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Article

Belonging Uncertainty in Health Professions Education: A Heuristic Inquiry into Minoritized Learners' Experiences

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Abstract: Belonging is a fundamental human need that supports feeling connected, safe, valued, and accepted within learning environments. Inclusion and belonging are associated with positive educational outcomes, including academic engagement, motivation, retention, and overall well-being. However, learners from minoritized identities often face challenges in feeling like they fit in, matter, or truly belong, a phenomenon described as belonging uncertainty. My personal history and experiences as a Black biracial woman have shaped long-standing questions about where and how I belong. Motivated by these questions, the second author and I surveyed 61 co-researchers, learners from minoritized identities in health professions education, to understand their experiences regarding barriers and facilitators to inclusion and belonging. Using survey findings as a catalyst, I then engaged in heuristic inquiry, a phenomenologically rooted methodology that emphasizes deep personal exploration and meaning-making. Grounded in my own lived experiences as a former minoritized learner and now health professions educator, my analysis comprised a modified, four-phase inquiry: Immersion, Incubation, Illumination and Explication, and Creative Synthesis. Several insights emerged and evolved during my inquiry, including how inclusion and belonging are shaped by relational and structural factors, how resilience develops through navigating moments of challenge, and how belonging uncertainty leads to questions about who is valued and accepted. I outline key implications to foster inclusive and supportive health professions education, including critical reflection and reflexivity on assumptions, beliefs, and social position, the use of equity-driven pedagogical approaches, and intentional practices that cultivate learning environments where learners feel valued, recognized, and supported.

Keywords: Qualitative Research; Personal Narrative; Social Inclusion; Minority Groups; Health Professions Education

1. Introduction

I (the first author and primary voice of this paper) identify as a Black biracial woman. I was born and raised in a rural part of the Western United States with my two younger siblings. Throughout my childhood, my parents both worked within various public and community social service settings supporting children and families, which influenced much of my current passions and understanding of systemic inequity and access. As an adolescent and young adult, I struggled with my racial identity. Being biracial, I often felt I was negotiating this feeling of "in-

betweenness". Moreover, being one of the few people within my social environment who looked like me added to these complexities. This struggle to feel and understand where and how I belong has been, and continues to be, something I experience even now. When pursuing my doctorate in occupational therapy, this theme of uncertainty about where and how I fit in persisted and shifted as I was forming an identity within a new professional context. I have worked in a variety of community-engaged settings with children and youth, and currently work as an occupational therapy educator and researcher.

Given my social position and experiences, I have become increasingly interested in the concepts of inclusion and belonging, particularly as they relate to minoritized learners in health professions education. My familiarity with the literature in this area has reinforced my understanding of inclusion and belonging as multi-dimensional and complex, fundamental human needs [1–4]. Recent reviews of the literature note key factors or determinants that impact sense of inclusion and belonging in higher education, including feeling connected to peers, staff, and the institution; feeling safe and part of the community; feeling valued and accepted; and experiencing an institutional commitment to values such as connection, diversity, and inclusion [5–7]. Research has further shown that inclusion and belonging are positively associated with academic engagement, motivation, retention, institutional and social capital, academic performance, and overall well-being [5,8]. Despite these benefits, learners from minoritized identities often face persistent challenges in feeling like they fit in, matter, or truly belong, a phenomenon described as belonging uncertainty [9,10]. These challenges arise from factors such as social exclusion, limited opportunities to connect, and experiences of discrimination and bias [5].

Shared questions between myself and the second author about the lived experiences of minoritized learners in health professions education led us to survey learners from various identities (i.e., learners from minoritized racial/ethnic groups, learners with disabilities, learners who identified as LGBTQIA+, learners who were first-generation college students, learners who were gender minorities within their academic program of study) who were currently pursuing a degree in health professions education. The ultimate aim of this study was to illuminate these lived experiences through the critical reflection of my own experiences and positionality using heuristic inquiry analysis. Heuristic inquiry is an approach that can be used when both the researcher and participants (or co-researchers) have experience with the same phenomenon, in this case, navigating health professions education as a learner from a minoritized identity.

Heuristic inquiry emphasizes connectedness and relationship with a phenomenon being studied, in which the researcher must have a direct, personal encounter [11]. I am intimately connected to this phenomenon and experienced barriers to inclusion and belonging (i.e., discrimination, racism, microaggressions, and tokenism) during my didactic and clinical educational training, influencing both my interest in and conceptualization of this study. Now, writing from the perspective of an educator within health professions education, I have a continued relationship with this phenomenon, consciously (and subconsciously) shaping its understanding. This heuristic inquiry required my own deep self-reflection, autobiographical exploration, and personal transformation, as often occurs with this type of inquiry [12].

In this study, I reflect on my own experiences and social position in the context of learners' experiences and make intentional connections to my practice as an educator to foster quality learning. Said differently, this study moves beyond extractive engagement, which is one-sided and transactional, solely to gather data and understanding, toward more authentic engagement. Specifically, it emphasizes transparency and underscores how one may situate themself as an asset to facilitate more equitable learning through shared power and design-making [13].

Positionality of the Second Author

I (the second author) am a White man with multiple privileged identities who has endeavored imperfectly throughout my academic career to be a more inclusive educator and ally to minoritized learners and colleagues. I served a secondary role in this study, who, while not experiencing discrimination, have witnessed microaggressions and acts of exclusion during my career as an occupational therapy educator and mentor. I did not engage in the heuristic inquiry phase of this study.

2. Methods

The overall study comprised two parts: first, a survey gathering basic demographic information and qualitative responses regarding experiences related to inclusion and belonging from a broad representation of minori-

tized learners across various health professions disciplines; and second, a modified heuristic inquiry based upon my own experiences as a minoritized learner, and now, educator in health professions education. While developing the research question and conducting data collection and analysis for the first part of the study, my personal connection to the data resulted in a desire to reinterpret it through a more introspective and personal lens. Traditional qualitative approaches emphasize a degree of distance from the data as a way to minimize the extent to which researchers' beliefs, values, and experiences inadvertently shape interpretation [14]. Although researchers are increasingly encouraged to articulate their positionality (e.g., gender, race, personal experiences, values, beliefs) within the research design [15], traditional qualitative research continues to prioritize neutrality and systematized processes in pursuit of capturing objective realities.

While the results of the learner survey findings stand on their own as a meaningful contribution, offering rich and nuanced insights related to inclusion and belonging within teaching and learning contexts, I sought an approach that would allow for greater emphasis on meaning-making through my personal and professional becoming. My heuristic inquiry involved engaging with both the co-researcher narratives gathered through the initial learner survey and my own tactic knowing as sources of insight. Selecting this methodology allowed me to work collaboratively with co-researcher narratives while engaging in an ongoing process of self-dialogue. Moreover, heuristic inquiry culminated in a creative synthesis of new understanding, transforming what might traditionally result in final themes or categories into an expressive truth emerging from my own deep transformation through living and examining the research question. This study was approved by the Institutional Review Board (IRB) at a U.S. university (protocol code 202107170). All co-researchers consented to participate via a consent information sheet, which was included in an initial recruitment email.

2.1. Part 1: Survey with Learners

Heuristic inquiry allowed me to move beyond describing the experiences shared by learner participants by relating them to my own. In this way, the learner survey served as a catalyst for the study, while the heuristic inquiry remained its central focus. Accordingly, for the purposes of this paper, I describe broad survey distribution procedures and initial content analysis, followed by a brief excerpt of the learner narratives which informed my inquiry.

Learners from minoritized identities pursuing health professions education at a large academic medical center in the Midwestern United States were surveyed in the years 2021–2022 via an anonymous online Qualtrics® survey to gain a greater understanding of what contributed to or acted as a barrier to their sense of inclusion and belonging. The survey included questions across six overarching categories: Curriculum, Course Content, and Assessment; Classroom and Clinical Instruction; Learner Policies and Guidelines; Faculty and Peer Interactions; Physical Surroundings, Spaces, or Infrastructure; and Program Expenses and Financial Considerations. The final sample included 61 learners (N = 61). A total of 53 learners selected to disclose their age in the survey, of whom the average age was 24.81 years (n = 53; SD = 2.66). **Table 1** includes the demographic details of the learner participants.

Table 1. Learner Demographics[a].

Variable	n	%
Program of Study		
Audiology (AuD)	5	8.20
Deaf Education (MS)	1	1.64
Doctor of Medicine (MD)	8	13.11
Doctor of Occupational Therapy (OTD)	21	34.43
Doctor of Physical Therapy (DPT)	2	3.28
Human and Statistical Genetics (PhD)	1	1.64
Master of Science in Occupational Therapy (MSOT)	9	14.75
Medical Scientist Training Program (MD/PhD)	6	9.84
Molecular Genetics and Genomics (PhD)	3	4.92
Neurosciences (PhD)	2	3.28
Plant and Microbial Biosciences (PhD)	1	1.64
A Program of Study Not Listed	2	3.28
Race/Ethnicity		
American Indian or Alaskan Native	2	3.28
Asian American	16	26.23
Black or African American	5	8.20
Hispanic, Latina/o, or Spanish Origin	7	11.48
Native Hawaiian or Other Pacific Islander	1	1.64

Table 1. *Cont.*

Variable	n	%
White	39	63.93
A Race/Ethnicity Not Listed	2	3.28
Gender Identity		
Cisgender Man	4	6.56
Cisgender Woman	49	80.33
Non-binary	6	9.84
Transgender Man	1	1.64
Transgender Woman	1	1.64
A Gender Identity Not Listed	0	0.00
Sexual Identity		
Straight	27	44.26
Bisexual	17	27.87
Gay or Lesbian	5	8.20
Queer	14	22.95
A Sexual Identity Not Listed	5	8.20
Disability Status		
A sensory disability or impairment (e.g., vision, hearing)	1	1.64
A motor disability or impairment (e.g., tic disorder, tremor)	5	8.20
A learning disability or impairment (e.g., ADHD, dyslexia)	14	22.95
A mental or emotional health disorder or challenge	21	34.43
A long-term or chronic medical condition (e.g., epilepsy, cystic fibrosis)	3	4.92
A short-term or temporary impairment or illness (e.g., broken ankle)	2	3.28
A disability or impairment not listed	2	3.28
I do not identify with a disability or impairment	26	42.62
First-Generation		
Yes	16	26.23
No	45	73.77

Note: [a] Participants could select one or multiple options for race/ethnicity, gender identity, sexual identity, and disability status. All survey questions were optional.

We derived quantitative, descriptive, and frequency statistics from the demographic questions using Excel and data analysis features in Qualtrics®. Qualitative data were analyzed by me and the second author using basic content analysis [16,17]. The two of us independently read through qualitative survey responses line by line to code key concepts, while preserving and prioritizing participants' own words and phrases. Following independent analysis, we met to compare findings, reconcile differences, and cluster related codes. The finalized codes were then sorted into six a priori thematic categories: Curriculum, Course Content, and Assessment; Classroom and Clinical Instruction; Learner Policies and Guidelines; Faculty and Peer Interactions; Physical Surroundings, Spaces, or Infrastructure; and Program Expenses and Financial Considerations. Exemplary quotes highlighting learners' exact words as they relate to select thematic categories are highlighted below.

2.1.1. Curriculum, Course Content, and Assessment

A common theme discussed within the category of Curriculum, Course Content, and Assessment was related to diversity and representation. Several learners discussed the lack of diverse case studies and discussions, while others shared that when diverse learning examples were used, they tended to perpetuate stereotypes or prejudice of minoritized groups.

- "I understand for learning purposes, sometimes it's easier to present the same simple/straight forward case studies/discussions… for some of us, that consistent simplicity oftentimes covertly (and sometimes, overtly) excludes experiences/perspectives that are more familiar to us."
- "Readings that include prejudiced assumptions about weight are very alienating as a fat woman with a family history of eating disorders. The science behind weight and health is more complicated than our healthcare system acknowledges, and it's hard to focus on and learn from readings that describe bodies like mine as inherently diseased and disgusting—or worse, a burden to society…"
- "Some courses that are more rooted in anatomy and movement haven't included case examples of neurodiverse people and they also emphasize adipose tissue as being an issue."
- "There have been times when disability has been portrayed negatively, when it gets talked about directly at all."
- "Curriculum and course content have been inclusive of my identity and acknowledged the existence of gender & sexual minorities."
- "The curriculum has used diverse examples of clients from the beginning and gives us practice of using a

strength-based approach with our future clients."

Another common point of discussion was related to the structure of assessments, expectations, and competency standards.

- "Most curriculum seems inclusive, but the assessments and exams frequently mention eye contact and other white, Eurocentric, neurotypically based ideas of "professionalism."
- "…Assessments are still very rigid in their structure and do not allow for different student strengths."
- "None of this has been inclusive of people with learning difficulties or even Zoom fatigue. Time given on exams and assessments is short."
- "Timing is too strict and nonnegotiable."

2.1.2. Classroom and Clinical Instruction

When discussing Classroom and Clinical Instruction, several learners again highlighted where diversity and representation were lacking, as well as instances where they appreciated the current efforts related to the breadth of examples and expertise brought into the learning environment.

- "It's a little ironic to have a predominantly white teaching staff saying why DEI is important; I think it's great and shows a lot of promise, but also it helps to hear it from Black and Brown instructors."
- "A course on pathogenesis displayed images of (mostly people of color) suffering from various diseases, such as lymphatic filariasis and malaria, which conveys that the instructors feel like the suffering of people like me is simply a learning tool."
- "I really appreciated when we had test and quiz questions that featured sexual and gender minority patients, especially when it had nothing to do with the complaint! It normalizes SGM/LGBTQ+ patients and de-emphasizes the pathologization of queerness (such as having the student immediately jump to thinking it's related to an STI)."
- "We have diversity in our staff and staff who all seem to be up to date on DEI."
- "I think the program has done well to bring in diverse voices."

Learners also brought up instances where insensitive and exclusionary comments or slights during instruction and classroom learning were a concern.

- "Sometimes classroom instructors used terms like functioning labels in their lectures, which I found uncomfortable because I have a sibling with ASD."
- "Faculty really need to work on using correct pronouns."
- "Watch out in group projects, the small groups are where exclusion and mean comments tend to happen."

A few learners also commented on situations/strategies that either supported or hindered diverse learning needs.

- "Virtual was horrible in person is better but shorter classes with more breaks maybe - or more options to move around the class."
- "I am able to crochet in class to help me pay attention."
- "Lectures have been providing new information in digestible units and comfortable lectures."

Lastly, a well-represented theme related to Classroom and Clinical Instruction was instances where instructors created safe environments for sharing and demonstrated a level of approachability, genuine concern, and care.

- "I really enjoy classroom discussions around taking action in social issues we are facing now and will face in the future. I love it being an open discussion where any student can speak up if they are comfortable and want to."
- "I think the instructors for the course in my program have all been pretty approachable. They are passionate about the subject(s) being taught and I get a sense that they want to see the students succeed."
- "Some instructors take the time to ask about students, our names, and who we are as people beyond the classroom; those instructors seem to genuinely care about us."

- "The instructors always talk about how the classrooms are safe/brave space and are meant for leaning."
- "Anonymous feedback was helpful."

2.1.3. Faculty and Peer Interactions

Diversity and representation through shared experiences and identities came up as a common theme when learners discussed Faculty and Peer Interactions. The concept of belonging uncertainty—questions about where and how learners fit in—became evident through their responses.

- "I have seen very few faculty members who I identify with, which makes me question whether I should be here."
- "I felt underrepresented in terms of coming from a low-income family."
- "Majority of peers in the [specific health professions program] come from extremely wealthy backgrounds, which makes it hard for me to find people I relate to, or who have shared experiences with me."
- "With many peers, religion and faith were core components of their identity. For me, this is less important, so I felt like I did not always 'fit in.' "
- "I'm not sure I belong in this system and that is definitely affecting my relationship with my PI… It's a very confusing setup and not clear for 1st gen students at all!"
- "I often connect well with faculty because I'm actually closer in age to the faculty! Sometimes I have had trouble forming connections with peers, they have a social thing going on that I get left out of."

Learners described facing both subtle microaggressions and overt racist or discriminatory remarks from instructors (i.e., faculty, attendings, supervisors) and peers. They also emphasized that instructors often failed to acknowledge or respond to these incidents when they occurred.

- "Some people seemed to have judged based off of clothing/haircuts and been rather rude."
- "Professors and classmates assume pronouns and identities."
- "I had 3 faculty members make insensitive/ignorant racist comments. However, I had just as many faculty make supportive comments."
- "…When the program began and we were doing icebreakers, I probably got misgendered 50 times a day."
- "The very few times an instructor has facilitated a nuanced discourse within the classroom/program, many of my classmates have reacted poorly. Witnessing their reactions is very disheartening, as they may not necessarily know those controversial hypothetical scenarios are actually real life for some of us. I understand the instructors cannot necessarily control how my classmates and other students react/respond. However, providing more backing/firm support for these "exercises" would potentially make them less disheartening."
- "Some attendings are good about always correcting residents if they say a patient's incorrect pronouns, whereas some residents/faculty consistently misgender patients and other faculty/staff/residents do not make an effort to correct them."
- "Supervisors/faculty who did not stand up for me when faced with microaggressions. For instance, a patient made a comment about my race and my clinic supervisor looked at me and said nothing."
- "Great faculty interactions, peer interactions could improve."

The second author and I analyzed comparable data across all six thematic categories. Although some learners shared positive experiences related to their sense of inclusion and belonging, the majority of the data highlighted significant challenges and areas of concern. After completing full content analysis, I began the heuristic inquiry analysis.

2.2. Part 2: Heuristic Inquiry Analysis

The learner narratives were crucial in informing the central focus of this study, serving as a foundation for further exploration through heuristic inquiry [11]. Although falling under the umbrella of phenomenological research, heuristic inquiry goes beyond describing experiences of a given phenomenon from the perspective of a detached researcher and towards a focus on personal meaning and significance [11].

Heuristic inquiry consists of several phases, but these are not meant to be fully independent or linear steps;

rather, they interact and overlap, working together as an integrated whole [12]. That said, for clarity's sake, I used a modified method [11,12] comprised of four key phases: Immersion (my own intimate engagement with the phenomenon of study), Incubation (a period of 'stepping away' from the data and topic in a focused, analytical manner), Illumination and Explication (a phase of discovery and 're-engaging' with the data in the context of my own experiences; noticing aspects that may have been previously more implicit and subsequently 'writing my story' in context), and Creative Synthesis (a creative, integration of fragments and components placed together based on my journey of meaning-making and discovery) [11,18].

3. Results

3.1. Phase 1: Immersion

The first phase of my heuristic inquiry was Immersion, a process that required deep engagement with the phenomenon under study, in this case, the everyday experiences that either supported or hindered my sense of inclusion and belonging as a minoritized learner in health professions education. A hallmark of heuristic inquiry is positionality. The immersion phase was one I experienced deeply through my own subjective reality. My positionality served as an essential element of this process; a convergence of the experiences and identities that have shaped who I am: my upbringing in the Western United States, my role as the eldest of three siblings, my parents' work in social services, and the resulting passion I developed for understanding systemic inequities. At the forefront was my racial identity and the lifelong negotiation of an enduring sense of "in-betweenness," accompanied by questions of where and how I fit in. During this phase, I positioned myself as both researcher and subject, drawing upon my lived experiences as a Black biracial woman and former occupational therapy student. Through ongoing self-dialogue, recounting of memories, and turning inwards, I identified and recounted several experiences that illustrate my intimate connection to the phenomenon under study.

Being one of the few students of color in my program came with unique challenges within both peer and faculty interactions. Oftentimes, I encountered more covert, microaggressive experiences. For example, feeling misled about the diversity of the institution and navigating microaggressive comments during conversations. Other times, I remember feeling like a token within my institution. The subtlety of these experiences, while I believe largely unintentional, created a lot of cognitive fatigue, as I would attempt to decipher meaning, and at times, question my own reality and feelings. I also experienced a myriad of overt discriminatory exposures that influenced my overall feelings of inclusion and belonging; for example, I navigated racist and discriminatory comments during clinical fieldwork placements. In addition, the context of time and socio-political factors influenced my experience as a minoritized learner. For example, I remember how difficult it was to focus on my learning amidst the 2020 murder of George Floyd and subsequent public unrest.

Many of my experiences as a minoritized learner pursuing health professions education were also very positive. I was well supported by many faculty and peer relationships, which included open and safe spaces to discuss these challenges. Specific examples I recall are faculty reaching out, asking, "How are you doing? Are you okay?" A simple but impactful way that helped me feel seen and valued. I also had the opportunity to connect with peers through student diversity groups and other social engagements, which helped foster a sense of community and connection.

3.2. Phase 2: Incubation

The next phase was Incubation, a period of stepping away from the data and removing it from the researcher's intense, analytic gaze. This phase is a kind of resting phase that allows insights to form beneath the surface, outside of deliberate analysis.

For me, this phase unfolded quite naturally. As we progressed through the research process, my attention gradually shifted away from the detailed, task-oriented work of managing and coding the learner data. In addition to these shifts in the logistical aspects of data analysis and project management, I also experienced several personal and professional transitions that deepened the incubation process. We initially developed the research question and began designing the learner survey while I was still fully immersed in the phenomenon as a learner myself. Shortly after graduating, we began surveying learners between late 2021 and early 2022, during which time I was working as a clinician.

Finally, in 2022, I transitioned into my current role as an occupational therapy educator, from which we have

continued this work. This progression from learner, to clinician, to educator mirrored the span of the project's conception, development, and implementation, naturally creating moments of distance as I navigated and recalibrated through each role.

3.3. Phase 3: Illumination and Explication

The next phase was Illumination and Explication, a period of discovery where I re-engaged more closely with the phenomenon and then began to articulate and "write my story" in the context of the participant (or co-researcher) data. During this phase, the researcher experiences growing self-awareness and self-knowledge. This phase of inquiry may also evoke the opening of wounds and passionate concerns [11]. Furthermore, this phase may take place in a single moment, or it may take place in waves of awareness over time [19]. Without adhering to a strict protocol, I engaged with the data on several occasions through a close, line-by-line reading, allowing space for thoughtful reflection on how it intersected with my own experiences. Concurrently, I translated these reflections into writing, forming the narrative presented in this manuscript.

Some things I started to discover as I re-engaged with the data included glimpses of personal growth and self-awareness, especially now as I was viewing the data from the perspective of an educator. I also had this increased awareness of a deeper understanding of strength and resilience in myself and the co-researchers, particularly in navigating moments of challenge. A component of my illumination or discovery was also a growing awareness of where these same questions of inclusion and belonging still surface in my current role as an educator in health professions education.

I also noticed that as I made sense of the data, it wasn't occurring in a single moment, but rather it was happening in waves of awareness over time. Each time I returned to the data, it revealed new insights, not because the data had changed, but because I had. Specifically, over time, my professional roles and the world itself have changed and continue to change (e.g., the COVID-19 pandemic, socio-political shifts, becoming an occupational therapy educator), all influencing how I understand this phenomenon. With this idea in mind, I have summarized the current thematic integration of my insights with that of the learner co-researcher data, which I believe will continue to evolve and change. Currently, I've arrived at these overarching themes:

- Inclusion and belonging are largely shaped by relational and structural dimensions, not solely by representation and identity visibility.
- Belonging uncertainty raises questions about who is valued and accepted, likely impacting professional identity development and sense of belonging in future professional roles.
- Resilience and adaptation are acquired through navigating adverse or challenging experiences; these are critical skills to support well-being, success, and persistence.
- Sense of inclusion and belonging may serve as protective factors for minoritized learners in health professions education.
- Understanding is shaped through time as a result of ever-changing personal growth, professional transitions, and broader socio-political contexts.

Table 2 provides an example of how I integrated learners' experiences with my own personal reflections to identify overarching themes and derive meaning from the data.

Table 2. Integration of Learner Experiences and Personal Reflections to Derive Meaning.

Learner Experience	Personal Reflection	Thematic Integration
"I have seen very few faculty members who I identify with, which makes me question whether I should be here." "Witnessing their reactions is very disheartening, as they may not necessarily know those controversial hypothetical scenarios are actually real life for some of us." "Supervisors/faculty who did not stand up for me when faced with microaggressions. For instance, a patient made a comment about my race and my clinic supervisor looked at me and said nothing." "I'm not sure I belong in this system and that is definitely affecting my relationship with my PI." "Sometimes classroom instructors used terms like functioning labels in their lectures, which I found uncomfortable because I have a sibling with ASD." "Professors and classmates assume pronouns and identities."	Participants describe this questioning of whether they should be here or whether they belong. They discuss discomfort with experiences in course instruction or social interactions due to experiences of lack of inclusive language or general unreceptivity from peers, educators, and patients. These quotes open reflection on my own experiences including racist commentary from patients and educators about my appearance, insensitive comments that were not addressed during classroom conversations, and seeing few people that looked like me. These experiences contributed to my own questioning of if, where, and how I belong. I remember intentionally seeking mentorship and advice around some of these instances, as I was not sure how (if at all) they should be addressed. Similar questions about belonging have persisted as I transitioned into my professional roles as an early clinician, researcher, and educator.	Belonging uncertainty raises questions about who is valued and accepted, likely impacting professional identity development and sense of belonging in future professional roles.

In this phase of Illumination and Explication, I found myself beginning to actively reflect on how I might leverage my positionality as a now educator to better support minoritized learners, which will be further discussed in the final phase of my inquiry.

3.4. Phase 4: Creative Synthesis

The last phase of my heuristic inquiry was Creative Synthesis, a process of integrating and capturing the essence of meaning I arrived at through self-inquiry. Moustakas [11] describes this synthesis as a new reality in how the researcher views the phenomenon. What I felt most compelled towards in my creative synthesis was to integrate the insights from the learner narratives and my heuristic inquiry with my evolving professional identity as an educator.

Here, while not an exhaustive list, I have highlighted implications for health professions education that I believe are essential in fostering a sense of inclusion and belonging as an educator:

- Share personal histories and stories as a tool for connection and learning; sharing personal knowledge can help shape connection and understanding across identities, backgrounds, and experiences. Within this practice, take care not to highlight only one individual or experience to avoid tokenizing or implying that one person's background or experience is representative of an entire group.
- Adopt an equity-driven approach that acknowledges and offers possible ways to minimize barriers that may impact engagement in learning, promote access, and support development. This includes numerous considerations from strategies to address diverse learning needs (e.g., movement breaks during instruction, flexibility in exam type), physical location and structure of learning spaces (e.g., comfortable and spacious seating, accessible buildings), attire and professional guidelines, resources to support financial needs (e.g., cost of attendance, books, or travel/accommodations for clinical rotations), and beyond.
- Prioritize critical reflection and reflexivity as an educator; specifically, examine one's own social position, beliefs, and assumptions in the context of learner identities and experiences to derive meaning and understanding (the core element of heuristic inquiry). Moreover, encourage and model this intentional practice and development of critical reflection and reflexivity in learners, an essential component of becoming critically aware and empathetic future healthcare professionals.
- Avoid presenting patient/client cases in ways that perpetuate stereotypes about minoritized identities (e.g., repeatedly associating certain identities with obesity, sexually transmitted infections, or mental illness). Additionally, ensure demographic information (such as race/ethnicity or pronouns) is applied consistently across all case examples rather than exclusively to minoritized patients/clients.
- Engage in critical discussions with purpose during clinical and classroom training, including the historical and contemporary socio-political context, which contributes to health and healthcare disparities. Failing to provide this context is a missed opportunity to draw connections between social drivers of health and their relationships with health outcomes for minoritized groups [20].
- When microaggressions or incivilities arise, don't simply let the moment pass; It's important to pause, acknowledge the moment, explicitly name why the comment/behavior was problematic, and facilitate time to address and process. Not only does this model best practices, but it also humanizes the experiences and may help minoritized learners feel recognized and valued.
- Advocate for the development and use of tools that evaluate inclusion and belonging within program and institutional learning spaces. While there is a need for more formal, standardized measures related to these concepts in health professions education, informal approaches (such as opportunities for learners to provide anonymous feedback) offer important insights.

4. Discussion

Reflection is often noted as a powerful tool for growth and learning, almost to the point of having a diluted meaning, "wherein the concepts mean everything and thus nothing" [21] (p. 1126). Heuristic inquiry was an opportunity for me to engage in the practices of critical reflection and reflexivity in a deliberate and nuanced way. In particular, it has led me to consider how to more intentionally apply these concepts to curricular and course content, guiding pedagogy, and learner interactions as an educator in health professions education.

Ng et al. [21] define critical reflection as a process that focuses on examining our own assumptions and beliefs, and how these shape our perceptions and practices as educators. Whereas, critical reflexivity is recognizing our own social positioning in the world, with a specific focus on the power relations that influence conceptions of knowledge, social norms, and values. This concept of critical reflexivity is directly aligned with positionality, as it requires educators to consider their own privileged position as it relates to a dominant culture or social group [21]. For me, this has meant not only reflecting on my minoritized identities, but also on privileges within the roles and spaces in which I practice as an educator.

Beyond what I have learned about myself, and the meaning and implications derived from this work for health professions education, this study is a powerful reminder of the identity-specific inequities and discrimination that minoritized learners experience. These challenges emerge across peer and faculty interactions, curriculum and course content, classroom and clinical instruction, and the broader socio-political environment. It is essential that these questions of inclusion and belonging span beyond the individual level to also critically examine the systems and structures that continue to create and perpetuate barriers for minoritized learners [22].

Finally, as efforts continue to diversify the healthcare workforce, it is vital that we support learners in developing a strong professional identity and a growing sense of belonging not just within their current learning environments but beyond, as future clinicians, researchers, and educators. It is crucial that we not only support the development of competencies required to support patient and societal outcomes, but also embrace and nurture diverse ways of being, becoming, and belonging within the health professions [23].

4.1. Trustworthiness

Several steps were taken to strengthen the study's trustworthiness, including credibility, transferability, dependability, and confirmability [24]. Credibility was achieved through my prolonged engagement with the data to understand participants' experiences and beliefs, helping to ensure a rich understanding of the data. Moreover, in alignment with a primary tenet of heuristic inquiry, reflexivity informed my own personal biases and potential preconceptions throughout the research process. Integration of multiple sources of insight, including the learner survey as well as reflections on my own experiences, supported corroboration of information, enhancing credibility. Transferability was supported by describing sampling procedures, as well as thoroughly describing the research context, participants, and methods. Detailed methodological documentation outlining each phase of the inquiry, along with regular check-ins with the second author to discuss the inquiry process and analytical decisions, ensured dependability. Finally, confirmability was established through debriefing sessions with the second author to review interpretations and findings and minimize bias.

4.2. Limitations and Future Directions

Like many research methodologies, heuristic inquiry has strengths but also limitations. First, heuristic inquiry is innately subjective. This subjectivity introduces bias, as the finding of meaning was based solely on my own interpretation of the data. Findings in this paper represent a culmination of immersion in the data and self-dialogue, rather than a linear progression from coding to themes. Next, given the qualitative nature of the study, there is no statistical correlation by which to determine validity [11]. In heuristic inquiry, it is the responsibility of the researcher to revisit the data, in this case, the narratives of the learner participants, and ensure that their experiences are accurately depicted. While a limitation of the research methodology, I attempted to control for this by continuously immersing myself in exact quotes from the raw data obtained from the co-researchers and being careful not to privilege one identity group's experience above others.

Additionally, the sample size was relatively small, and all participants were recruited from a single academic medical center in the Midwestern United States, which may limit the generalizability of the findings. Moreover, most co-researchers (64%) identified as White; however, a range of other dimensions of diversity were represented within the co-researcher sample. This demographic composition is also reflective of broader health professions education and workforce trends. Due to persistent health inequities affecting minoritized racial/ethnic groups in the United States, certain populations, including Black, Hispanic, and American Indian/Alaska Native, are underrepresented in health professions education and practice [25], a pattern that was similarly reflected in the co-researcher sample. Further exploration of the experiences of minoritized learners across a broader range of identities, geographic regions, and health professions programs could enhance generalizability and deepen understanding of

the implications for health professions education. Future work may also consider examining subgroup differences, which may inform more tailored interventions and support strategies for inclusion and belonging in teaching and learning.

Another limitation was that there are no set boundaries within the processes of this fluid and dynamic methodology. The process itself is quite personal, and that in itself demands a level of emotional intensity, time commitment, and potential to feel lost in the Immersion and Explication phases with no clear endpoint. As I described above, I discovered that new insights surfaced each time I revisit the data, influenced by the ways my experiences and perspectives continue to evolve over time. A final component that I found to be a limitation, or perhaps better described as a challenge of the process, was determining the level and type of disclosure within the dissemination of this work as it related not only to the experiences of the co-researchers, but also my own.

5. Conclusions

Inclusion and belonging are critical factors that support well-being, success, and professional identity formation, particularly for learners from minoritized identities. Creating and sustaining learning environments where all learners feel as if they have a voice, are valued, and truly make a difference matters as much, if not more, than what is taught and how instruction is delivered. The impact of belonging at the gateway of a profession has immense downstream implications for mitigating pressing issues such as burnout, impostor phenomenon, professional identity formation, and retention of a diverse workforce. Here, we leveraged the experiences of a variety of learners for guidance on what elements of professional education promote authentic feelings of inclusion and belonging. Moreover, this study highlights the significance of authentic engagement with learner insights through personal self-reflection as a valuable source of meaning-making.

Author Contributions

Conceptualization, M.C. and S.D.T.; methodology, M.C. and S.D.T.; validation, M.C. and S.D.T.; formal analysis, M.C.; investigation, M.C.; resources, M.C. and S.D.T.; data curation, M.C.; writing—original draft preparation, M.C.; writing—review and editing, M.C. and S.D.T.; visualization, M.C.; supervision, S.D.T.; project administration, M.C. and S.D.T. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board at a U.S. university (protocol code 202107170).

Informed Consent Statement

Informed consent was obtained from all participants involved in the study via a consent information sheet included in initial recruitment emails.

Data Availability Statement

Additional data is not available to maintain participant confidentiality and privacy.

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Conflicts of Interest

The authors declare no conflict of interest.

AI Use Statement

During the preparation of this work, the first author used generative AI tools (Microsoft 365 Copilot, ChatGPT) to assist with language refinement and readability. All content was reviewed and edited by the authors, who take full responsibility for the final manuscript.

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