

Work in Progress: Developing Methods from Feminist Standpoint Perspectives to Analyze a Panel Discussion and Promote Enduring Impact

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Abstract

Panel discussions have been widely used to provide diverse perspectives on pressing topics within academic and non-academic communities. Individuals participating in panels are usually brought together to express a wide range of viewpoints and to combine ideas, research, and experiences. We see an opportunity to extend panel discussions to have enduring impact by broadly distributing the data synthesized during the panel discussions. The use of panel discussions as a research endeavor has the potential to broaden researchers' ways of knowing, yet knowledge transfer from panel conversations to peer-reviewed publications has to this point been minimal.

This paper highlights a methodology for analyzing panel discussions, discourse content, and panelist reflection to produce research results, new insights, and field recommendations. We ground our analysis in our individual and collective positionalities as well as the careful selection of a guiding theoretical framework. We explore the use of a collaborative autoethnography approach and qualitative coding of the panel transcript as effective methods for analyzing panel discussions and capturing the information and ideas presented in peer-reviewed publications.

We find the method presented especially impactful for topics related to broadening participation in engineering. Marginalized groups are still vastly underrepresented, and their perspectives remain unvalidated within engineering and engineering education spaces. This paper is based on a panel of six early career women engineers in the academy. We pursue this endeavor through an explicit standpoint of feminist epistemology, recognizing that our collective positionalities impact our methodological approaches and analyses of these methodologies. As women in STEM, we utilize two of the four dimensions of Black feminist standpoint theory (BFT): (1) lived experiences viewed as a criterion of meaning and (2) the use of dialogue to access knowledge claims. We expand these dimensions to all women by leveraging feminist theory, which emerged from BFT. The method presented allows each panelist to contribute their distinct but overlapping personal, professional, and research experiences to create one unified message.

Together, we believe our individual experiences revealed unique insights worth capturing collectively, and this paper will show transparency in our process, which may be replicable by participants on other panels. We hope to capture this methodology to help other minoritized or marginalized groups amplify their voices within the engineering and engineering education spaces, furthering the calls for systemic change.

Key Words: women, diversity, collaborative autoethnography, panel discussions

Introduction

“I think my big lasting thought that I'd love to impart is around the power of the collective...In order to break that pattern [of an individualistic society], we're going to have to rebuild relationships with other people, and we're going to have to take action with other people. The conversations that we have will drive us and each other outside our comfort zones, and then our actions will do the same thing. I think that's the power that we have to make change.”- Author Corey Bowen from Graduate Student and Postdoctoral Fellows' Perspectives on Advancing Women and Gender Equity in Engineering panel during the 2022 ASEE Annual Conference

The value of panel discussions is derived from an understanding that there is value in capturing and presenting a wide range of viewpoints that could benefit a diverse audience. Panel discussions at conferences, in particular, are used to exchange viewpoints among experts working as a team, whether or not panelists agree on all issues, to create an interesting discussion for the audience [1]. Within academia, panel discussions are often used as a catalyst for curricular, policy-based, and other interventions. When used for publications, they are widely presented as opinion pieces or as summaries of the discussion content [e.g., 2, 3]. Although summaries of discussions have been used as motivation for studies and publications, panel discussions have yet to be viewed as a data collection method. Specifically, scholars have not analyzed or interpreted the dialogue from panel discussions with the intention of the production of academic research publications. We believe that panel discussions can be used for more than simply encouraging an affective response to systemic problems. We aim to expand the potential use of panel discussions by presenting a methodology for using panel discussion content as research data for a study. Since there is a gap in the literature regarding the role of panel discussions in facilitating enduring impact, we are motivated by the distinct nature of panel discussions to create safe spaces for critical discourse on challenges related to social justice and societal issues.

Purpose

This work-in-progress paper describes a methodology we designed to interpret data from an American Society of Engineering Education (ASEE) panel discussion in which we participated as panelists. Panel discussions are increasingly being used to tackle difficult conversations regarding race relations, diversity, equity, and inclusion (DEI) and broadening participation in science, technology, engineering, and mathematics (STEM) [4]. For example, the 2022 ASEE Annual Conference held four panel discussions regarding topics on diversity, equity, inclusion, and justice (DEIJ) in STEM (full list provided in the Appendix). The disparities in experiences and participation between individuals of different backgrounds in STEM are alarming, as multiple literature sources document [e.g., 5-7]. Panel discussions are among the primary strategic courses of action for companies, universities, and organizations that seek to reduce disparity gaps. Those with knowledge in these areas or who identify with marginalized groups are typically invited to be panelists for these discussions, but their contributions are not reflected in academic publications. To move beyond conversation toward enduring, meaningful impact, the actors must become active participants in systemic change [8]. This change cannot happen without a shift in what we deem to be worthy knowledge and who is deemed knowledgeable [9]. Thus, we leverage Black feminist standpoint theory (BFT) to position the legitimacy of our voices as women, a marginalized group in engineering spaces as well as in society at large, and

to present a new way of analyzing and presenting the content of our panel discussion as legitimate scientific and academic knowledge. Although all panelists have not experienced the intersectional oppression that BFT was developed around, within the context of the engineering field women experience “othering” and historical exclusion, and the theory helps conceptualize our identities in this context, while also acknowledging our differences. We present a method that allows each panelist to contribute their distinct but overlapping personal, professional, and research experiences to develop a unified message.

Methodology

In June 2022, the authors were invited to be participants on a panel titled Graduate Student and Postdoctoral Fellows’ Perspectives on Advancing Women and Gender Equity in Engineering, which was organized by the Women in Engineering Division at the 2022 ASEE Annual Conference. We share the methodology of how we specifically organized and analyzed our panel discussion to leverage our own experiences and perspectives as a rich data source to encourage an enduring impact resulting from the discussion. Our methodology consists of three main steps, which are further detailed in the sections below, along with how we will apply these steps to our analysis.

- Step 1: Describe who we are in relation to existing social stratifications of power by defining our individual and collective **positionalities**
- Step 2: Select a **guiding framework** to align our analysis with the panel (in consideration of our positionalities and the panel topic)
- Step 3: Conduct a **collaborative autoethnography** to analyze our panel discussion data and generate new knowledge

Step 1: Positionality

The first phase of our methodology considers the panel’s purpose in relation to its collective identity. Our identities impact our positionality through existing social structures that assign varying amounts of social power to different groups (e.g., gender, race, class) [10], [11]. Our positionality impacts the choices we make as researchers, directly affecting data collection, analysis procedures, and proposed conclusions [12]-[14]. In our work together, the authorship team’s individual identities coalesce around a topic that has personal meaning and importance for all of us, resulting in our collective positionality that both guides our research and uniquely positions us to draw important conclusions from our data.

Various members of the authorship team identify as engineers, engineering education scholars, women, and racial or ethnic minorities. These identities have each contributed to goals with respect to our methodology. First, as engineers, we share lived experiences in engineering academia and industry. We prioritize analytical and logical skills, and we have “action-oriented” mindsets that we have gleaned from our engineering education and careers. This mindset contributed to our group’s desire to actively create ways to preserve, elevate, and distribute the valuable knowledge that is put forth during panel sessions.

Second, as scholars, we have extensive knowledge in engineering education and qualitative analysis methods. Our strength in this area comes from our ability to leverage the skills of six engineering education researchers. Third, all our panel members identify as women. As women in STEM, we are highly invested in promoting gender equity and valuing members of our

community who are not empowered by the patriarchal norms of our field. Fourth, much of the authorship team identifies as racial and ethnic minorities, and we are appreciative of the remainder being strong allies. Recognizing the impacts of intersectional oppression described by Kimberlé Crenshaw and other Black feminist scholars both inside and outside of education [15]-[17], we are also cognizant of the compounding effects of marginalization along multiple axes as experienced by many members of our team. Both quantitative and qualitative research has already documented the impacts of intersectional oppression in STEM [18]-[22]. Thus, we seek to devise methods that amplify marginalized voices and promote “non-traditional” paths to scholarship.

When assembling a panel, intentional sampling that considers positionality is of the utmost importance for several reasons [23], [24]. Our panel’s organizers ensured quality by including a diverse range of perspectives centered on the panel themes: *Advancing Women and Gender Equity in Engineering*. Intentional sampling prevents “othering”, which is defined as the action or risk of perceiving differences between two or more people and converting the differences to inferiority [25]. Within our panel, no one was isolated as the only member of their race or ethnicity, as the only participant with a given role in academia (i.e., graduate student or postdoctoral researcher), or as the only participant with industry experience. We feel that this panel composition effectively eliminated any othering that might have occurred otherwise and created a safe space for us to hold an authentic discussion. These considerations could easily be adapted to future panels with other commonalities and goals.

Step 2: Selecting a Guiding Framework

The second phase of our methodology is to ground the panel discussion and analysis in a guiding theoretical or conceptual framework. Selecting a guiding framework for a panel is important because it ensures that the panel discussion remains focused and relevant to the topic. A theoretical framework offers a conceptual structure and guiding principles that help to organize the discussion. Furthermore, grounding the discussion in established knowledge, rather than relying on opinions or anecdotes alone, can enhance its credibility and value, making it more informative for the audience. We recommend selecting a framework that is relevant to the panelists’ individual and collective positionalities and the panel discussion topic. In our case, we selected Black feminist standpoint theory. The epistemological cornerstone of the field of women's studies is feminist theory, with Black feminist standpoint theory (BFT) addressing the underlying conditions of oppression due to race, gender, class, and sexuality experienced by Black women [26], [27]. BFT is concerned with how knowledge is produced and how power is used in daily life. Within White-male-dominated fields, such as engineering, the collective power of Black women’s experiences is often subjugated to social and political standards that create hierarchy. This unbalanced dynamic leaves the position of this group to be mitigated on their own. Thus, BFT demands that the lives, voices, and experiences of Black women and other marginalized groups should be given an elevated priority within research and social order. Using BFT is essential for individuals of all racial identities. Non-Black and nonfemale researchers can help promote more inclusive and equitable research practices. In contrast, Black researchers can help to center their experiences and perspectives in the research process by empowering and validating them, as it acknowledges the critical contributions. Collins [26] asserts a Black feminist standpoint must be promoted collectively through *agency* (space to share lived experiences for the creation of meaning) and *power* (access to knowledge claims).

Agency

Marcel [28] states agency is sensing the pre-reflection self. From this frame of mind, agency is an inherent cause of action due to an immersion with feelings and beliefs. Additionally, agency can commonly be referred to as a space - describing all the dimensions in which we, as human beings, exist (e.g., physical, mental, and social), is used to help understand the importance of agency. According to Alston et al. [29], the freeing or oppressing of any state of these dimensions directly impacts an individual's ability to project their reality onto their world. Combining the ideas of Macel and Alston, we define agency as physical and mental space for women's shared lived experiences to be viewed as a criterion of meaning and expression of beliefs that lead to action. Agency is necessary for the collective thought and actions that contribute to expanding Black feminist standpoint through the acquisition and transfer of educational, organizational, and societal knowledge to improve women's professional experience [26], [28].

Power

Conti and O'Neil [30] state power is not owned by an individual but shifted amongst relationships between individuals, organizations, and institutions. In this sense, power is dynamic and becomes dangerous when one person or culture becomes obsessive in its ownership. King [31] adds to the idea of dynamic power, declaring, "Black women are empowered with the right to interpret our reality and define our objectives" and "continually establish and re-establish our priorities" [31, p. 72]. Collins [26] agrees that power is the ability of Black women to self-define their experiences, intentions, worth, and credibility within society utilizing their narratives. The power of self-definition is realized collectively by women twofold. First, women gain a critical consciousness to determine their truth and their place in a society free from dominating and oppressive views. Second, women begin to create new knowledge onto the world by bestowing their narratives and providing a collective standpoint. However, this cannot happen without access to power in the first place. That is why the process is dynamic - a continual motion, struggle, back and forth for women to bestow their truth onto the world. Aligning with King, Collins, and Conti and O'Neil, we define and use the idea of power to enhance all women's ability to participate in the dynamic action of gaining and transferring societal knowledge claims within the context of their choosing.

Step 3: Collaborative Autoethnography

The third phase of our methodology is to approach data collection and analysis of the panel discussion through collaborative autoethnography [32]. Collaborative autoethnography is "a qualitative research method in which researchers work in community to collect their autobiographical materials and to analyze and interpret their data collectively to gain a meaningful understanding of sociocultural phenomena reflected in their autobiographical data" [32, p. 23-4]. In our case, the autobiographical materials are our past experiences as women in engineering as well as the panel discussion transcript. The sociocultural phenomena we are studying is the panel topic, the role of women in building diversity, equity, and inclusion in engineering.

We plan to follow the iterative process outlined by Chang et al. [32] for conducting a collaborative autoethnography: data collection through both individual writing and reflection and group sharing (i.e., our panel discussion and subsequent meetings); and individual data review, coding, group meaning-making and theme search. Specifically, we plan to analyze the panel

discussion transcript using multiple cycles of inductive coding [33]. We will focus the transcript analysis on participant responses and not audience comments or other aspects of the panel. Each panelist will code the transcript individually, and then during multiple iterative group sessions via video call, the panelists conduct a thematic analysis [33] by reviewing all codes and organizing them into meaningful themes and insights. Further, panelists can add more context to their comments at the panel through individual reflection and during these group sessions based on their autobiographical experiences. We repeatedly lean on our individual and collective positionalities during our discussions and reflections to help us determine the key themes that relate to the phenomena of study and the goal of our panel. While our analysis is ongoing, we expect it to result in a set of themes focused on our past and current experiences, thereby centering and raising the voices of marginalized women in engineering, as well as recommendations for future change in the field based on our individual and collective experiences.

Our methodology proposes not only an extension of panel procedures to generate scholarly research, but also recognizing the potential of academic panels to add to collaborative autoethnographic work. Academia exists in a firmly siloed nature and structure, with strong divisions between departments and institutions that also serve powerful purposes in aiding the isolation of those from minoritized social groups, including women in engineering. The formation of this group via panel organizing was a non-trivial step to the initiation of this work, and we encourage reflection on other existing structures within academic spaces might also utilize collaborative autoethnography to extend the impact of change-making efforts.

Methodological Quality

The use of a collaborative autoethnographic approach leverages the benefits of autoethnography while overcoming its challenges. Specifically, collaborative autoethnography allows for exploration of the researchers' subjectivity, power-sharing among the researchers as participants, deeper learning about themselves and others, and community building [32]. Expanding on autoethnography, collaborative autoethnography supports the shift from individual to collective agency, which opens doors for accessible research [34], aligning with our purpose and theoretical framework. A challenge with collaborative autoethnography is the trustworthiness and honesty of participants during the process [32]. The panelists are working to overcome this challenge by building relationships with one another through frequent meetings and a focus on our shared goal to improve women's experiences in engineering.

Conclusion and Future Work

Conferences, universities, and companies frequently use panel discussions to begin the discourse on critical conversations regarding STEM. These discussions provide the opportunity for historically marginalized groups in engineering (whether industry or academia), who are traditionally excluded from academic publishing [35] to be a part of the conversation. Conferences within and outside of academia continually employ panels that produce a wealth of knowledge that is often limited in research propagation. The intentional inclusion of marginalized panelists in discussions of high-priority issues in STEM has proven to be beneficial for discourse. We believe that enduring impact can be achieved when the conversation continues beyond the setting of the panel discussion. Inspired by the need to build both power and agency, as described in BFT, we believe that this methodology can be extended to other marginalized groups in engineering and in society. Our methodology positions panelists' experiences as knowledge, and thus panel discussions are viewed as data-appropriate and valuable for

propagation. Further, we offer this methodology as a step towards increased equity in compensation for panelists in the form of the academic currency provided by publications. Constructing this pathway to publication based on panel participation will be a way for panelists to be recognized for their contributions in a meaningful way that helps further their careers.

We intend to begin to break these knowledge distribution barriers with our own data. We are applying this methodology to our own panel discussion to develop a manuscript submission. We believe that this methodological implementation will serve as a guiding study for future panels. We also believe that our work will contribute to the body of literature regarding broadening participation and the role of women in advancing diversity in engineering. As participants and researchers in our study, we hope to propagate our findings in a way that maintains the integrity of our panel and demonstrates the usefulness of our methodology. We recognize that both panels and publications have limited impact, and hope to reimagine both and open doors for more real communication and impact on critical topics. We believe that the implementation of our methodology is most impactful when used with the end in mind: to amplify the voices of historically marginalized populations in engineering and create systemic change.

Acknowledgments

We first want to acknowledge, aligned with collaborative autoethnography, that this panel and paper were a truly collaborative effort. All authors (panelists) contributed equally to the panel preparation, panel discussion, conceptualization and writing of the paper, and subsequent data analysis, despite the author order listed. We would also like to thank our panel organizers, Drs. Lily Wang and Idalis Villanueva Alarcón from the ASEE Women in Engineering Division.

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Appendix

Panel discussions on DEIJ topics at the 2022 ASEE Annual Conference [36]

1. Queerness in STEM Book Panel
2. Panel: Problematizing Place and Context: Voicing the Crisis at the University of Puerto Rico
3. Panel: Graduate Student and Postdoctoral Fellows’ Perspectives on Advancing Women and Gender Equity in Engineering
4. Changing the Equation for Diversity, Equity, Inclusion, and Access Through Academia/Industry Collaboration