

# Equality vs. Equity: Using Assets and Cultivating Students

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**Abstract**—Cultivating an effective culture of institutional commitment to inclusive student success requires intentional reflection on shared norms and values regarding equity and equality. It is critically important to consider how the values of equality and equity are manifested in the policies, practices, and procedures that impact students, staff, and faculty at an institution. This special session provides a structure for faculty and staff to consider these concepts in the context of higher education and promote meaningful conversation on campus to direct positive changes.

**Keywords**—Equity, Equality, Hispanic Serving Institution, Cultural Competence

## I. INTRODUCTION

The number of students from groups traditionally underrepresented in the academy has rapidly increased at academic institutions throughout the United States. Now referred to as *The New Majority* by the American Association of Colleges and Universities [1], they reflect the future workforce and graduate students in all STEM disciplines. The increasing diversity of undergraduate college students is further reflected in the growing number of Minority Serving Institutions, particularly in Hispanic Serving Institutions (HSIs) which make up only 10% of the higher education sector but enroll 64% of all Latinx college students [2] and many of whom play a crucial role in the academic pipeline for minority students Bachelor's and Ph.Ds. in STEM [3,4]. Studying the practices of successful STEM departments in Hispanic Serving Institutions and other Minority Serving Institutions can help other campuses address the disparity between white and underrepresented students in the attainment of STEM Bachelor's degrees [5].

A significant roadblock to buy-in for the closing of the opportunity gap for minority students is the persistence of an equality mindset in STEM educational practices, i.e., the mindset that all students, regardless of education or cultural background, should be treated equally in faculty-student classroom interactions, assessments and pedagogical practices. The equality philosophy is particularly resonant with STEM faculty as STEM disciplines are promoted as unbiased and culturally neutral topics, and that the primary job of faculty is to maintain rigor within the discipline by sorting out students through assessment practices that determine who is and who is

not capable of mastering content. Using the equality mindset, differences in achievement outcomes are explained by differences in individual effort to achieve rigor and differences in students' innate talent for math and science.

Increased attention to the causes of the gaps between minoritized and non-minoritized students in attainment of STEM degrees, and grant funding designed specifically to decrease this gap, has forced Minority Serving Institutions and particularly Hispanic Serving Institutions to shift from an equality-oriented thinking to equity orientations. Equity fundamentally differs from equality in that institutional agents—administrators, counselors, and faculty—must believe that all students, not just some, are capable of succeeding. In order to reach all students, STEM faculty must be trained in how to study differences in adult motivation, cultural ways of knowing, and cognition so they may design successful learning experiences for all.

The rapid growth of research on high-impact pedagogical practices demonstrates that faculty are willing to adopt equity-based strategies to improve success of minoritized students in STEM [6-8]. However, Escala Educational Services' work with STEM faculty from more than 20 two and four-year Hispanic Serving Institutions shows that a persistent number of STEM faculty still question the benefits of equitizing the STEM profession due to perceptions of minority student deficits. This deficit ideology has been fostered through discussions of institutional data that show underrepresented minority students score lower on mathematics entrance exams, and at times through faculty's own classroom data which show in many instances that minority students have lower engagement and academic achievement. The natural conclusion of deficit thinking is that having a greater number of minority students succeed in STEM would lower the rigor of the profession or course. Through this persistent problem Escala has found that any discussions of the implementation of equity must also address deficit thinking through an intentional discussion of research that shows minority students' differences are assets in STEM fields and courses [9]. With a fuller appreciation of minority students' backgrounds and cultural experiences as assets, rather than deficits, faculty are more likely to adopt equitable, difference-based practices to assessment, pedagogy and interactions. This paper describes one approach to facilitating that reflection in the Special

Session “Equality vs. Equity: Using Assets and Cultivating Students.”

## II. SESSION GOALS AND ANTICIPATED AUDIENCE

This session is targeted to engineering and computer science educators and researchers that are interested in exploring the concepts of equality and equity in higher education from an asset-based perspective. These concepts will serve as a catalyst for imagining inclusive learning environments and developing culturally competent institutions that better support all students, staff, and faculty. The goal of this session is to model an approach that can be used to create a community of practice focused on developing a culture of shared norms and values.

At the end of the session, participants will

- have a clearer idea of the difference between equity and equality in the context of STEM classrooms and departmental practices and policies;
- learn the latest research on how Latinx undergraduate students utilize their assets to succeed in STEM courses;
- have access to a Google document summarizing the equity vs. equality conversations and created during the Special Session, and
- have a model of how to facilitate a similar conversation on their own campus.

## III. NOVEL APPROACH

This session is targeted to engineering and computer science educators and researchers that are interested in exploring the concepts of equality and equity in higher education from an asset-based perspective. These concepts will serve as a catalyst for imagining inclusive learning environments and developing culturally competent institutions that better support all students, staff, and faculty. The goal of this session is to model an approach that can be used to create a community of practice focused on developing a culture of shared norms and values.

## IV. ANTICIPATED INTERACTION

In the 80-minute session participants will complete three exercises in small groups. Each of the exercises requires full participation by the members of the group as the time is short, the task is difficult, and the debriefing protocol used by facilitators will randomize which person from the group will represent the group’s thinking in front of the entire audience. A description of each exercise and how it will be facilitated to maximize interactivity is outlined below.

### A. *Exercise I: Comparing Equity vs Equality Mindsets* (groups of 3)

The facilitators will first ask participants to consider the difference between conceptual definitions of equality and equity using a series of images that show equality as ‘weeding’

and equity as ‘cultivation.’ Participants will then work together in groups of three to fill in a partially completed compare/contrast table that asks them to contrast the values, attitudes, and assumptions that can demonstrate either the equality or equity orientation by the professor. The six compare/contrast aspects will be: Responsibility for Learning, Purpose of Assessments, Use of Office Hours, Delivery of Course Material, Peer to Peer Interactions, and Study Assistance. Groups will report out on one of the areas of the chart, using a randomized method to determine which group member will act as reporter.

### B. *Asset vs Deficit Based Thinking* (groups of 6)

Tables of up to six participants will create a list of adjectives that describes their students in STEM. A recorder will keep the list visible to all. The group will then determine if they think each descriptor is an asset or deficit by labeling each adjective descriptor as D (deficit) or A (asset). Finally, the group will turn any deficit descriptors into assets. The table group will be asked to debrief to the large group one way they re-assigned a deficit label to an asset. The facilitators will present Rendon’s [9] most recent report of cultural assets utilized by Latinx students in STEM. Facilitators will focus the participants on the idea that equity is not about lowering standards, pleasing students, or making content easy, but instead about facilitating an atmosphere of collective competence rather than individual competition and compliance.

### C. *Building an Equity vs. Equality Continuum* (groups of 6)

Tables of up to six participants will then apply what they have learned about equality vs. asset-based equity to the creation of a continuum of equity. Each table group will use a tablet or laptop to open up a shared Google document that has been created by the facilitators. Groups will be randomly assigned one of the six areas from the first Exercise to contemplate *how* the Equity or Equality mindset would result in a specific classroom activity, policy or action towards students. Groups will have 15 minutes to create at least three concrete examples of the Equality or Equity mindset in an actual STEM course. At the close of the group exercise, the group is asked to report to the large group:

- Examples of equality-minded practices: how do these practices provide the same educational experience, and accept opportunity gaps if they occur;
- Examples of equity-minded practices: how do these practices account for differences, utilize minoritized students’ assets, and help to close opportunity gaps.

As a final activity, participants will be required to write a short Exit Ticket on any revelations they have had during the session on how equity-minded practices help the students who need the most help, and how equality-minded practices might further disadvantage students who come in with the least advantage.

## V. AGENDA AND TIME USE

- 00-10 minutes - Facilitators introduce themselves and the learning goals of the special session
- 10-20 minutes - Definitions of equality vs equity are explored through comparison of weeding and cultivating images
- 20-30 minutes – Table groups list student deficits and assets for succeeding in STEM
- 30-40 minutes – Table groups work on flipping at least one deficit into an asset, discuss asset-based thinking
- 40-55 minutes - Groups work on assigned row on Google Doc, creating a practical continuum of classroom practices that exemplify Equity or Equality
- 55-75 minutes - Groups report out their work to large group (3 min per group)
- 75-80 minutes - Wrap-up, next step and evaluations of changes in perception or practice about asset-based equity

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