Adversity as an Asset

By: Emily Russell

Diversity can be identified by a multitude of designations. My identifiers include a woman with disabilities, a culturally sensitive scholar, a child of a single mother, and a financially challenged student. Inclusion of people with different identifiers positively impact scientific advancements and preserve scientific competitiveness (Hofstra. et. al, 2020; Allen-Ramdial & Campbell, 2014). In contrast, a lack of diversity can detrimentally hinder the ability for research to be generalized, variability in applicant talent pools, productivity in tasks, and social cohesion (Eaton et. al, 2020; McKenna et. al, 2018). Groups of people with diverse traits often include various levels of adversity, which is where my aspirations for change began (Koziell, 2001). I identify three fundamental needs in education that enlightened my perception of academic diversity.

Amendment of educational barriers became the first educational need I identified. Immediately after my acceptance into a rigorous engineering academy (in which only 6% of students were accepted), a random safety inspection revealed that I brought a pocketknife to school. Justification for possession was a long distance traveled by foot through the city, but a judge ordered my academics to take place at a juvenile delinquent school. Perception of my academic abilities drastically changed as my peers and teachers no longer believed I could find success in academics. My confidence and trust in the educational system significantly decreased, and I identified with students who felt academia was only for predetermined elite social classes. Unlike many of my peers in similar situations, my single mother obtained a license to homeschool me while she pursued a master's degree and worked as a waitress. I witnessed her ability to be more socially mobile following her degree as opposed to my social stagnation from my newly established *criminal* record. Barriers in education were not only discouraging, they distorted my perception of my ability to pursue academia.

Belief of capability in students without compromising their education became a second identified educational need. My algebra professor had a pedagogy of focusing solely on comprehension regardless

of social status, emotions or demographic information. He was the first to foster my interests without compromising the integrity of my work or lessening my depth of knowledge. I found his demeanor comforting and wanted a life in which I could act as a mentor to others who faced adversity. In retrospect, his influence revealed a desperate need for more academic figures to hold similar pedagogies.

A final fundamental need in education surfaced as a change in view of socio-economic status. Current studies show socio-economic stressors (such as inability to pay rent or meet basic needs in the family) strongly hinder a student's access to higher education and prevent the ability to prioritize school above all else (Raff, 2016; Terenzini et. al, 2001). I argue students facing discrimination due to socio-economic status are premier candidates for higher education. People with these hindrances should be judged as resilient and perseverant compared to their peers, rather than receive pity or unequal evaluation. Students who earn high GPAs despite a lower socio-economic background face personal tribulation regularly and consistently cope with adverse situations, something more privileged students may not adapt to.

One major pattern seems to rise among diverse groups of students who lack at least one of the previous three educational needs. Failure to make education accessible due to systematic barriers seems to lead to a lack of relatability between students facing adversity and academic mentors. The inability to relate to academic figures seems to originate from the perception that people in academia do not come from lower class or face hardship to achieve their success. The distortion of success then leads to misinformation about opportunities for academic advancement. Misinformation then contributes to a belief that education is inaccessible, and a dangerous continuation of discouragement eliminates potential academics from contributing to institutions.

Understanding of trends and needs among people facing adversity mean very little if nothing is done to amend restraints. Knowledge of challenges for people in diverse groups motivated me to actively

advocate for changes amongst minority communities; specifically, people with disabilities, Filipino-Americans, and women in scientific fields.

Many discussions on diversity fail to mention people with disabilities. Students in this category often face annual medication changes, misdiagnoses, and are hardly informed of resources available to them. A large goal in college was to foster discussions and encourage recognition of talents and contributions from people with disabilities. Participation in the Office of Educational Accessibility and founding a mental health awareness club "Piece of Mind" provided a platform to begin recognition among University students.

Through the Filipino American Student Association, I directed choreography in traditional and modern dance to showcase an aspect of the benefits of cultural integration. The visual incorporation of cultures not only provided visual entertainment, it allowed for people to actively question each other on differences and integration opportunities between cultures. Simple acts of incorporation have contributed to inclusion and mutual understanding among Filipino-Americans and students at the University.

Women in sciences often discuss adversity they face but there could be more specificity on ways to improve equality in the field. I find equity for women often gets portrayed as a ploy for undue advantages, when many women simply want a fair chance or the same opportunities as their male peers. In Honors College, many students in STEM fields discussed academics with me in the office. As a way to improve equity among women, I consistently deterred comments based solely upon gender identity and encouraged students based upon performance rather than demographic information.

Experiences in academia have led to a cultivation of personal goals for diversification primarily focusing on change in lab culture, understanding of opportunities, and recruitment methods. In lab culture, many minority groups report feeling uncomfortable with levels of aggression. It is the principal investigator's responsibility to change the culture of the lab and discourage mistreatment of any member.

Changes among lab culture can be simple acts such as allowing everyone to complete their sentence when speaking or acknowledging a team member's idea when it provides value to work being conducted. While these actions seem trivial, underlying stereotypes are reinforced by a lack of these behaviors (Sekaquaptewa, 2019).

As a scientist in a position of authority, I intend to increase networking opportunities and resources, with a specific target of people who face adversity. Students who fall into diverse categories are often unaware of resources available to them, or opportunities to advance academically (Chiu & Chow, 2015). Expansion of resources could be seen in networking events for targeted groups, information on financial and academic support spread to a wider majority of students, or forums for students to share resources and information that they find valuable.

Recruitment methods can be improved by providing information on all aspects of academia. Information such as scholarship opportunities, living accommodation, or any additional commitments could ease frustration among students in adverse environments. I find it necessary to provide students an opportunity to voice extracurricular difficulties in addition to academic experiences. An additional statement or free response question provides students the ability to be judged holistically and in a more equal manner.

My future intentions rest upon these three recognitions: students should be in a lab culture that champion individuality, advocate for students with difficulties of any kind, and increase awareness of opportunities.

References

Allen-Ramdial, S.-A. A. & Campbell, A. G. *BioScience* **64**, 612–618 (2014).

Chiu, M. M., & Chow, B. W.-Y. (2015). Classmate characteristics and student achievement in 33 countries: Classmates' past achievement, family socioeconomic status, educational resources, and attitudes toward reading. *Journal of Educational Psychology, 107*(1), 152–169. https://doi.org/10.1037/a0036897

Eaton, A. A., Saunders, J. F., Jacobson, R. K. & West, K. *Sex Roles* **82**, 127–141 (2020).

Hofstra, B. *et al. Proc. Natl Acad. Sci. USA* 117, 9284–9291 (2020).

Koziell, I. (2001). *Diversity not adversity: Sustaining livelihoods with biodiversity*. IIED.

McKenna, S., Lee, E., Klik, K. A., Markus, A., Hewstone, M., & Reynolds, K. J. (2018). Are diverse societies less cohesive? Testing contact and mediated contact theories. *PloS one, 13(3),* e0193337. https://doi.org/10.1371/journal.pone.0193337

Raff, M. (2016) *The effects of socio-economic status on the stress of University students* (Doctoral dissertation).

Sekaquaptewa, D. (2019). Gender-Based Microaggressions in STEM Settings. *NCID Currents*, *1*(1). doi:10.3998/currents.17387731.0001.101