

## ARTICLE

# Perspectives on postbaccalaureate PEERS: Advocacy and empowering communities

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## Abstract

The impact of Covid-19 pandemic has dramatically shifted the education landscape between recent college and university graduates and pathways to graduate degrees. In my perspective article, I wish to share the challenges, reflections, and a call-to-action framework in ways we can support and advocate for postbaccalaureate persons excluded because of their ethnicity of race, or from a structurally marginalized community or *PEERS* through the lens of mindfulness, humility, reflection, and deep listening. Through cross-institutional community network support, culturally responsive mentoring of postbaccalaureate *PEERS* is one of the key dimensions in empowering communities toward health, environmental, and social justice.

## KEYWORDS

access, culturally-responsive mentoring, diversity, empathy, equity, inclusion, mindfulness, post-baccalaureate pathways

The Covid-19 pandemic dramatically reshaped the education landscape for recent college graduates navigating pathways to graduate degrees or science, technology, engineering, and mathematics (STEM) jobs.<sup>1</sup> During Covid-19, there have been examples of pivoting to remote online research experiences,<sup>2</sup> as well as reflective frameworks in navigating times of uncertainties during undergraduate mentoring and teaching settings.<sup>3,4</sup> One of the impacts during the height of the Covid-19 pandemic was the increased gap for many community college and undergraduate students to experience culturally responsive mentoring during face-to-face summer research experiences. To provide pathways to support students who have received their bachelor's degree, a postbaccalaureate program is a special training or mentorship program that aims to further support a student's curriculum vitae and gain mentored research, clinical, or experiential experiences that increases future graduate school opportunities. Since 2020, the National Institutes of Health (NIH) in the United States has had innovative postbaccalaureate research experiences for students who had

received their Bachelor's degree.<sup>5</sup> These postbaccalaureate programs offered through the NIH include the postbaccalaureate research education program (PREP). Furthermore, in 2021, the National Science Foundation (NSF) in the United States offered research experience for postbaccalaureate students or REPS.<sup>6</sup> More recently in 2022, the NSF developed the research and mentoring for postbaccalaureate in biological sciences (RaMP) postbaccalaureate programs that further increased additional access for students who graduated from bachelor's degree programs in response to the impacts of Covid-19.<sup>7</sup>

Over the past two decades, many peer-reviewed education research articles from many international perspectives demonstrated the importance of learning styles, peer support, and a welcoming environment to support both mentors and mentees in inclusive and equitable mentoring spaces.<sup>8–15</sup> In order to provide culturally responsive mentoring environments, one important theme include providing inclusive and equitable support across a network of institutions to meet at the level of different entry points community college and transfer

students. There are many entry pathways that community college and transfer students that may not be aware of summer research opportunities. In order to support and advocate for postbaccalaureate mentees from community colleges, Latinx, Native American and Historically Black Colleges and Universities (HBCUs), and research universities, the need to develop consensus and hear all voices in our communities is crucial for empowering our communities. As we enter into the post-Covid 19 era, there is even important need for deep listening and supporting PEERS<sup>16</sup> in postbaccalaureate pathways during times of heightened uncertainties and providing access for post baccalaureate PEERS to foster their social support, self-efficacy, providing mental health and wellness, sense of belonging and care, and professional development in career pathways. While there have been several recent National Science Foundation and National Institutes of Health programs to support postbaccalaureate students, there remain additional challenges related to student access to postbaccalaureate programs. In my perspectives article, I wish to share my experiences from the lens of an educator, mentor, and advocate for students (Table 1), and present a vision of potential future advocacy programs that connect PEERS<sup>16</sup> in empowering their communities.

Developing genuine and inclusive collaborations and partnerships lies at the heart of cross-institutional partnerships (CIPs). For instance, providing spaces to deeply listen and reflect on the mission and vision of a postbaccalaureate program is important and is aligned to support and advocate each member of a learning community. Furthermore, as we navigate each moment over the past few years of Covid-19 pandemic and the future years ahead, we also need to support equity of voices for each mentor and mentee. Through deep listening and reflection-in-action and on action, we can collectively navigate moments of uncertainties and find creative approaches to address challenges and barriers.

Navigating through barriers and challenges also requires one to process a range of emotions during

vulnerable moments. Examples of vulnerable moments facing postbaccalaureate PEERS includes the following: inequities in funding access to graduate pathways; mental health support; supporting undocumented and PEERS who qualify for consideration of deferred action for childhood arrivals (DACA); access to childcare for mentees while completing a postbaccalaureate research experiences; incarcerated postbaccalaureates considering graduate pathways; and providing access to a network of mentors across community colleges, universities, and career pathways. The heightened levels of anxiety during times of uncertainties over the past few years has also impacted how we mentor undergraduates and postbaccalaureates. In the next section, I wish to provide a vision of inclusive and equitable frameworks to ensure deep listening and reflection during the post-baccalaureate mentoring process.

## 1 | INCLUSIVE ENVIRONMENTS TO SUPPORT EQUITY OF VOICES ACROSS COMMUNITIES

Centering on themes of gratitude and reciprocity are important in not only supporting postbaccalaureate PEERS, but also empowering their communities. In order to acknowledge vulnerable moments and range of emotions during reflective discussions in cross-institutional partnerships to support postbaccalaureate PEERS, one of the approaches I use is a REACH framework toward environmental, health, and social justice discussions (Figure 1). REACH stands for the following:

1. Reflect in and on action.
2. Emotional landscape experience, acknowledgement, and processing.
3. Awareness in each moment.
4. Connecting with empowering communities through humility, gratitude, and reciprocity.
5. Humility.

By integrating themes on mindfulness and social justice presented by Dr. Rhonda Magee,<sup>19</sup> the above reflective framework provides awareness of emotions during each experience, and offers opportunities to reflect and identify action items moving forward. The above REACH framework also complements existing mentoring approaches and awareness of the scientist and principal investigator discourses for postdoctoral, undergraduate, and postbaccalaureate mentees.<sup>3,10,20–22</sup> While discussing important topics on diversity, equity, inclusion, diversity, and access, I also provide resources since the Covid-19 pandemic that have been helpful in shaping conversations with colleagues or resolving conflicts between mentor and mentee

**TABLE 1** Statement of positionality.

Bob Kao uses pronouns he/they and is a nonbinary second generation Taiwanese-American from a middle class family background. Living on the traditional lands of the 14 Confederated Tribes and Bands of the Yakama Nation, I am deeply grateful to my colleagues, as well as the University of Washington's Native Education Certificate Program in 2016–2017 and the importance of culturally responsive and sustaining teaching and mentoring.<sup>17,18</sup> In addition, the American Society for Cell Biology's Faculty Research and Education Development (ASCB FRED) program in 2018 was particularly important for me in learning the importance of networking and mentoring



**FIGURE 1** REACH framework in cultivating discussions in cross-institutional partnerships. Five guiding principles in diversity, equity, inclusion, justice, and access (DEIJA) discussions in cross-institutional partnerships. Reflect in and on action; emotional landscape experience, acknowledgement, and processing; awareness in each moment; connecting with empowering communities through humility, gratitude, and reciprocity; and humility.

**TABLE 2** Resources in facilitating cross-institutional partnership discussions.

Peace and Power, Nursing practices that can be broadly applied to all disciplines to ensure equity and inclusion during community discussions<sup>23,24</sup>

Sociocracy, a framework to ensure equity of voice during discussions and includes a round to hear all voices to collectively decide on proposals and consent to decisions<sup>25</sup>

Mindfulness and Social Justice, Dr. Rhonda Magee presents approaches to stay centered and processing emotions during important discussions that may trigger range of emotions<sup>3,4,18,19</sup>

Reflection frameworks, reflection in action and reflection on action approaches as reflective lens to provide learning framework during challenges and seeks opportunities and creativity to navigate through barriers<sup>4,18,26,27</sup>

during a research experience (Table 2). For example, faculty and staff may use Robert's Rules of Order to efficiently run through a committee meeting.<sup>28</sup> Robert's Rules of Order is a set of governance rules that aim to provide efficiency in moving proposals through parliament or a governance structure. However, using Robert's Rules of Order does not provide all members in the committee to hear all voices. During Robert's Rules of Order, usually a few

members of the committee are dominant and meetings tend to be hierarchical for the sake of efficiency to vote on a proposal, and lack of consensus building. Furthermore, there can also be contentious discussions that lead to people talking over other colleagues that do not have a chance to share their insights or perspectives. We need to consider other frameworks that ensure equity of voices during meetings and community gatherings.

As a community, we need to ensure all diverse voices are heard and have representation in shared leadership. There are at least two examples of frameworks that provide all voices to be heard: Peace and Power<sup>23,24</sup> and sociocracy.<sup>25</sup> For example, Peace and Power was developed within the nursing field and includes a check in, shared leadership roles, and a closing round.<sup>23,24</sup> Furthermore, Peace and Power has an important section on a multidimensional approach called conflict transformation that aims to provide solidarity and greater understanding and respect. Another example is sociocracy—another framework that uses a dynamic governance structure, and circle discussions include a check in round, and each agenda item has a round to hear all voices and perspectives.<sup>25</sup> Clarifying questions are included and new proposals have a consent round and each circle meeting concludes with a closing round. Furthermore, when shaping new proposals, sociocracy or dynamic governance uses rounds of clarifying questions, quick reactions, and consent when there are no paramount objections. Since the fall of 2019, I have used a hybrid approach connecting Peace and Power and sociocracy in our Pacific Northwest Partnerships and Heritage University National Science Foundation Research Experiences for Undergraduates, and was immensely helpful for participating mentors to discuss topics and enable transfer students and community college students, as well as postbaccalaureate students participate in mentored research experiences. We also collectively discussed how we would navigate during the challenges of Covid-19 pandemic and ensure students and faculty from either quarter or semester systems all can participate through culturally-responsive peer mentoring. Through reflection, humility, and awareness, I am able to adapt, change, and pivot during moments of challenges during Covid-19. Furthermore, I am constantly developing self-awareness and connecting with colleagues to advocate for postbaccalaureates in research experiences. Finally, over the past 6 years, examples of action items to advocate and support postbaccalaureate PEERS (Table 3). In addition, there is not only a need to address gender disparities in postbaccalaureate educational pathways,<sup>33</sup> but also greater opportunities to end structural racism across all disciplines. From the May 2023 report from the National Center for Education Statistics, the estimated total number of

**TABLE 3** Call to action in advocating for postbaccalaureate PEERS.

Private funding for supporting undocumented postbaccalaureate PEERS in a research experience (similar to the NSF RaMP, NSF REPS, or NIH PREP programs)

Expanding private funding for undocumented PEERS for equivalent International research experiences and research opportunities for PEERS living with disabilities. These private funded programs can build off from the NSF's International Research Experiences<sup>29</sup> and NSF's research opportunities for people living with disabilities<sup>30</sup>

Culturally responsive and sustaining mentoring workshops and resources for mentors and mentees

Cross-disciplinary networks to provide opportunities and access to postbaccalaureate programs to graduate and career disciplines

Connecting postbaccalaureates with peer-mentors in linking cultural wealth with empowering communities

Equitable loan forgiveness program at the national and international level through private funding to allow access to graduate STEAM pathways for postbaccalaureate PEERS

Expanding programs, such as NIH's Ending Systemic Racism<sup>31</sup> and advocacy and allyship for structurally marginalized communities<sup>32</sup>

post-baccalaureates increased to 3.2 million during the global pandemic in 2021, and predicted postbaccalaureate numbers will augment to almost 3.4 million students.<sup>34</sup> In the Fall of 2021, the number of postbaccalaureate PEERS included the following: over 14,000 Native American, over 358,000 Latinx, and over 382,000 African American students.<sup>34</sup> Furthermore, greater opportunities for undocumented and DACA postbaccalaureates who have disabilities for both national and international research experiences modeled after the NSF would provide greater access to internship opportunities.<sup>29</sup> In the future, it will be important to develop an integrated international post-baccalaureate consortium for mentors and mentees to develop partnerships and listening and learning communities in supporting all pathways in postbaccalaureate education settings. These educational settings not only include STEM but also the health sciences, nursing, and humanities and arts pathways too. There are many opportunities for cross-disciplinary connections across the sciences and humanities.

In summary, empowering the postbaccalaureate PEERS community requires a committed learning community of mentors embracing culturally sustaining mentoring of postbaccalaureate mentees. Near-peer faculty, staff, and adjunct educators and mentors and hearing all voices of mentors and postbaccalaureate mentees are important as we collectively support and advocate for our

postbaccalaureate PEERS. Through shared leadership and cross-institutional partnerships, our postbaccalaureate PEERS are vital to our society as we strive towards health, environmental, and social justice.

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## CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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