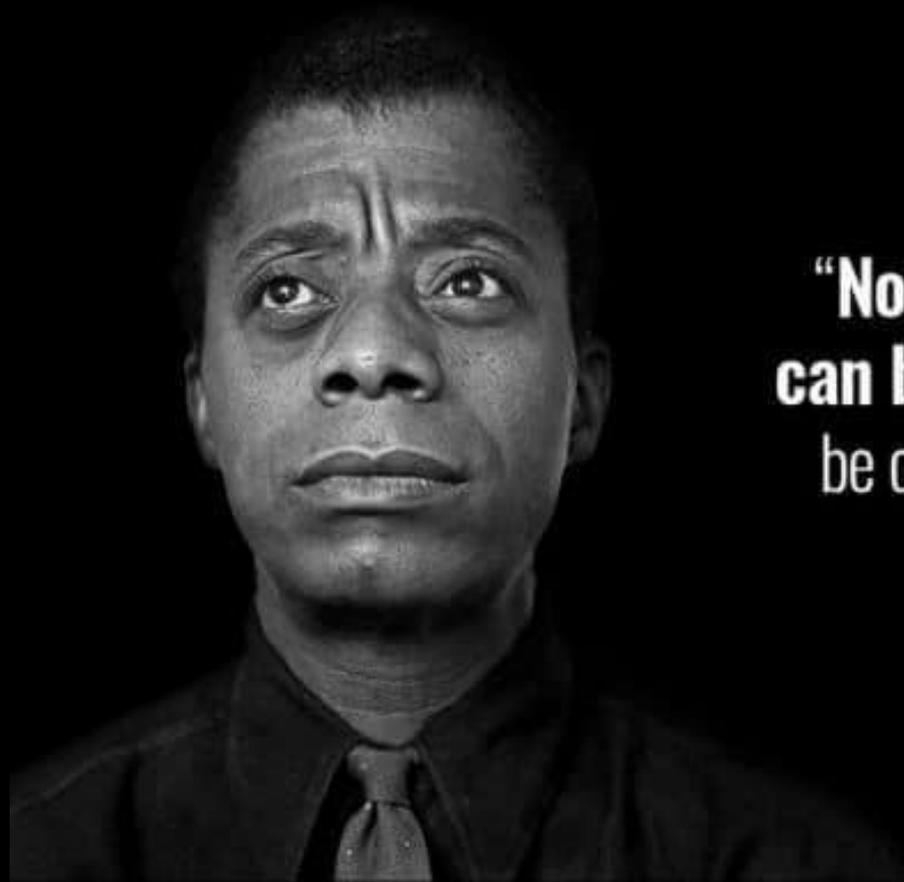
- Economically disadvantaged students,
- Students from major racial and ethnic groups,
- Students with disabilities, and
- Students with limited English proficiency.

Further, student diversity is extended by adding three groups:

- Girls,
- Students in alternative education programs, and
- Gifted and talented students

# Visible vs. Invisible Diversity





**“Not everything** that is faced  
**can be changed**, but nothing can  
be changed **until it is faced.**”

*- James Baldwin*

Goalcast

# Breaking Through the Glass Ceiling

Tough, But Necessary  
Conversations



A white woman, race educator Jane Elliot says to an auditorium full of people "I want every white person in this room who would be happy to be treated as this society, in general, treats our citizens - our black citizens - if you, as a white person, would be happy to receive the same treatment that our black citizens do in this society, please stand." Unsurprisingly, no one moves. She pauses. "You didn't understand the directions. If you white folks want to be treated the way blacks are, in this society, stand." More marked silence and lack of movement. She continues, "Nobody's standing here. That says very plainly that you know what's happening. You know you don't want it for you. I want to know why you're so willing to accept it or to allow it to happen for others."



# Breaking Through the Glass Ceiling

Tough, But Necessary  
Conversations

## ANTI-RACISM: FIXED TO GROWTH MINDSET

@HOLISTICALLYGRACE

### FIXED - COMFORT

"I DON'T KNOW WHERE TO  
START OR WHAT TO SAY"

"I DON'T WANT TO GET IT WRONG  
OR GET CALLED OUT"

"IT WON'T MAKE A DIFFERENCE  
WHAT I DO, NOTHING IS GOING TO  
CHANGE"

"I DON'T GET INVOLVED IN  
POLITICS. I DON'T HAVE TIME"

### GROWTH - COURAGE

"FIRST I WILL LISTEN/READ/  
WATCH. I WILL SPEAK AGAINST  
INJUSTICE"

"I WILL MAKE MISTAKES, NO  
DOUBT ABOUT IT. I WILL BE  
GRATEFUL FOR THE LESSON"

"THINGS HAPPEN WHEN I TAKE  
RISKS AND BECOME PART OF  
SOMETHING BIGGER"

"THIS IS A HUMAN RIGHTS  
ISSUE. THIS MATTERS, I WILL  
MAKE TIME"

**Inclusion** is an opportunity to reach all stakeholders by consciously being mindful of their needs.

Inclusion promotes analysis and evaluation in order to determine needs.

An example of inclusion:

Virtual teaching is a learning curve for all stakeholders, including students, teachers, parents, curriculum designers, and central office personnel. Everyone's need is different and must be identified to address the overarching plan of action to ensure that virtual teaching is successful.

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# Inclusive Classroom Strategies

1. Define clear minimum standards for behaviour.
2. Enforce those standards consistently.
3. Deal with children who misbehave in a sensitive way.
4. Create opportunities to listen to all children.
5. Develop a 'scaffolded' approach to learning.
6. Be aware of the specific needs of every child in your class.
7. Provide support for them in ways which benefit ALL children in your class.
8. Create a calm, purposeful learning environment.
9. Clearly display timetables and key information.
10. Use pre-assessment to inform your planning.
11. Let children choose how to show what they have learned.
12. Don't compare the progress of one child to another; personal progress is key.

<https://planbee.com/blogs/news/how-to-create-an-inclusive-classroom-12-tips-for-teachers>

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# Focus Areas

- *Teach an understanding of our nation's history with regard to race & science.*
- *Teach an understanding of our nation's, our communities', and our own present relationship with race.*
- *Teach instructional practices that help all kids succeed in areas of STEM.*
- *Teach how implicit biases can impede instruction and create inequities.*
- *Prepare candidates to teach a diverse curriculum and to fill in gaps when their district's curricula do not reflect our nation's diversity.*

<https://www.nctq.org/blog/Meeting-the-moment:-Preparing-teachers-to-teach-for-equity>

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