The Value of Communication Centers in Professional Organizations: A Former Communication Center Coach Working at NASA

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Presently, Communication Centers (CCs) are uniquely college resources, providing students with "low-stakes environments" (Ellefson et al., 2019, p. 57) to develop and practice communication skills and competencies in a variety of audience settings (i.e., one-on-one, group setting) with the opportunity for constructive feedback (i.e., immediate, synchronous, asynchronous). Previous empirical and theoretical research has shown that campus resources provide invaluable assistance for students to receive additional support outside of formal classrooms and curricula, increasing student retention, academic self-efficacy, and improving academic performance (Astin, 1993; Conners & Brammer, 2018; LaGrone & Mills, 2020; Styron & Roberts, 2010). Moreover, students often find a sense of belonging in these centers, which increases their sense of community, positively increasing academic persistence (Barefoot, 2004; Henchy, 2013).

Within organizations, specifically organizations with highly technical vocabularies, like those within science, technology, engineering, and mathematics (STEM) career paths, people are often expected to know the tacit cultural norms and language upon entering the organization. However, unexpressed organizational norms can lead to gatekeeping, frustration, and communication barriers (Anjum et al., 2018; Eraut, 2000). One way in which organizations can overcome these implicit culture and language barriers is to partner with or develop their own CCs. CCs may provide important benefits acting as a resource for translation between employees of diverse backgrounds and the organization. CCs in professional organizations with an in-depth understanding of how power and disparities function through language, especially within STEM, can provide a valuable solution for creating more equitable, diverse, inclusive, and accessible workplaces. Using narrative methods (Riessman, 2008), I reflected on my time working as an Intern Coaching Specialist for the STEM Pipeline for Equity, Inclusion, and Diversity (SPEID) program at NASA. Findings from my reflection suggest that CCs in professional organizations can act as centers for translation and training. Moreover, CCs can provide the space to remove value judgments from language, helping to deprioritize Academic English (AE) in professional settings to allow more language diversity among employees to embrace their most authentic self (as they feel comfortable) in the workplace. Ultimately, this can help to build the value of communication. From these findings, I seek to extend the role of CCs outside of college campuses, providing new avenues for partnerships, as well as arguing for the creation of new job positions in professional organizations. The following manuscript begins with a review of relevant literature, followed by

an overview of the article's methodology and researcher positionality. The findings and discussion section are intertwined to expound on the role of CCs in professional organizations. I close with avenues for future scholarship.

Literature Review

Barriers to Career Success

When entering into the workforce, people are often expected to know the implicit and explicit cultural norms, behaviors, and language associated with their organization. While universities provide an important training ground for developing these competencies, disparities in skill level remain (Carracedo et al., 2018). For some organizations and niche jobs with highly technical vocabularies and industries in which norms and behaviors have been documented to be gatekept, like science, technology, engineering, and mathematics (STEM), those who do not have access to opportunities to learn the implicit and explicit cultural norms before entering into the workforce may be at a disadvantage (Marín-Spiotta et al., 2020).

Those with the access to STEM opportunities (i.e., attended well-funded schools, parents who have flexible work hours to engage in extracurricular STEM based activities, networks to those already in STEM careers, etc.) early in their academic careers tend to have essential experiences that may help to teach them the norms and behaviors of "scientists" (Campos et al., 2021). These students may, in turn, have stronger applications and tests scores, positioning them above students who may not have had the same opportunities to learn the culture of STEM first-hand. Unfortunately, biased recruitment and hiring practices are a well-known issue within STEM career paths (Marín-Spiotta et al., 2020). Thus, while many students from diverse and historically marginalized backgrounds may be interested in careers within STEM fields, they may get lost throughout the application and interview process, not aware of implicit norms and behaviors associated with STEM, and may not have access to networks of support within the STEM community to turn to for advice.

For those who get through the interview process, the first few weeks to months in a STEM career may be daunting as people try to learn the implicit norms, behaviors, and language. Those who work in STEM careers have been known to encounter hostile work environments, discrimination, bullying, and many additional barriers to success (Aycock et al., 2019; Botella et al., 2019; Marín-Spiotta et al., 2020). The compounded effects of feeling lost, trying to learn a hidden organizational culture, and dealing with a hostile work climate can ultimately lead to employee turnover and burnout (Anjum et al., 2018; Miner et al., 2019).

Similarly, people may be unfamiliar with language norms that are expected in these spaces that tend to privilege Western public speaking norms, also called Academic English (AE). AE is a standard of English which positions the language of the educated classes as more advanced and cognitively complex than others, situating AE as the only suitable language for educational achievement (MacSwan, 2020; Rolstad, 2014). Following the completion of education, AE is then expected in professional

settings and organizations as the only "professional" language[1].

In order to succeed in these traditional White language spaces, People of Color are required to codeswitch. Codeswitching is defined as "the use of two different languages or language varieties within a single conversation or written text" (Benson, 2001, p. 23). Situational code-switching "occurs when the languages used change according to the situations in which the speakers find themselves: they speak one language in one situation and another in a different one" (Wadhaugh & Fuller, 2014, p. 98). It is important to note, as argued by Johnson and colleagues (2021), that switching between modes of communication is a "neutral practice in itself and one that nearly everyone engages in during social interactions" (p. 2). However, for some groups, "these adaptations do not have the same psychological antecedents and consequences" (Johnson et al., 2021, pp. 2-3). Language is intertwined with identity, culture, race, and experiences (Baker-Bell, 2020; Young, 2009). Therefore, when we require people to engage in codeswitching to satisfy AE standards, we may be telling them that part of their identity is not allowed, accepted, or wanted in these professional settings.

In combination, gatekeeping norms and behaviors expectations, as well as expecting AE in organizations can lead people to feel overwhelmed and exacerbate feelings of imposter syndrome (McCullough, 2020; Newheiser & Barreto, 2014). While we continue to evaluate recruitment efforts for diversifying STEM, we may not be providing adequate resources to retain people in these career paths or shift the systemic factors behind these inequities (Miriti, 2019, 2020). Thus, gaps in preparation and a lack of additional professional development and workplace cultural training resources may result in people leaving STEM overtime if new interventions are not implemented.

Communication Centers (CCs)

College has been known to be a difficult time for many people as previous support systems (i.e., family, childhood friends, high school resources) may not be as readily available to provide technical or emotional assistance. One way universities have sought to alleviate some of the difficulties associated with getting a college degree is through the implementation of campus resources (e.g., career service center, writing center, math lab, oral communication center). While Communication Centers (CCs) across the country range in size, availability of services, and whom they serve (i.e., undergraduate, graduate, both), the underlying mission of CCs is to provide additional communication skill (e.g., public speaking, writing, graphic design) assistance, tutoring, and support to a campus community (Yook & Atkins-Sayre, 2012). To date, most of the research on CCs has focused on the ways in which CCs can function on college campuses. Scholars have sought to understand how CCs can build campus partnerships

[1] It is important to note that CCs often reify Western public speaking norms and AE standards in their coaching practices (Valenzano et al., 2014). Although arguing for de-standardizing AE in CCs is outside of the scope of this article, scholars (see Ladva, 2020; May & McDermott, 2021; Nguyễn, 2021) have argued for changing CC practices to allow for African American Vernacular English (AAVE) and Native and Indigenous speaking norms and drop the pretense of "neutral" language practices.

(Conners & Brammer, 2018), the transcendence of CCs through physical, virtual, and "spaceless locations" (Martin et al., 2017; Schweitzer, 2017), and the role of CCs in student professional development (LaGrone & Mills, 2020).

However, CCs may be a valuable resource outside of higher education spaces. Their inherent missions to guide and facilitate student professional development may be invaluable for professional organizations, especially in professional organizations with documented barriers to success. Although CCs are currently a uniquely higher education specific resource, could the support services they provide extend outside of the realm of higher education? Research has shown that CC tutors have important skills that can translate well outside of higher education (LaGrone & Mills, 2020) and may be helpful for engaging in community-based initiatives (Salah, 2021). However, to date, no research found has explored the ways in which CCs can partner with professional organizations or develop new positions entirely within organizations to enhance employee experiences and professional development. Thus, the research question guiding this narrative reflection is:

> RQ: How could CCs function in professional organizations based on my work and perspective as a summer intern at NASA?

Methodology

Narrative Methods

Through the use of narrative methods (Riessman, 2008) I reflected on my experience working as an intern at NASA during the summer of 2021. Narrative methods allow for researchers to make sense of, describe, and interpret experiences, beliefs, and practices through stories (Hall, 2011). Narratives provide a channel to internal personal inquiry, which provide insights into the continuity and coherence of human experiences. From these narratives, “people make sense of life” (Daiute & Lightfoot, 2004, p. ix), as narratives allow one to reflect on and connect their lived experiences to the larger cultural understandings to explore the nuances of their experiences and give voice to potentially underrepresented lived experiences. Ultimately, through narrative reflection, I sought to uncover how my experience at NASA could inform future CC and professional organization partnerships.

Positioning the researcher: My role at NASA

Starting in the summer of 2021, I began working remotely for NASA as an Intern Coaching Specialist for the STEM Pipeline for Equity, Inclusion, and Diversity (SPEID) program. The SPEID program's ultimate goal is to build a diverse future STEM workforce by engaging students from diverse backgrounds (e.g., Students of Color, students from a range of socio-economic backgrounds, etc.) in year-round, multi-year support and mentorship. This support includes technical, professional, and personal training and career coaching, as well as multi-dimensional mentorship (i.e., horizontal, vertical, and opportunities to mentor) to prepare students to work at NASA or work for an industry partner. Unlike any previous NASA programs, SPEID works with students ranging from middle school to those in doctoral programs to keep students engaged in the STEM pipeline.

The specific Intern Coaching position was described as a support specialist role for the inaugural SPEID program intern cohort. The job required virtual coaching of students to bring out the best in their technical work, written communications, professionalism, and presentation skills. Additional responsibilities of this role included developing the final curriculum for the SPEID program, one-on-one coaching sessions, and supporting interns success in oral presentations.

Prior to working at NASA, I spent one year as a communication center coach at the University of Alaska Fairbanks and one year as the Director of that Communication Center. Additionally, I have been teaching the basic public speaking course for over five years at two universities. I also served as an oral communication fellow at the University of Maryland within the graduate school writing center. Overall, a majority of my experience working in higher education has been through helping students refine their oral communication skills.

Therefore, throughout the summer, I used my previous CC experience as a tutor, instructor, and director to excel in this role holding one-on-one coaching sessions with interns to provide additional support, developing deliverables such as infographic tip sheets, and working to develop future workshops and trainings to help prepare SPEID interns to succeed in their NASA internships.

Data Collection

To engage in data collection, I first reviewed the original job posting I used to apply to the position and my subsequent work portfolio from the summer. Following this review of materials, I engaged in an overall reflection of my experience at NASA. In order to reflect on my experience holistically, I engaged in a two-hour freewriting session to document my reflection (Riessman, 2008). The next day I returned to my written reflection, adding any notes or details in a second one-hour reflection session.

Qualitative Analysis

Once I completed my reflection, I engaged in a three-phase thematic analysis. Using Owen's (1984) criteria of repetition, reoccurrence, and forcefulness, I looked for overarching themes that answered the research question. First, I read through the entire dataset to gain a foundational understanding of the data. Once I had a comprehensive overview of the dataset, I looked for frequent appearances of specific words and phrases (repetition), emotions (forcefulness), and similar concepts (reoccurrence). I then categorized these words, phrases, and concepts into codes. Finally, moving between the research question, the data, and my original codes, I reorganized the codes into overarching themes (Strauss & Corbin, 1990).

Findings and Discussion

When analyzing the original job description, my work portfolio, and my written reflections, three main themes emerged *places for translation and support, removing language value judgements,* and *building the value of communication.* Each theme begins with a vignette from my reflections to illustrate the theme using my narrative experience. Following each vignette, I then explicate each theme and intertwine the findings with relevant research to connect to the larger scholarly community.

RQ: How could CCs function in professional organizations based on my work and perspective as a summer intern at NASA?

Places for translation and support

I recall being asked "What's your code?" and felt dumb each time for never knowing the answer. I was always relieved it showed up automatically as part of my screen name in virtual meetings so I could read it off when asked, but I still do not understand what my code means in the larger context.

The code system refers to the department people work for at NASA. People often introduce themselves via their code in meetings, which provides additional information about them, but only to those who know the code system. While the codes were overviewed early in my onboarding, (I think?) I can never remember what code refers to what department. Who could I ask about the codes without showing incompetence and wasting people's time on this seemingly menial topic? I figure, "I will probably understand it eventually, I guess." I still do not know the code system or even know my own code. I feel like an outsider, even though I have a code. Ultimately, I think, I am a Communication scholar, what am I doing in a STEM organization?

The first theme that emerged from my reflection was the idea that CCs can act as translators and places of support across contexts. In the vignette above, I explain my feelings of confusion related to the language and acronym norms of NASA. When in meetings, everyone was so well-versed in these "codes", there never seemed to be a time to ask people to clarify the meaning without feeling like I was wasting their time. However, this knowledge provides vital unspoken information related to people's departments and job responsibilities. While the vignette above just highlights one example, there were additional times language and acronym norms left me feeling confused and out of the loop. For example, terms like raspberry pi (i.e., a series of small single-board computers), that I had never come across in my line of work or even within my hobbies, were common vernacular used by more senior members of the organization. From this reflection the first theme I identified was how CCs may act as places of translation and support to provide insights on the language and norms of an organization for new employees or interns. Many times hiring managers and mentors may assume people coming into an organization are aware of the current norms and practices because of their tenure and current understanding of the organization's functioning. People are then expected to implicitly understand cultural norms such as jargon and meeting standards, which can get lost in translation if not explicitly stated. This can also result in feeling overwhelmed and contribute to the "leaky pipeline." For example,

> scientists rarely receive any training for how to communicate effectively with other scientists. We are trained to speak to other scientists by watching our peers. We receive little or no formal training in scientific communication. What we do receive comes from our thesis

> advisors, who may (or may not) provide comments on an early version of our presentations. If you learn to speak well, you learn on your own. (Schwartzman et al., 2019, p. 85)

This places people at a severe disadvantage, as well as marks them "divergent" for engaging in language practices outside of AE or scientific community norms (Johnson et al., 2021). Partnering with or integrating CCs in professional organizations may provide a solution for teaching these implicit norms. In a safe, judgment-free space, CC coaches or tutors may be able to teach explicitly the norms of the organization and STEM that are tacitly expected, i.e., jargon, meeting norms, expectations for promotion, etc. Moreover, these spaces may serve as a safe haven for People of Color to drop their codeswitching self and embrace their authentic self in the workplace without repercussions.

Although people may argue that it is the role of human resources personnel to engage in this training of incoming employees, human resources is an advocate for the organization, not its employees (Kasperkevic, 2017; Yate, 2019). If an employee wants help continuing to grow as a writer or speaker, a human resources department may be biased against them on future promotion or firing cases as their first priority is the organization not its employees. CCs, on the other hand, could be a neutral third-party providing non-biased assistance and support to employees that does not count against them.

Removing language value judgements

> *I recall early in the summer providing feedback on an intern's script. This script would later be the basis for the intern's summer video about their work at NASA. I write "don't use 'don't', use 'do not.' Always remember to remove contractions from professional writing." I ponder my framing of the feedback now, "always remember to remove contractions from professional writing."* ***Always remember****, passively demanding the incorporation of this seemingly arbitrary norm I remember from grade school. Later on, I provide feedback on an intern's presentation performance, "be sure to look at the camera to make strong eye contact with the audience, consider using gestures to emphasize important points and just be confident."* ***Just do this, do that****, more demands to meet Western or AE speaking standards. Just be confident, as if it is that easy to request someone to codeswitch to fit into these norms while presenting to members of leadership and industry partners.*

In the vignette above, I recall how I provided feedback in line with AE standards while the interns were already experiencing high levels of public speaking anxiety related to the event they were preparing for. Today, under the guise of "professionalism", people are policed in the ways they present themselves via appearance, actions, and language (Frye et al., 2020). While movements such as the natural hair movement have sought to redefine what is considered "acceptable hair" in the workplace (Simeon, 2021) and COVID-19 is slowly changing the steadfast norm of business causal dress wear (Pons & Laudette, 2021),

language remains one of the last ways we seek to devalue difference. Currently, in society, value judgments are often placed on languages. However, research shows that no language is better or worse, more complex or easier than another (Rolstad, 2014; MacSwan, 2020). Similarly, language cannot be divorced from social context and intertextuality. Thus, I define this theme as the way in which CCs can provide the space to devalue language and potentially play a role in shifting some systemic barriers to access.

Oftentimes AE is the standard on college campuses and in professional organizations (Johnson et al., 2021). This valuing of AE above all other instances of English language variations is one of the last forms of acceptable racism in society. Only allowing AE continues to gatekeep access to STEM, as only those who are able to codeswitch into AE are then privileged to participate. However, there are a variety of internal and external factors that may hinder opportunities to learn and try AE, especially for students of diverse or historically minoritized backgrounds (Campos et al., 2021; Marín-Spiotta et al., 2020). These factors may be compounded for younger students who have less agency, although studies have shown that getting students into STEM at a young age is invaluable for maintaining interest and retention rates (Gretter et al., 2019; Hurst et al., 2019).

Ultimately, CCs may provide the space to remove value judgments from language. CC tutors or coaches are often taught how to work with students to frame their work to meet audiences where they are, "by listening empathetically to students' goals, implementing tactics that involve observing students' strengths and weaknesses, learning speakers' concerns and investments in their research projects, and adapting to address the needs of each individual client" (Ellefson et al., 2019, p. 59). Embracing the range of language practices employed by self and others can enrich the ways language is perceived inside and outside of work. Thus, the ways in which CC tutors or coaches are taught to frame their feedback is vital in creating the space for removing value judgments on language. For example, if providing feedback on removing "slang" from a presentation, which may, in fact, be AAVE, or asking a person to engage in grammar in accordance with AE, it is essential that coaches frame the feedback as context-specific. Coaches may be taught to frame the feedback as "within this particular context, these are the speaking and language norms that are expected." In this feedback, no one language is deemed better or more correct; one is just expected within this specific situational context. Pushing this even further, allowing “slang” or AAVE in the workplace by curbing comments about AE in presentations and the job interview process or in written statements can help deprioritize AE.

Furthermore, CCs can provide training regarding the systemic barriers and power disparities communicated through language, norms, and behaviors. In these training programs, they can act as places of support, educating people both on the ways in which “professionalism” can have racist, gatekeeping undertones (Frye et al., 2020). Training programs can use the works of Baker-Bell (2020) to dismantle Anti-Black Linguistic Racism through teaching both Black and non-Black employees about the historical background of AAVE and the ways in

which they can "critically interrogate and consistently resist white linguistic hegemony" (p. 64). From these trainings, those who are well-versed in language diversity and linguistic racism can begin to critically review organizational policies and practices for racist structures, such as interviewing practices and dress codes (Johnson et al., 2021). Collaborating with organizational members, grounded in empirically driven research, new equitable policies and practices can be written and implemented.

Building the value of communication

> *At the end of the summer I spent the last few weeks working with the interns to prepare a 30-second elevator pitch. These elevator pitches about their summer work would be given to the heads of NASA and invited industry partners who had funded this program. No pressure for the interns right? When they were told of this event, the anxiety and dread could be felt immediately through the screen.*
>
> *I created infographics, wrote out a template, and even recorded an example pitch. I scheduled individual practice sessions similar in structure and function to the many sessions I had coached at different universities' CCs. Mirroring my experience as a CC coach the improvement in confidence and preparedness from one or two feedback sessions with the interns was staggering. One intern in particular requested additional practice sessions and by the day of the pitch you could never tell this was the same intern whose public speaking apprehension was off the charts just a few weeks ago.*
>
> *Following the elevator pitch session, SPEID program coordinators received feedback that our interns were the most cohesive and engaging interns to present their work across the center. The NASA leaders and industry partners commended them on their public speaking skills. When this information was relayed to the interns they were ecstatic, glowing through their computer screens. I wondered, what else could CC training be useful for?*

In the vignette above, I reflected on some of the most powerful feedback the SPEID program had gotten on the interns performance from the top leadership. Their compliment on the interns' public speaking performance validated the many hours spent coaching and practicing. Ultimately, from this moment I saw the invaluable potential for a reciprocal partnership between CCs and professional organizations for building the value of communication.

Although scholars have been arguing for an increase of communication in science for decades, a significant gap remains (Beard, 2018; Schwartzman et al., 2019). Therefore, from my reflection, in this third theme I argue the partnership between CCs and professional organizations can help to continue to build the value of communication competence. The STEM disciplines and industry have a history of devaluing soft or "human" skills such as communication (Martin & Polmear, 2021; Robinson et al., 2019). The intense value placed on technical acumen, as well as its history as a highly White, highly male career path, has led to exclusionary, gatekeeping practices that may make it difficult for

historically minoritized students or students of diverse and historically marginalized backgrounds to succeed (Botella et al., 2019; Campos et al., 2021; Marín-Spiotta et al., 2020).

Further, for those who do make it into career paths, scientists have often struggled to communicate the scientific process, as well as significant findings and recommendations to lay publics. We continue to see this miscommunication today through the COVID-19 crisis as scientists and the general public struggle with intended vs. perceived messaging (Bazzi et al., 2021). However, the communication discipline and CCs may provide a viable solution. Previous research has explored the value of the CCs in facilitating the communication of science. For example, Lucas (2012) found that telling a story about a scientific subject breaks down information into common human experiences of learning. Other scholars have explored how CCs can work with STEM students and faculty to enhance students' communication skills to communicate future findings with the general public as well as provide faculty with pedagogical tools for demystifying STEM (Beard, 2018; Ellefson et al., 2019; MacArthur et al., 2020; Schwartzman et al., 2019). Thus, CCs are

> important sites for interdisciplinary collaborations, especially with the sciences. Because of their low-stakes, peer-to-peer focus, communication centers offer a unique space and social environment where scientists can develop their rhetorical sensibilities, explicating the discursive practices with which they are previously unfamiliar for the purposes of future recontextualizing based on encounters with various audiences and exigencies (Ellefson et al., 2019, p. 59).

Ultimately, I argue that by integrating CCs into professional organizations, specifically into STEM based organizations, CC staff can use the concepts and foundations of the communication discipline and oral communication tutoring to make science and scientific findings more accessible to (re)build trust in science.

Furthermore, campus resource centers are some of the first to get cut during a budget crisis. Oftentimes, CC directors must fight to maintain small operating budgets to keep their centers open. Partnering with professional organizations could highlight the value of CCs both inside and outside of college communities. First, professional organizations may be able to pay CCs for their consulting expertise. Second, these partnerships may highlight the value of CCs to campus administrators of the work that can be completed and the community networks that can be built with increased CC budgets. Finally, CC tutors and coaches may carry their skills with them once they leave their center but have no outlet to continue to utilize these skills. Developing new positions of CC directors or program leads within organizations allows students to use the skills they cultivated while working at CCs to contribute to innovative professional development opportunities.

Limitations and Future Research

This manuscript seeks to expand the potential role of CCs outside of their campus communities and argues that the skills taught to CC tutors or coaches have important implications

even after their tenure at the center. While this article provides some important extensions regarding the value of CCs in professional organizations, there were some limitations, and future research is needed to continue exploring this topic. Narrative methods have been criticized for its strong emphasis on the self as researchers determine the beginning and end points of the narrative, which have implications for the form and meaning of the story (Riessman, 1993; Priest, 2003). Although my experience has provided important insights from the perspective of someone with CC experience working at NASA in a specific oral communication support capacity, surveying or interviewing the interns who participated in the program would provide additional insights into the value of CCs in professional organizations. Further, I acknowledge that my experiences and subsequent analysis of my experiences are mediated through my identity as a white, cisgender woman in academia. More research considering the potential value of CC and professional organization partnerships is needed to get a more in-depth understanding of the benefits and challenges that may arise.

Conclusion

Overall, I seek to extend the position and value of Communication Centers (CC) outside of college campuses into professional organizations. CCs have the potential to provide tremendous value outside of the college setting, serving as spaces of support in professional organizations, deprioritizing "Academic English" language, and building the value of communication. Opportunities for learning new and challenging old norms and values does not have to remain within the time a person spends receiving undergraduate or graduate education. CCs in professional environments can provide the space to act as a translation resources for employees of diverse backgrounds into the scientific community. Partnerships between CCs and professional organizations can enhance the value of CCs and the skills developed at CCs. We must continue to innovate the ways in which we restructure higher education and professional organizations to support everyone by creating culturally affirming, inclusive, diverse, accessible, and equitable environments.

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