Revealing the Invisible: Conversations about -Isms and Power Relations in Engineering Courses

Dr. Joel Alejandro Mejia, University of San Diego

Dr. Joel Alejandro (Alex) Mejia is an assistant professor of General Engineering at the University of San Diego. His current research investigates the funds of knowledge of Latinx adolescents, and how they use these funds of knowledge to solve engineering problems in their communities. Dr. Mejia is particularly interested in how Latinx adolescents bring forth unique ways of knowing, doing, and being that provide them with particular ways of framing, approaching, and solving engineering problems. Dr. Mejia's primary research interests lie at the intersection of engineering education, literacy, and social justice. He is particularly interested in engineering critical literacies, Chicanx Cultural Studies frameworks and pedagogies in engineering education, and critical consciousness in engineering through social justice.

Dr. Diana A. Chen, University of San Diego

Dr. Diana A. Chen is an Assistant Professor of General Engineering at the University of San Diego. She joined the Shiley-Marcos School of Engineering in 2016. Her research interests are in areas of sustainable design, including biomimicry and adaptability in structural, city, and regional applications. She earned her MS and PhD in Civil Engineering from Clemson University in South Carolina, and her BS in Engineering from Harvey Mudd College.

Dr. Odesma Onika Dalrymple, University of San Diego

Dr. Odesma Dalrymple is an Assistant Professor in the Shiley Marcos School of Engineering at University of San Diego. She conducts research on tools and techniques that can be readily applied in real engineering learning environments to improve student learning and teaching. In this respect her two prominent research contributions are with: 1) artefact-inspired discovery–based pedagogy, i.e., learning activities where students' exploration of STEM knowledge is self-directed and motivated by interactions or manipulations of artefacts; and 2) the development of faculty expertise in outcomes-based course design through the use of the Instructional Module Development (IMOD) system, a self-guided web-based training tool.

Dr. Susan M Lord, University of San Diego

Susan M. Lord received a B.S. from Cornell University and the M.S. and Ph.D. from Stanford University. She is currently Professor and Chair of Electrical Engineering at the University of San Diego. Her teaching and research interests include electronics, optoelectronics, materials science, first year engineering courses, feminist and liberative pedagogies, engineering student persistence, and student autonomy. Her research has been sponsored by the National Science Foundation (NSF). Dr. Lord is a fellow of the ASEE and IEEE and is active in the engineering education community including serving as General Co-Chair of the 2006 Frontiers in Education (FIE) Conference, on the FIE Steering Committee, and as President of the IEEE Education Society for 2009-2010. She is an Associate Editor of the IEEE Transactions on Education and the Journal of Engineering Education. She and her coauthors were awarded the 2011 Wickenden Award for the best paper in the Journal of Engineering Education and the 2011 and 2015 Best Paper Awards for the IEEE Transactions on Education. In Spring 2012, Dr. Lord spent a sabbatical at Southeast University in Nanjing, China.

Revealing the Invisible:
Conversations about –Isms and Power Relations in Engineering Courses

Abstract

How could we talk about race in an engineering classroom? What about other socially constructed identities? Although diversity and inclusion have become important topics discussed and researched within engineering education, these are not easy concepts for most engineering educators to discuss with students in the classroom. In this paper, we describe examples of class activities that we have used in two engineering courses to help students learn about privilege, its relationship to different –isms, such as racism, sexism, classism, ableism, and heterosexism, and the role engineering plays/can play in maintaining or dismantling that privilege. Specifically, we describe activities in a required User Centered Design course for first or second year students, and an Engineering and Social Justice course required for third year students in General Engineering and open as an elective to other engineering majors. As engineering professors, we also describe our own positionality as the instructors. We hope that these examples will be helpful to others interested in integrating such content into their courses.

Introduction

Engineering is fundamentally a sociotechnical endeavor [1], but the way that the engineering curriculum is framed may be focused on issues that decontextualize engineering [1, 2]. Moreover, engineering educators are often not prepared to have conversations about equity and diversity in the classroom. The engineering curriculum is not neutral, and knowledge is produced within a power-driven social and cultural system [3, 4]. ABET student outcomes are not entirely technical and include that students must have an understanding of professional and ethical responsibility, the broad education necessary to understand engineering impacts in a global and societal context, and knowledge of contemporary issues. Nevertheless, discussing the societal and ethical implications of engineering and technology is often a daunting task for both engineering students and instructors [5].

At our university, as part of a National Science Foundation (NSF) Revolutionizing Engineering and Computer Science Departments (RED) grant, we are working on moving from teaching engineering as a purely technical endeavor to a sociotechnical endeavor. An important aspect of the sociotechnical nature of engineering is to establish conversations that involve privilege. In a U.S. context, it is particularly important for discussions of privilege to consider race as a social construction [6]. Other socially constructed identities also play a significant role in determining whether communities have social, economic or political power, how it is used, and how they obtained that privilege.

This paper describes how we developed a curriculum intended to contextualize engineering for first- or second-year and third-year students in two different required engineering courses. These courses highlight the systemic and pervasive inequalities, which are created by institutional and relational oppressive forces [7]. The developed curriculum is grounded in a critical pedagogical approach [7]. The use of a critical pedagogical approach in the classroom carries a transformative agenda [8, 9], contributes to the development of critical conscious individuals,

and brings together multiple beliefs about human understanding and misunderstanding and the nature of change [10]. The following section describes our institutional context. Then we describe the courses and some examples of class activities we have used in these courses to help students learn about privilege and its relationship to different -isms, and the role engineering plays or can play in maintaining or dismantling that privilege. We hope that these examples will be helpful to others interested in integrating such content into their courses.

Institutional Context

The history behind the creation of these courses stems from being at the forefront of institution-wide transformation, including the inauguration of a new university president, the implementation of a new University Core curriculum, the award of an NSF RED grant, and the creation of a new General Engineering department [11]. The University of San Diego is a majority undergraduate, private four-year [12], faith-based institution that embraces Catholic social teaching in its mission. Our new president has enacted a new strategic plan, The University has identified six pathways through which the university will: become an anchor institution, demonstrate engaged scholarship, practice changemaking, advance access and inclusion, demonstrate care for our common home, and integrate our liberal arts education.

In addition, the University Core curriculum recently underwent an overhaul with a new Core Curriculum in place in Fall 2017. One significant outcome of the new Core reflects the University's commitment to Diversity, Inclusion and Social Justice (DISJ). Whereas students previously were required to take a single Diversity course, the new Core requires students to take two Diversity, Inclusion, and Social Justice (DISJ) courses recognizing a developmental model of achieving these outcomes. In addition, the DISJ designation is now based on meeting learning outcomes including having students critically examine and recognize how differences may lead to disparities in life experiences, critically reflect on self and others' experiences of privilege and oppression, analyze social constructions, and examine intersections of social identity categories and how they relate to unequal power relationships and social justice.

At the School level, the Shiley-Marcos School of Engineering awards only joint BS/BA engineering degrees, in which all graduates must fulfill the entirety of the university's liberal arts curriculum. While students may have extensive education in both engineering and the liberal arts, the integration of these spheres has not typically been reflected in either curriculum. The changes made to the University Core both challenged us and provided the opportunity to truly integrate liberal arts into engineering courses to demonstrate engineering as a sociotechnical discipline.

The courses described below both have attained a DISJ University Core flag designation and, to our knowledge, are the only required engineering courses in the U.S. that satisfy a university-wide general education diversity, inclusion, and social justice requirement. The lower level course, User-Centered Design, is a required introductory course for all engineering majors and meets the university's DISJ-1 requirement. The upper level course, Engineering and Social Justice, is a required course in the new General Engineering program, though students from other disciplines may take it as an elective. This course satisfies the University's DISJ-2 requirement.

With a DISJ-1 designation, one of the goals of the User-Centered Design (UCD) course is to initiate students to the academic study of diversity, inclusion and social justice. It also aims to prepare students for further /advanced study of these concepts in DISJ-2 courses; which can be the other course described in this paper (Engineering and Social Justice) or any other qualifying course on campus. The UCD course is often the first time our students engage with these sensitive topics in the classroom, particularly in engineering. As a result, our introduction to these topics is broad, focusing on its use as a framework when examining dominant approaches to the practice of design and the resulting impact of engineering designs on society.

The Courses

Course Instructors
As discussed earlier, the endeavor of teaching engineering as a sociotechnical discipline while integrating issues such as race, justice, and -isms can be a daunting task for instructors, and we are no exceptions. As the background and positionality of the instructor is critical to understanding the risks and rewards associated with these courses, this section briefly describes each of the instructors who have taught or are currently teaching the course.

J. A. Mejia self-identifies as Mexican American and his research investigates the funds of knowledge of Latinx adolescents. He grew up in a binational setting where the majority of the population have historically lived in constant sociocultural exchanges. His own experiences as a first-generation Latino engineer living in the United States gave him a different perspective on what it means to be an engineer and a person of color in this society. Similar to the adolescents he works with, he is also a native Spanish speaker who received English as a Second Language (ESL) services while in secondary school. His drive and commitment to social justice are influenced by his experiences as an engineer working in the defense and mining industries as well as his life experiences growing up in a rural, low-income community in Mexico. He acknowledges people of color as "holders and creators of knowledge" [13] and asserts that their voices should be recognized in classrooms in order to achieve equity in engineering. He brings his lived experiences and embodied knowledge to the classroom [13], while also fighting constantly against the "apartheid of knowledge in academia" [14].

D. A. Chen is a second-generation Asian American. Her interest in social justice was sparked after leaving a very "blue state" for a very "red" one. Her experiences in the regional Southeast led her to question the role and (in)visibility of Asian Americans in the United States, where discussions of race often are Black and White and discussions of minorities and people of color often allude to only Latino, Native Americans, and Black populations. She is passionate about broadening the understanding of "diversity" and interested in dispelling myths of race within the Asian American community (e.g., model minority myth and the consequences of buying into it [15, 16]). She found the race-iteration of the User-Centered Design course to be especially challenging to teach, as she still personally struggles with wanting to promote Asian American visibility but without undermining mainstream discussions of justice.

O. D. Dalrymple is an Afro-Caribbean woman from an ethnically and culturally diverse country, where people of color comprise the majority of the population and are proportionally represented in the leadership of both public and private sectors. Her interest in social justice began early in

her life while living in her home country, which attained independence less than two decades before she was born, and is still navigating the process of a post-colonial existence and identity. She has lived through an attempted coup in her country that was fueled in part, by the inequities of wealth, which disproportionately affects the Black populous. Her migration to the United States occurred for the purpose of attending university, which she did, initially at a Historically Black College and University (HBCU). This experience helped to shape her understanding of the historical and ongoing challenges faced by African Americans in the U.S., which in many ways is different than those faced by immigrant Blacks in the U.S. Her current research focuses on addressing education inequality in STEM at the K-12 level. Teaching the User-Centered Design class has been very rewarding for Dalrymple, especially after overcoming the initial discomfort in critiquing Whiteness as a Black immigrant. She especially enjoys having her experience working with communities valued in an engineering context.

S. M. Lord is a White woman with over two decades of teaching experience. Her interest in social justice stems from experiences of marginalization as a woman in Electrical Engineering in the 1980s. During graduate school, she took several courses in Feminist Studies in response to her male peers constantly asking, "What do women think?" These courses gave her invaluable experiences and some language and theoretical understanding of concepts such as privilege, sexism, racism, structural inequality and intersectionality. As the wife of an Asian American and mother of two multi-racial daughters, she is interested in expanding opportunities for women and broadening conceptions of race. Her research in engineering education has focused on exploring and promoting diversity and inclusion within engineering. As a tenured full professor and Chair of her department, she is able to take risks with teaching courses that may challenge students' ideas of what counts as engineering. She found the experience of teaching User-Centered Design with a focus on race to be challenging and stretched her as a teacher in new ways. Although she is comfortable talking with peers about her experiences as a woman in engineering, she had not previously shared many of these stories with undergraduates in class.

User-Centered Design

User-Centered Design (UCD) is a required course for all engineering majors taken during either the second semester of the first-year or the first semester of the second-year. It introduces students to strategies for identifying the needs, capabilities and behaviors of a user group, and developing designs that reflect the empathy gained for the user group to address their needs. It includes iterative design methods to elicit user requirements, generate alternative designs, develop low-fidelity prototypes, and evaluate designs from the perspective of the users. The culminating course project involves students developing relationships with and designing an engineering innovation that meets the needs of users in the local community. Current iterations of the course involve pairing students with community organizations that provide services for people with disabilities in an effort by the instructors to approach topics of social justice and privilege through, first, an ableism lens. The first DISJ iteration of the course focused on racism as the primary lens, and included a field trip to a museum exhibit titled *Race: Are we so different?*

Acknowledgement of the power dynamic

In preparation for working with community partners, we have students read articles that challenge them to be critical of what can be interpreted as service work. Example readings

include Peggy McIntosh's "Unpacking the Knapsack" [17] and subsequently participating in a privilege walk; Ivan Illich's "To Hell with Good Intentions" [18] and other perspectives on humanitarian aid; and Arielle Michal Silverman's "The Perils of Playing Blind" [19] to warn academics of the complications role-playing can have on students' perceptions of those with disabilities. These readings help students recognize and moderate the power dynamic that can be at play when they engage with community members who may perceive them as privileged given their identities as highly educated, engineering students from a private university.

Technology and Society
Students are also given a small introduction to the field of science, technology and society (STS) through social constructions. By exploring and accepting that gravity is a social construction [20], and then reading about blindness being a social construction [21], students are eased into concepts such as social identity theory and intersectionality. Our approach here is to remove the shock of discussing issues of race from the start, and using themes of designing for disabilities and user empowerment as a less politicized introduction to diversity issues. To help demonstrate these concepts, we brought in accomplished guest speakers in STEM fields who defy the stereotype that people with disabilities are less capable than people without.

Technology and Justice Activity
In addition to examining their own role as engineers, this course also asks students to examine the role of engineers in developing technology, and how that technology functions within society. In an activity conducted over two consecutive course periods, students, in teams, choose from a list of articles about different types of technologies, such as a bridge, a GPS app, air conditioning in office buildings, and airbags. Many of the articles were non-academic including some blogs. Our intent here was to push students to not only be able to discern the key points the author(s) raise(s) and what information and evidence (or lack thereof) is used to support their claims, but also critically consider what the stance of the author is and how this might have colored his/her assumptions and viewpoint.

After evaluating the article as a whole, students are asked to analyze the technology itself and create a single presentation slide to summarize their findings to their classmates. Their presentations address what the nature of the controversy is concerning the technology, what the positive and negative lasting implications of the technology are, who the technology is designed for, who it disadvantages, who the designers and decision-makers were, and lastly, to evaluate whether or not the innovation aligns with the definitions of social justice previously discussed in class. This activity provides: (1) an opportunity for students to apply concepts discussed in class, (2) space to share their thoughts and critiques, (3) practice displaying synthesized information, and (4) practice presenting with low stakes.

The presentations are followed by a brief reflection time to consider questions such as: what can the engineering profession do to prevent and promote justice? Should engineers care about who holds the decision-making power? Should engineers care about who is advantaged or disadvantaged by their products? This leads into a discussion about the Codes of Conduct of different engineering professional societies, emphasizing their responsibilities as an engineer to uphold justice. The activity ends by showing examples of innovations that can, in fact, promote justice.

Engineering and Social Justice

Engineering and Social Justice is a third-year required course for General Engineering majors. This course aims to support students' understanding of engineering in relation to social justice. The course is designed to help students use critical literacy practices to analyze the historical, social, political, and economic impacts of engineering in marginalized communities. Students also consider the contemporary contexts and impacts of the designs, systems, processes and products surrounding and involving engineering and engineers. Writing is a central theme of this course and a vehicle through which students explore these topics, which also addresses the Advanced Writing Competency (CADW) flag of the university-wide core curriculum. Some of the activities used to achieve the goals of the course include critical reflection essays on topics of feminism and microaggressions; an analysis of the intersecting axes of privilege, domination, and oppression; and a community engagement project analyzed through the lens of Critical Race theory. Two activities that have been integrated into this course are highlighted in this paper.

Social Identity Theory Activity

One of the activities used to help students understand the concepts of social identity theory [22-24], privilege, and positionality involves an exercise where students discuss the most important dimensions of their own identities [25]. Stereotypes are examined as participants share stories about instances when they were proud to be part of a particular group, and when it was especially hurtful to be associated with a different group. The key to this activity is the process of letting students examine their own identity and the stereotypes associated with that identity. Then, students engage in conversations that challenge their own stereotypes through others' stories. The activity encourages students to think about the stereotypes they apply to people and to make a conscious effort to think more deeply about those stereotypes, eventually eliminating them. Students think more critically about how social identities are formed and the role that power dynamics play in creating stereotypes, discrimination, and bias [22-24]. As with most activities aimed at creating a lasting impact on students' perceptions, such as the privilege walk [17], it is more effective if the instructor participates while facilitating the activity. It is important that the instructors are willing to share their own experiences so that the students are more likely to feel open to share their own.

In this activity, students write their name in the center of a sheet of paper. Then, students are prompted to write four important aspects of their identity on every corner of the sheet of paper. These identifiers or descriptors are part of who they feel defines them as individuals, which can include ethnicity, religion, gender, race, political affiliation, (dis)ability, sexuality, and language among others. After the students list the different identifiers or descriptors of their individual self, they share a story about a time when they were especially proud to identify with one of the descriptors used. They also share a story about a time when it was especially painful to be identified with one of those identifiers or descriptors. Finally, they are prompted to name a stereotype associated with one of the groups with which they identified that is not consistent with who they feel they are. The following structure is given, where they need to fill in the blanks:

I am (a/an)_____but I am NOT (a/an) _____.

The class is asked to share reactions to each other's stories. This part of the activity proved to be extremely powerful for the students, so it was important to allow for silent moments. Some of the questions asked after the activity include:

(1) How do the dimensions of your identity that you chose as important differ from the dimensions other people use to make judgments about you?

(2) Did anybody hear somebody challenge a stereotype that you once bought into? If so, what?

(3) How did it feel to be able to stand up and challenge your stereotype?

(4) Where do stereotypes come from? How are they connected to the kinds of socialization that make us complicit with oppressive conditions?

At the end of the activity, students understand how social identity is influenced by different social and power dynamics, and learn about how positionality can impact how students position themselves in a social, cultural, and political context. The students are prompted to discuss how their multiple identities impact engineering design and decision-making.

Intersectionality and Critical Literacies Activity

Another representative example from the *Engineering and Social Justice* class includes an activity where students are introduced to the concept of intersectionality and the use of critical literacies [26]. Students analyze the image shown in Figure 1 and write down what they see, as if they were describing the photo to a friend over the telephone. Subsequent discussion questions include: (1) How does this image portray people of color? (2) What conclusions seem to be made about people of color? and (3) What intersectionalities (race, gender, class, ethnicity, sexuality, etc.) can you find and what do they mean?
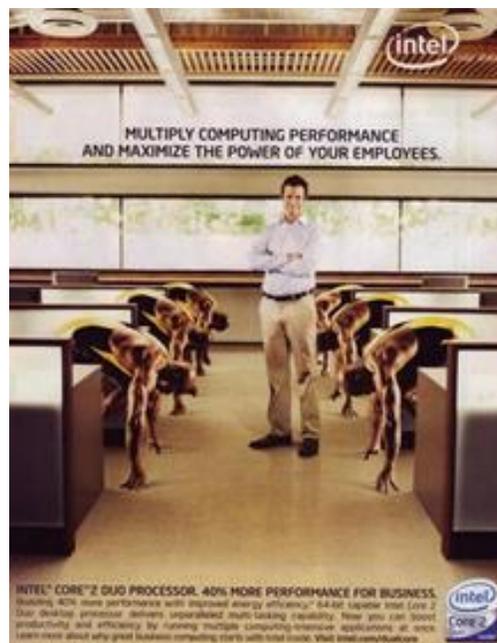
Figure 1: Representative image used to discuss intersectionality in engineering advertising [27]

Students discuss issues related to racism, power dynamics, ethnocentrism, discrimination, sexism, oppression, and intersectionality among others. For instance, the students are prompted to discuss the message in the advertisement ("maximize the power of your employees") while connecting it to the material covered in class. Students engage in conversations that relate back

to the historical power dynamics between White people and people of color. Topics related to slavery, the narrative of "people as property" [28], and its impact on systemic oppression for people of color and the permanence of racism in the U.S. are also discussed.

The discussions also include connections to engineering. For example, one of the topics of discussion is the myth of objectivity in engineering [4] and the impact of a colorblind society that neglects the fact that racism is a normal and endemic feature of our society [7, 29]. At the end of the activity, students are able to critically analyze the world around them while shifting their paradigms. The activity also allows students to challenge their own biases. One of the topics also discussed is that of the social constructions of race, ethnicity and gender, and how these categories are categories of time and space and not rigid definitions that have persisted throughout history.

Conclusions

Shifting both student and faculty mindsets away from a traditional abstracted understanding of engineering to a contextualized sociotechnical one is challenging. It requires practice to facilitate difficult conversations. In this paper, we described two courses we have developed and taught that integrate concepts of diversity, inclusion, and social justice into engineering courses. We describe the context of each course and provide examples of how we have integrated social issues with engineering to push our students to consider the impact and role of engineers within society. It is imperative that engineering education considers the significance of using engineering as a vehicle for inclusion and social justice rather than superficially accepting diversity.

Acknowledgements

References

[1]   D. Riley, A. Slaton, and A. Pawley, *Social justice and inclusion: Women and minorities in engineering*, Handbook of Engineering Education Research ed. New York, NY: Cambridge University Press, Ch. 17, 2014.

[2]   A. L. Pawley, "Universalized narratives: Patterns in how faculty members define "engineering"," *Journal of Engineering Education,* vol. 98, pp. 309-319, 2009.

[3]   D. Riley, "Employing liberative pedagogies in engineering education," *Journal of Women and Minorities in Science and Engineering,* vol. 9, no. 2, pp. 137-158, 2003.

[4]   D. Riley, "Engineering and social justice," *Synthesis Lectures on Engineers, Technology, and Society,* vol. 3, pp. 1-152, 2008.

[5]   ABET. (2017, February 04). *Criteria for accrediting engineering programs 2016-2017.* Available: http://www.abet.org/accreditation/accreditation-criteria/criteria-for-accrediting-engineering-programs-2016-2017/#outcomes

[6]   R. Frankenberg, *White women, race matters: The social construction of whiteness*: U of Minnesota Press, 1993.

[7]   R. Delgado and J. Stefancic, *Critical race theory: An introduction*: NYU Press, 2017.

[8]   M. Greene, "In search of a critical pedagogy," *Harvard Educational Review,* vol. 56, pp. 427-442, 1986.

[9]   M. Greene, *Releasing the imagination: Essays on education, the arts, and social change*: Jossey-Bass, 1995.

[10]   M. Freeman and E. F. S. Vasconcelos, "Critical social theory: Core tenets, inherent issues," *New Directions for evaluation,* vol. 2010, pp. 7-19, 2010.

[11]   D. A. Chen and G. D. Hoople, "Contextualizaing a new General Engineering urriculum in the Liberal Arts," In *Proceedings of the 2017 American Society for Engineering Education Annual Conference*, Columbus, OH, 2017.

[12]   The Carnegie Classification of Institutions of Higher Education. (2018, February 01). *Carnegie Classification*. Available: http://carnegieclassifications.iu.edu/

[13]   D. Delgado-Bernal, "Critical race theory, Latino critical theory, and critical raced-gendered epistemologies: Recognizing students of color as holders and creators of knowledge," *Qualitative inquiry,* vol. 8, pp. 105-126, 2002.

[14]   D. Delgado-Bernal and O. Villalpando, "An apartheid of knowledge in academia: The struggle over the" legitimate" knowledge of faculty of color," *Equity &Excellence in Education,* vol. 35, pp. 169-180, 2002.

[15]   S. D. Museus and P. N. Kiang, "Deconstructing the model minority myth and how it contributes to the invisible minority reality in higher education research," *New Directions for Institutional Research,* vol. 2009, pp. 5-15, 2009.

[16]   J. Y. Wing, "Beyond black and white: The model minority myth and the invisibility of Asian American students," *The Urban Review,* vol. 39, pp. 455-487, 2007.

[17]   P. McIntosh., "White privilege: Unpacking the invisible knapsack," *Peace and Freedom*, July-August, pp. 10-12, 1989.

[18]   I. Illich, "To hell with good intentions," in *Conference on Inter-American Student Projects. Cuernavaca, Mexico,* 1968. Available http:www.swaraj.org/illich_hell.htm

[19]   A. M. Silverman, "The perils of playing blind: Problems with blindness simulation and a better way to teach about blindness," *Journal of Blindness Innovation and Research,* vol. 5, no. 2, 2015. DOI: http://dx.doi.org/10.5241/5-81

[20]   T. S. Kuhn, *The structure of scientific revolutions*: University of Chicago press, 2012.
[21]   A. Spiegel and L. Miller, "Batman," in *Invisibilia*, ed: NPR, 2015.
[22]   M. Foucault, "The subject and power," *Critical inquiry,* vol. 8, pp. 777-795, 1982.
[23]   M. Foucault, *Power/knowledge: Selected interviews and other writings, 1972-1977*: Pantheon, 1980.
[24]   M. Foucault, *Discipline and punish: The birth of the prison*: Vintage, 2012.
[25]   P. C. Gorski. (n.d., February 04). *Circles of my multicultural self*. Available: http://www.edchange.org/multicultural/activities/circlesofself.html
[26]   J.A. Mejia, I. Villanueva, and R. A. Revelo, *Using literacy to identify hidden factors that compromise equitable and effective engineering education*, In *Proceedings of the 2018 American Educational Research Association Annual Conference*, New York, 2018.
[27]   K. Boykin. (2007, September 05). *Have the folks at intel lost their minds?* Available: http://thenewblackmagazine.com/view.aspx?index=939
[28]   G. Ladson-Billings and W. F. Tate, "Toward a critical race theory of education," *Teachers College Record,* vol. 97, pp. 47-68, 1995.
[29]   E. Bonilla-Silva, *Racism without racists: Color-blind racism and the persistence of racial inequality in America*: Rowman & Littlefield, 2017.