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How Might Mentorship Empower Research Assistants? A Preliminary Exploration of Research Assistant Voices from Humber Polytechnic

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Abstract
Research Assistants (RAs) play a central role in advancing institutional research capacity, yet their lived experiences—particularly student RAs from equity-deserving groups and those working at polytechnics—remain underexamined in the literature. In recent years, Humber Polytechnic has increasingly been awarded sizable research grants, thus expanding its applied research footprint. This paper focuses on the perspectives of RAs at Humber Polytechnic who self-identify with one or more equity-deserving groups. The data sources informing this mixed-methods project include 36 surveys and two focus group sessions that included questions about various elements involved in the research assistantship, such as securing a position, utilizing previous training, and opportunities for professional advancement. The findings highlight the strengths and challenges of current research assistantship experiences and address topics including position acquisition, onboarding, training, and recommendations for improvement. While the findings reveal varied experiences, common themes that emerged include the definition of research mentorship, the importance of professional networks, training, and opportunities to improve the research assistantship process at Humber Polytechnic and beyond.

Introduction

Humber Polytechnic is one of the largest colleges in Canada, serving over 86, 000 students across three campuses in the city of Toronto. Humber Polytechnic is among the most diverse colleges in Canada, as its student body represents over 120 countries (Humber Polytechnic, 2025). It has significantly increased its applied research footprint in recent years, becoming a highly regarded leader in post-secondary research. In 2017, Humber Polytechnic ranked 19th among Canadian colleges for industry research income and 3rd for number of research assistantships with a total of 182 paid student Research Assistant (RA) positions (Research Info Source, 2018). Humber experienced significant growth between 2018 and 2022, ranking 1st in research income. In each year during this period, there were between 169 and 437 RA positions (Research Info Source, 2023). As of summer 2025, Humber Polytechnic continues to rank among the top five research colleges

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in Canada, with a portfolio exceeding $20 million (Humber Polytechnic, 2025). This increased research capacity also resulted in 373 RA jobs (Research Info Source, 2025).

RAs play a central role in advancing institutional research capacity, yet their lived experiences—particularly student RAs from equity-deserving groups and those working at polytechnic institutions—remain underexamined in the literature. The growth in research capacity, in addition to the Humber's diverse student population, means that many RAs may self-identify as members of equity-deserving communities. This diversity, in turn, has revealed the need for more inclusive mentorship frameworks that support RAs' success in the academic research labour market. This paper draws from a preliminary mixed-methods study that focuses on the perspectives of RAs at Humber Polytechnic who self-identify with one or more equity-deserving groups.[1]

The research questions framing this mixed-methods study are as follows:

1. What are some best practices when it comes to the implementation of a mentorship program for Humber Polytechnic Research Assistants who self-identify as a member of an equity-deserving group?
2. How do these best practices build Research Assistant capacity at Humber Polytechnic and beyond?
3. What are some considerations for the sustainability of the mentorship program?

Literature Review

According to Saudelli and Niemczyk (2020), the mentorship process in RA-professor relationships is central in facilitating graduate students' growth and scholarship. Della Corte et al. (2022) add that, despite the centrality of such relationships, academic literature is scarce in documenting the characteristics and efficacy of such mentorship relationships, particularly at the undergraduate level. Using a combination of experimental design and semi-structured interviews, Della Corte et al. document their mentorship of four undergraduate students in science research programs in the U.S. Their findings, based on the Outcome-Oriented Skill-Based Mentoring (OOSBM) framework, illustrate the significance of clear and structured approaches to informal and on-the-job training for RAs. The OOSBM framework consists of multiple phases, including onboarding, skill development, project design, and leadership opportunities. The phased model ensures that RAs gain both technical skills and leadership experience, making it a practical, scaffolded approach to designing mentorship programs. Weeks et al.'s (2015) mixed-methods study involving 13 RAs identifies similar themes, outlining the importance of clear, consistent, and ongoing mentorship during the research assistantship process.

Byars-Winston et al. (2015) further note that research mentorship must also consider the diverse identities of student mentees. Drawing on social cognitive career theory, their analysis of archival evaluative data obtained from 306 underrepresented students in STEM programs reveals a positive connection between inclusive mentorship and post-graduation outcomes. The authors emphasize that culturally inclusive relationships are intimately linked to students' perceptions of their mentors and their research capabilities, which in turn impact their conceptualizations of themselves as researchers. This sense of self-efficacy can, in turn, positively impact retention rates and research engagement among minority students.

Grenville and Parker (2013) and Hall and Liva (2022) note that the lack of structured research mentorship can lead to significant academic and professional challenges, particularly among students from various equity-deserving backgrounds. These challenges include psychological distress, reduced research engagement, and difficulties navigating academic structures. This research underscores the necessity of proactive mentorship frameworks that provide both technical guidance and psychosocial support. Integrating structured mentorship into RA programs can mitigate these challenges and enhance the overall research experience. As Bennett et al. (2022) note, however, institutional constraints present some obstacles to research mentorship, particularly in low-SES settings where resources are scarce. Faculty are often individually tasked with research supervision while simultaneously balancing other responsibilities like teaching, research, and service commitments, making it difficult to dedicate sufficient time to mentoring numerous students. The authors suggest departmental mentorship support structures

1 We draw from Queen University's (n.d.) definition, which defines equity-deserving communities as "communities that experience significant barriers in participating in society. This could include attitudinal, historic, social, and environmental barriers based on age, ethnicity, disability, economic status, gender, nationality, race, sexual orientation, and transgender status, etc." This broad definition allows us to be as inclusive as possible, keeping in mind the multi-layered and complex identities of people.

that serve both faculty and students, including workshops and recognition programs.

Theoretical Framework

This study is informed by the intertwining of social exchange theory (SET) and relational cultural theory (RCT). SET was first proposed by Homans (1951) in his book *The Human Group*, which outlines the value of reciprocal relationships in which the mentor and mentee benefit from each other via multiple social interactions. Molm's (1997; 2010) close examination of Homans' work specifies four foundational elements of SET, which comprise of: 1) the actors who engage in social exchanges; 2) the resources that are exchanged; 3) the structure of the social exchange; and 4) the process of social exchange. In an academic research setting, mentors can provide a research assistantship that includes training, supervision, and compensation for mentees, who carry out specific research duties as requested by the mentor.

While this theory is useful for understanding the basic nature of mentor-mentee interactions, its transactional take does not address how human connections may foster a deeper kind of growth. Relational Cultural Theory (RCT) is useful here to highlight how authentic and human-centred relationships, in conjunction with a commitment to social amelioration, may promote the growth of equity-seeking communities. Feminist Jeanne Baker Miller (1976) held that human relationships can foster individual and collective growth through actions including mutual empathy, respect for each other's differences, and an awareness of self. These features in research settings that value equity and inclusion may further facilitate the growth and scholarship of both the mentor and mentee. Chan et al. (2022) add that engaging in deep reflection on how systems of power may oppress various communities may yield opportunities for mentors to draw from their own positions of power and challenge potentially oppressive status quos. For example, mentors may promote more collaborative relationships with mentees or engage in more inclusive research team practices that consider needs that may relate to factors like family status, accessibility needs, or religious practices.

Method

To better understand the experiences of RAs, we employed a mixed-methods approach involving surveys and focus groups. The surveys were electronically distributed via administrators at Humber Polytechnic's Research and Innovation office. The questions covered demographic information, onboarding, training, and other experiences in the RA role. Approximately 190 surveys were sent out, of which 36 were filled out and included in the dataset. Focus group participants were solicited via the surveys. Two focus groups, involving a total of five students, were conducted virtually. The one-hour focus group sessions included questions about onboarding, benefits and challenges of the RA role, and recommendations for further supporting RAs from various demographic groups. Descriptive and thematic coding were utilized to identify recurring patterns in participant experiences and perspectives.

Participants

Over two-thirds of the survey respondents (69%) self-identified as female, while 28% self-identified as male and 3% self-identified as non-binary. Half of the survey respondents (50%) were recent graduates of Humber Polytechnic. Current students comprised the other half of respondents, with 14% enrolled in a diploma program, 14% in a Bachelor's degree program, and 22% in a graduate certificate program. A total of 17% of respondents also reported having one or more disabilities.

The student respondents also came from diverse cultural/racial backgrounds, with self-reported representation from Europe, Africa, the Middle East, Latin America, and Asia. One respondent reported mixed heritage, and one respondent declined to disclose. The duration of the RAs' contracts varied, ranging from less than 3 months (n = 7), to 3-12 months (n = 19), to over 1 year (n = 5). A total of five students also reported multiple, short RA contracts during their time with the college.

Results

The analysis of the data revealed four core themes:

- perspectives on research mentorship
- variances in preparation for the RA role
- successes in RA roles
- a desire for more in-depth engagement.

Each of these themes is addressed below.

Perspectives on Mentorship

Overall, the participants underscored the importance of being guided through the research process and the RA role by

highly experienced researchers. This faculty experience was often considered a valuable source of knowledge for helping RAs augment their research capacity throughout their role. As one RA put it, "mentorship as a research assistant would mean having an experienced researcher guide the research assistants through each and every step of how research should be conducted in that particular field." Another participant highlighted the necessity for faculty researchers to be ready to mentor RAs from the very beginning. They stressed the importance of faculty preparation "from day one to have [RAs]. And actually, like, have everything that is kind of needed for onboarding already prepared. It is something that I struggled with in the beginning."

All focus group participants suggested that RA mentorship should include a dedicated support hub for equity-seeking groups. They acknowledged that academia was often inequitable and inaccessible, and advised that there could be a "place for people who are equity seeking … and needing support … maybe even something like diversity training would be equally important for the [RAs] as it is for the faculty members and people involved on the [institution] side."

Variances in Preparation for the RA Role

The participants varied in the extent of their prior experience in their RA role. Several RAs reported little to no previous research training. One RA obtained their position from a faculty member with whom they already had a relationship, indicating that they had no additional training, "just my previous knowledge from taking the course and having a degree in the field." Another RA shared that they possessed "no formal training aside from the required training for the RA position." This comment refers to the training modules mandated by the institution as part of the onboarding process. As one participant expressed, the mandatory training modules required new RAs to do "a lot of certificates that we had to upload. One of the research-specific [ones] was the research assistant tutorial certificate … on Blackboard … also required to do others, like the sexual assault certificates and others … a lot." In contrast, there were other RAs engaged with project-specific training for two months before their official start. They indicated that they "received comprehensive training in several areas, including systems thinking and social innovation, which equipped [them] with the ability to approach complex problems with holistic solutions."

RA experiences also varied with respect to onboarding. Some participants experienced a smooth onboarding process, facilitated by staff who were available whenever questions arose. For one participant, "onboarding was easy. My HR was very helpful, as well as my professor, though he helped me a lot, … like … uploading documents for payroll or how to set up everything…" Others were confronted with confusing processes, although they were able to eventually figure them out One focus group member stated:

> [I] initially felt that the onboarding process was a little complicated, but it was because I didn't see that there was a link to instructions there that you could just follow, and the people that I was working for were, like, very helpful.

Benefits of the RA Experience

The participants identified several benefits in their RA roles, including the opportunities to develop hands-on research skills and to work closely with faculty, staff, and external industry partners. These insights help us better understand some of the best practices occurring in the Humber Polytechnic research ecosystem. Indeed, several participants noted that opportunities to engage with a variety of hands-on tasks and tools, like NVivo, augmented their sense of self-efficacy in the research process. One focus group member indicated that they received and appreciated their on-the-job "training on some software, how to use it that was not included in the [degree program curriculum], as well as some of the instruments that were different to use and that were new." Several RAs also shared how they had the opportunity to also partake in various knowledge dissemination tasks, such as preparing for and presenting at conferences, writing research reports, and contributing to institutional publications.

Other RAs cited the importance of their strong relationships with highly experienced researchers who had a robust body of knowledge to share. As one participant noted, "the best part was … to work under a very experienced researcher who has had, like, years and years of experience." Another RA reported forming valuable connections that may not have been possible through the program alone. They stated:

> The best part of my RA role was the people I met. Because I think something I was pretty insecure about when I was starting school is that I didn't have a ton of connections in the

industry, and I just felt kind of like I was kind of on my own a little bit.

Desire for More In-Depth Engagement

The data gleaned from the focus groups and surveys illustrate various considerations for improving RA experiences at the polytechnic level. In particular, various RAs, particularly those new to research, felt challenged by the expectations to engage independently with their roles. As one RA put it:

> As a research assistant, you have to be independent, even if you are in a team, right? You have to work as an independent and solve problems that come your way. And for my project, yeah, you have to do specific tasks for yourself as well as you have to be with your team. So I find it a little bit difficult, like you have to do your own task and you have to be with at the same pace as your team as well.

This point was closely connected to the need to foster relationships and build capacity through ongoing check-ins. Some RAs experienced limited early-stage engagement from their supervisors, which made it difficult for them to ask questions and engage with them one-on-one. One participant shared their view that "the beginning should absolutely be hands-on, checking in on … a daily basis, for the first two weeks, a month, … not from like a surveillance perspective, but just like in case there are questions that come up." Other RAs brought up the lack of hands-on opportunities regarding the carrying out of primary research, especially conducting interviews and focus groups. One participant stated that "it would have been great if I got to be a part of primary research, because I wanted to gain a little bit of experience over there."

The varied lengths of RA contracts also presented challenges for some participants. Some student RAs, for example, were faced with difficulties managing their RA role in tandem with other life commitments. One participant shared that their challenge was "working part-time, because I had my school, I had my role as an RA, and then I also had another part-time work I did." Other RAs hoped for more hours and longer contracts, but the conclusion of projects, along with funding cuts, meant less work for RAs.

Discussion and Recommendations

Although the data aligns with the existing academic literature and theories regarding the need for inclusive, scaffolded, and job-related mentoring, the perspectives gleaned from Humber Polytechnic RAs provide five institution-specific indications that will be useful for its faculty and staff. First, the RAs suggest a more uniform and formal recruitment process as a means of increasing transparency and accessibility. A centralized application portal can support all RA applications and provide more equitable opportunities for access to job postings. Second, the RAs also suggest that the institution develop a ready-to-use onboarding manual to support new and returning RAs with step-by-step guidance on essential tasks related to payroll, contracts, internal systems, and research expectations. This toolkit could also be made available to faculty supervisors for their own reference. However, it should also be made available to the institution's research and human resources offices to facilitate smooth onboarding.

A third suggestion involves focused research training through workshops covering topics like conducting interviews and focus groups, as well as data analysis. Although RA contracts vary widely in terms of length and scope, several specific and mandatory offerings would be useful to many RAs, particularly regarding widespread research processes involving ethics, data collection, and analysis. Training in these three areas could include the TCPS-2 modules offered by the Government of Canada's panel on research ethics, as well as workshops on widely used tools like Excel or NVivo. Such specific and mandatory training can augment RAs' theoretical and practical skill sets and create useful hands-on opportunities that would both support research at the college as well as the RAs' marketability post-graduation. While much of this training could be covered by the institution's research and human resource offices, it might also be worth looking into how to fully integrate this kind of learning into current diploma and degree courses, especially those that involve capstone research projects. Of course, the instructors must remain attuned to current industry demands and offer curriculum that meets these demands, which tend to include qualitative, quantitative, and experimental research.

The fourth suggestion shared by participating RAs is a call for a targeted and tiered mentorship program that extends beyond the typical faculty mentor-RA relationship. Although the RAs found their relationships with faculty useful when they received feedback and regular check-ins, they also expressed a desire for a support system and mentorship that specifically caters to the needs of RAs from underrepresented

backgrounds. This recommendation is especially important considering the vast diversity of the RA body and the limited opportunities for polytechnic students to engage in some larger-scale research projects. This mentorship could also help RAs become more competitive in the global job market, particularly in relation to employment positions involving research. Fifth, and lastly, another recommendation involves more widespread public exposure through avenues including publications and conference presentation opportunities. A useful starting point could involve Humber's research magazine and the various research events they host, such as Innovative Learning Showcase

Taken together, the data covering participants' narratives and recommendations provide valuable insights into how RA experiences can be improved through structured mentorship, clearer onboarding processes, and more accessible institutional support. Addressing these gaps, particularly for RAs from equity-deserving groups, will not only enhance individual experiences but also strengthen Humber's research culture and student career development. While these recommendations are grounded in participant feedback, implementation must also consider broader institutional realities, including the nature and duration of RA positions, human resource requirements, and the current funding constraints in the post-secondary sector.

Conclusion

The findings of this preliminary study highlight the strengths and challenges of current RA experiences at Humber Polytechnic covering topics such as position acquisition, onboarding, training, and recommendations for improvement. While the findings reveal varied experiences, common themes that emerged include the importance of professional networks, training, and opportunities for improving the research assistantship process. The study contributes to ongoing conversations around applied research in polytechnic institutions, offering practical advice to support emerging researchers in navigating research roles with confidence and equity. The findings are especially relevant for post-secondary institutions looking to integrate mentorship into the infrastructure of applied research programs. The findings also point to implications in the research curriculum at polytechnic institutions, both in terms of how research is taught at the program level and how RAs are mentored by faculty in the research ecosystem. By centering student voices and employing a mixed-methods approach, this research advances a more sustainable and inclusive approach to RA mentorship that responds directly to student-identified gaps and aspirations.

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