



Biodiversity Impact Evaluation

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A MassBio Initiative

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Executive Summary

Bioversity prepares students for immediate entry into the life sciences workforce through intensive, hands-on training in technical and professional skills. In its first two years, 120 students graduated across multiple cohorts with an 80% placement rate, proving its value as both a career-launching platform and a talent pipeline for Massachusetts' biotechnology industry. Bioversity contracted BW Research Partnership (BW Research) in 2025 to conduct evaluative research through employer and graduate surveys, executive interviews, and a human-centered design workshop, and provide recommendations to strengthen its programming, enhance student and employer experiences, and ensure long-term alignment with industry needs. Since receiving preliminary evaluation results from the survey, interviews, and workshop, Bioversity has already begun implementing targeted improvements to address student and employer feedback, including the addition of a full-time staff member dedicated to providing one-on-one job search and career launch support.

Key findings and recommendations are summarized below. A full report with detailed findings and data follows this executive summary.

Key Findings

Both program graduates and employer partners recognized Bioversity's success in equipping its students with crucial technical and non-technical skills for entry and advancement in laboratory and biotech careers. Virtually all (98%) participant survey respondents indicated that they gained a basic understanding of lab operations from the program and felt ready for the lab environment. Biotech emerged as the leading industry for employed graduates, and those employed in this field found Bioversity "very helpful" in obtaining their roles.

Employers' overall perception of Bioversity and its graduates is very positive, based on the strengths of the training program's foundational life science curriculum, structure, and equity commitments. Employers reported that Bioversity graduates consistently demonstrate a solid understanding of foundational lab basics, safety protocols, and personal protective equipment (PPE). They also stated that graduates have been well-prepared for interviews, eager to learn on the job, and show initiative. Most employers described a seamless hiring process with successful placements of the graduates. Additionally, employers expressed appreciation for Bioversity's commitment to underserved communities, aligning with their organizations' own missions.

Bioversity supports long-term, stable career pathways with opportunities for career advancement and access to employer-provided benefits. The program’s mission—to connect underrepresented and low-income residents with well-paid careers in the life sciences—is effectively realized through participant outcomes. Program year one cohorts graduated 65 students with a 88% placement rate into full-time roles or acceptance into 2- or 4-year degree institutions. Year two graduated 55 students and currently has a 72% placement rate.¹ Prior to enrollment, 40% of surveyed participants were employed full-time, 33% part-time, and 35% were not employed at all. Most (87%) employed graduates either remain in their initial roles (73%) or have been promoted (14%) since graduating. Wages also increased, with the most frequently reported earnings between \$50,000 and \$75,000 annually after graduating, a significant increase from pre-program earnings, where the most common wage reported was \$25,000 to \$49,999 annually.

Access to employer-provided benefits also improved for participants, providing stability and improving health and quality of life outcomes:

- Just over three-quarters (77%) of participants reported now having employer-provided healthcare, up from the 9% that had healthcare access prior to Bioversity. Most (82%) working graduates who had healthcare prior to Bioversity received these benefits through Medicaid/MassHealth.
- Two-thirds (68%) of working graduates reported that they now receive employer contributions to retirement savings, compared to just two in five (41%) before completing Bioversity.

These outcomes contrast with national trends, where half of private sector workers lack retirement benefits through their employment² and 64% of low-income households are at risk of financial insecurity in retirement.³ Bioversity is preparing students for jobs while helping them build long-term financial security and a foundation for wealth growth.

Bioversity’s current training model strongly aligns with the programming needs of the surveyed life sciences employers. The program’s curriculum is well-matched to the employers’ roles and functions; over half (53%) of surveyed employers have hired a Bioversity graduate, and among those who haven’t, three-quarters cited a lack of open

¹ Program year 2025 is ongoing at the time of report writing; final placement rate for the year is unknown.

² “Workers Without Access to Retirement Benefits Struggle to Build Wealth.” The Pew Charitable Trusts. June 25, 2025. <https://www.pew.org/en/research-and-analysis/issue-briefs/2025/06/workers-without-access-to-retirement-benefits-struggle-to-build-wealth>

³ “The National Retirement Risk Index: An Update from the 2022 SCF.” Boston College Center for Retirement Research. February 27, 2024. <https://crr.bc.edu/the-national-retirement-risk-index-an-update-from-the-2022-scf/>

positions as the reason for not hiring. Most (63%) of those who have not hired a graduate expressed a willingness to hire after reviewing the curriculum description.

The program’s partnership approach resonated with surveyed employer preferences—

64% of employers favored a no-commitment model, an approach echoed in executive interviews, where flexibility was cited as a key benefit. Furthermore, when evaluating potential partnerships, employers prioritized access to a diverse talent pool (91% of respondents rated this as “very important”), which directly reflects Bioversity’s mission to create and expand opportunities for underrepresented populations in the life sciences industry.

While the employer feedback was overwhelmingly positive, a few common gaps and challenges were identified by multiple employers, most notably non-technical skills.

These included a lack of experience with standards of professionalism and an absence of workplace readiness. When hiring Bioversity program graduates, employers emphasized that non-technical (“soft”) skills are just as essential as the technical (“hard”) skills. Employers sought candidates with knowledge of safety protocols, hazardous material handling, proper use of PPE and lab equipment, shipping/receiving and stock management, but they also valued soft skills such as attention to detail, customer service, written and verbal communication, organization, willingness to learn and grow, and flexibility/adaptability.

Despite Bioversity training, there are additional barriers many participants face when entering the workforce. Without knowledge of proper salary negotiation processes, how to manage multiple offers, email and business etiquette, and other workplace expectations or standards, graduates face obstacles in advancing their own careers, while employers struggle to attract and retain talent. Employers reported that graduates often lack exposure to working in a professional or corporate environment, sometimes hindering their ability to perform the work successfully. Meanwhile, participants raised in survey responses that greater support during the job search process or upon starting careers could better serve them.

Key Recommendations

Introduce targeted program enhancements around technology and leadership to boost job readiness. Modules on computer literacy should be expanded to reflect current employer expectations and demand, including lessons on how to effectively utilize artificial intelligence in the industry. Additionally, rotating administrative leadership roles within cohorts can build skills in organization, responsibility, and accountability—all of which are essential for entry-level success. These program additions unlock value by strengthening

both technical proficiency and interpersonal capabilities, which were identified by employers as key areas for growth and improvement.

Strengthen non-technical skill development by formalizing structured professionalism training modules. Employers consistently emphasized the importance of workplace etiquette, communication, and interpersonal skills throughout the research process. Bioversity should consider formalizing a “Professionalism 101” course and expanding its use of real-world scenario case studies to better prepare students for professional environments. This addresses the core challenge identified in the research process of students lacking an understanding of professionalism norms and workplace standards.

Build confident communicators and public speakers. Structured speaking activities, peer feedback, and presentation practice will help students build fluency in verbal communication—a skill employers value across interviews, team settings, and colleague interactions. By implementing this practice, Bioversity can effectively enhance communication and interpersonal skills that were commonly identified by employers as important across work settings and roles.

Expand mentorship, networking, and alumni engagement. Formal mentorship programs, alumni guest speakers, and incentivized networking opportunities can deepen students’ understanding of workplace expectations and foster long-term career support. Additionally, maintaining alumni connections must be a strategic priority for long-term career success among participants. This recommendation responds to both employer feedback regarding graduates’ lack of understanding of workplace expectations, as well as students’ requests for more comprehensive, long-term career guidance throughout and beyond the training period.

Support individualized career planning and pathway exploration. Skill and interest assessments, paired with career pathway informational packets, can help students align their strengths with realistic life sciences roles and long-term goals. Based on the research findings, individualized career support and pathway exploration not only directly address students’ need for more robust and sustained career development, but also provide tailored guidance that meets learners where they are. This personalized approach helps students explore career paths aligned with their interests, often increasing their engagement and readiness for the workplace.

Introduction

Launched in January 2024 by the Massachusetts Biotechnology Council (MassBio), the Bioversity training program prepares students, particularly those from underrepresented communities that have historically been marginalized from the life sciences industry, for immediate entry into the life sciences workforce. Through intensive, hands-on training in laboratory techniques, safety protocols, documentation practices, and professional skills, Bioversity equips students with both the technical and non-technical skills and competencies that employers consistently seek in entry-level talent.

Bioversity has already demonstrated its value as both a career-launching platform for students and a talent pipeline for Massachusetts' rapidly expanding biotechnology industry. By the end of 2025, 120 students will have graduated across 12 cohorts. All (100%) students are from low-income households, and nearly all (96%) identify as non-white. Building on this success, Bioversity is now focused on strengthening and expanding its programming to ensure continued alignment with student needs and employer expectations. Bioversity contracted BW Research in 2025 to conduct ongoing evaluative research and develop recommendations for Bioversity to pursue this goal.

The following report highlights the findings from the research, concluding with targeted recommendations to continue improving both student and employer experiences with Bioversity. These recommendations are designed to support both immediate enhancements and long-term growth. While Bioversity has already integrated many of these elements in some capacity, maximizing their impact on students will require additional structure and a contextualized approach that better aligns with student needs.

How Bioversity is Meeting its Goals

Improving the Lives of Students and Graduates

Bioversity supports long-term, stable career paths with opportunities for career advancement and access to employer-provided benefits. The program’s mission—to connect underrepresented and low-income residents with well-paid careers in the life sciences—is effectively realized through participant outcomes. Graduates consistently reported the program to be highly impactful on their lives.

Employment

In 2024, Bioversity had a 87% placement rate of graduates who actively sought employment into full-time positions or acceptance into 2- or 4-year degree institutions.⁴

When surveyed, Bioversity graduates who reported working full-time at the time of the survey (61%) represented double the share who reported working full-time prior to Bioversity enrollment (35%) (Figure 1). While one-fifth (21%) of graduates reported not currently working (Figure 1), most (83%) said that this is not by choice or for reasons such as still seeking employment. The remaining 17% were enrolled as students not pursuing job opportunities.⁵

“It opens doors for opportunities that may have never come my way without it.”

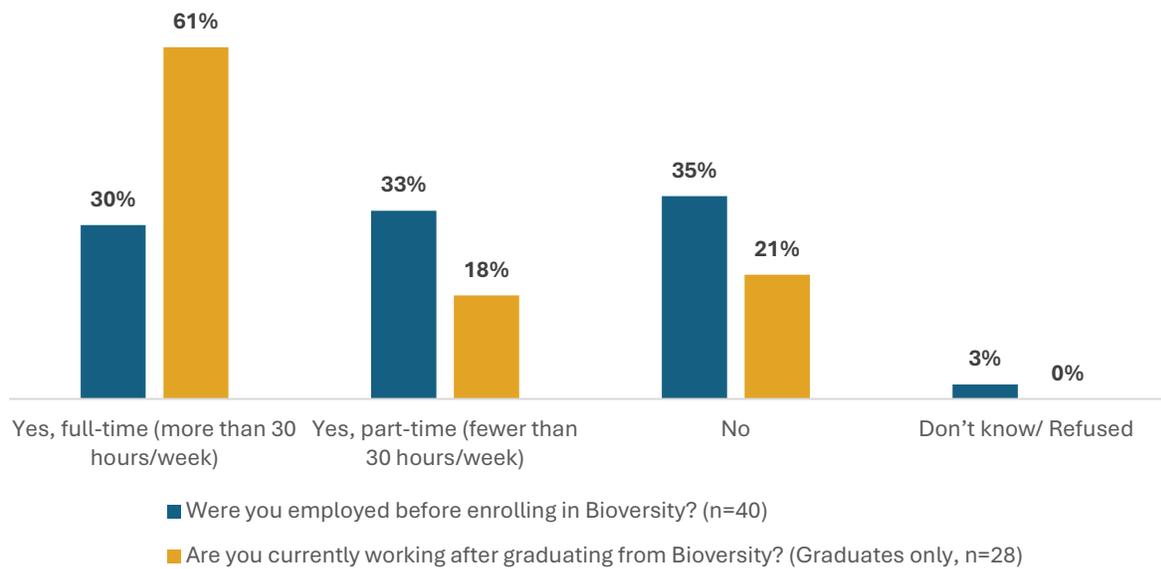
“It is an amazing program which can be very transformative for the right candidate.”

“It was a great training that actually put us on the way to start a new career.”

⁴ This data point is tracked by Bioversity and was not collected through BW Research’s study.

⁵ Low sample size (n=6)

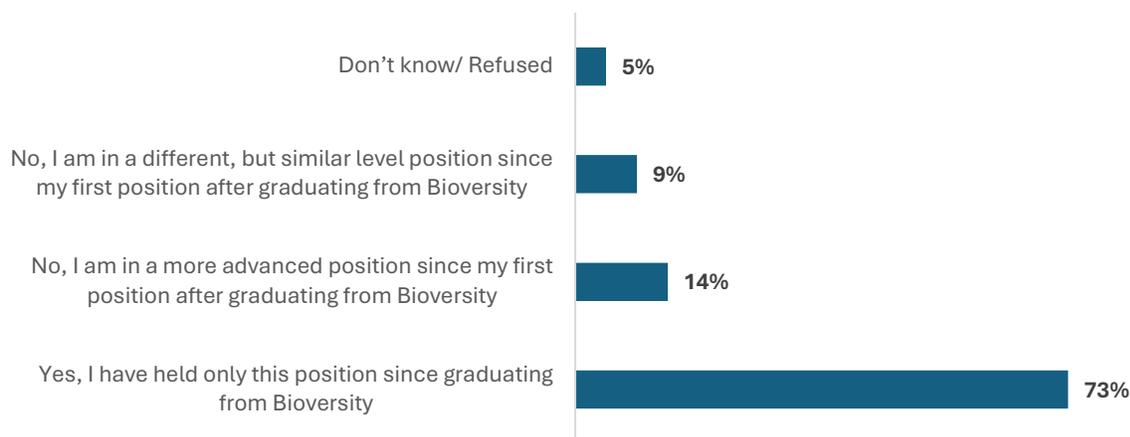
Figure 1. Participants' Employment Status Before and After Bioversity



Two-thirds (64%) of employed graduates were working in the biotech industry at the time of the survey. **Every graduate who reported working in biotech (100%) considered Bioversity as “very helpful” in obtaining their current position.** For the 36% of respondents who reported working in other industries, key barriers to working in the biotech industry included a lack of scheduling flexibility and the inability to work in the industry part-time. A couple of these respondents specified that schooling or children play a role in these barriers. Further investigation into Bioversity participants’ needs after graduation may highlight other areas where Bioversity could support participants’ pursuit of employment in the life sciences and biotech industry.

Bioversity has also opened career paths with opportunities for career advancement for many of its participants. Most graduates who are working are in the same position since graduating (73%) or were promoted to a position more advanced than their original position after Bioversity (14%) (Figure 2).

Figure 2. Duration in Current Position Among Employed Bioversity Graduates (n=22)



Wages and Benefits

Graduates reported higher income levels in their current positions compared to those before Bioversity. More than half (55%) of the surveyed employed graduates reported making \$50,000 to \$74,999 in their current position, while 41% reported making \$25,000 to \$49,999. Overall, the average wage upon work placement for Bioversity graduates is \$25.80 per hour, approximately \$53,700 annually, double that of their wages upon enrollment.⁶

Meanwhile, most (64%) of these employed graduates who worked before enrolling in Bioversity reported their previous annual wages as \$25,000 to \$49,000 and only 23% reported earning \$50,000 to \$74,999. A smaller share (5%) earned below \$25,000 prior to Bioversity, but none reported earnings below \$25,000 after graduating from Bioversity (Figure 3).

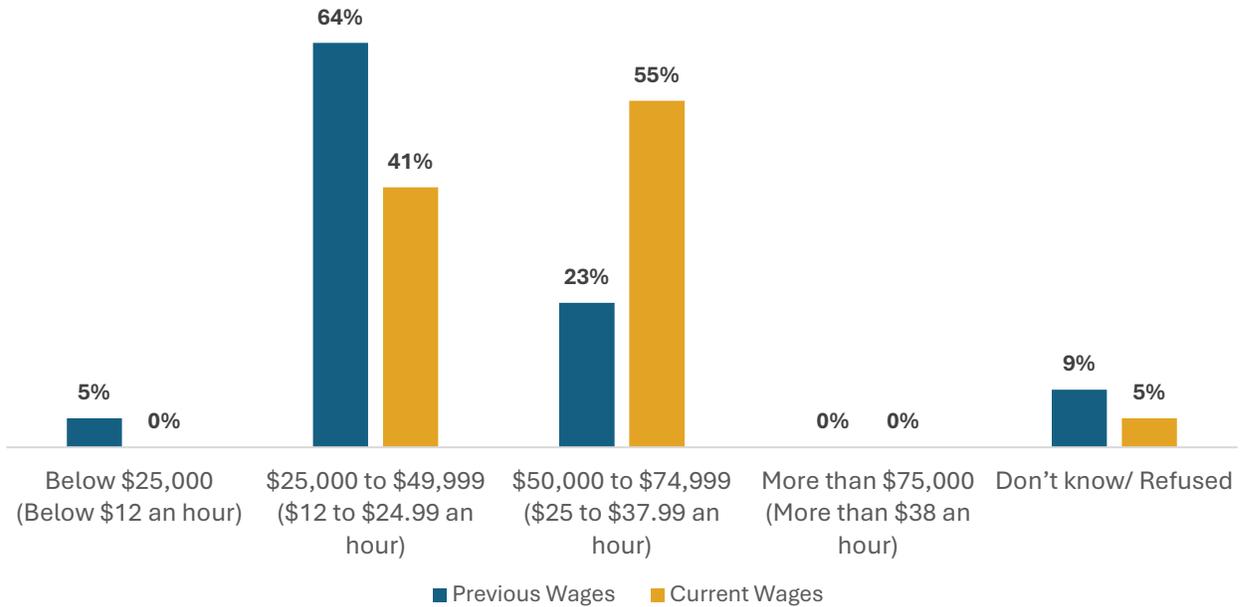
“Bioversity helped change the trajectory of my life.”

Overall, 41% of employed graduates reported an increase in their earnings after Bioversity, while 41% also said their salaries before and after Bioversity are within the same wage range.

⁶ This data point is tracked by Bioversity’s and was not collected through BW Research’s study.

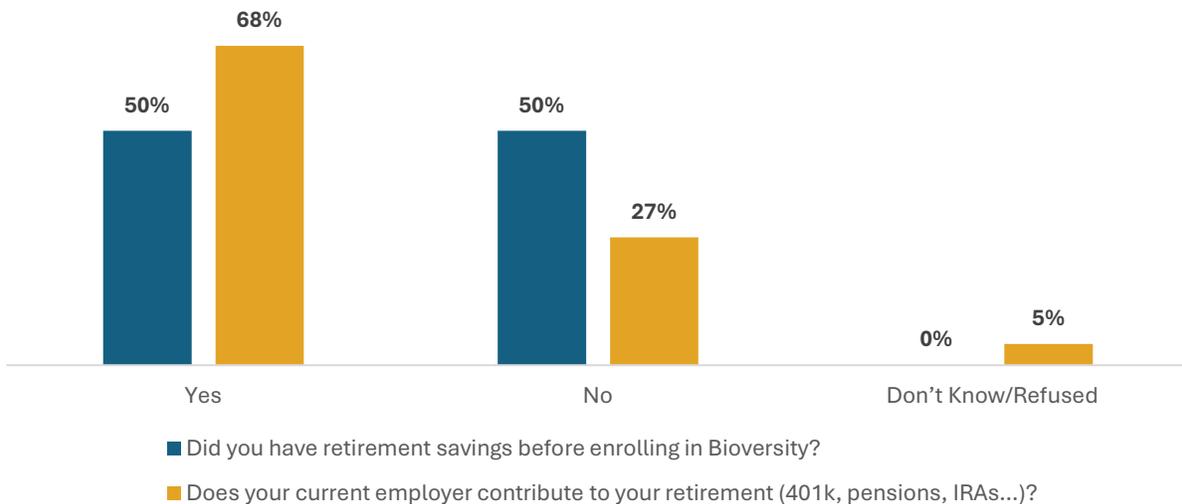
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Figure 3. Wage Distribution for Employed Graduates Before and After Bioversity (n=22)⁷



Graduates reported receiving employer benefits more frequently in their current positions than they had before the program. Over two-thirds (68%) of currently working graduates said their employers contribute to their retirement, while half (50%) of graduates who worked before enrolling in Bioversity reported not having any retirement savings at all (Figure 4).

Figure 4. Employed Graduates' Retirement Savings Before and After Bioversity (n=22)



⁷ Hourly conversion assumes a 2,080-hour work year.

Over three-fourths (77%) of graduates worked for employers that provided healthcare benefits at the time of the survey, compared to only 9% of graduates who had employer-provided healthcare prior to Bioversity (Figure 5).⁸ A large share of graduates (69%) have some healthcare source prior to enrolling in Bioversity, but most (82%) received these benefits through Medicaid or MassHealth (Figure 6).

Figure 5. Healthcare Benefits for Graduates Employed Before and After Bioversity

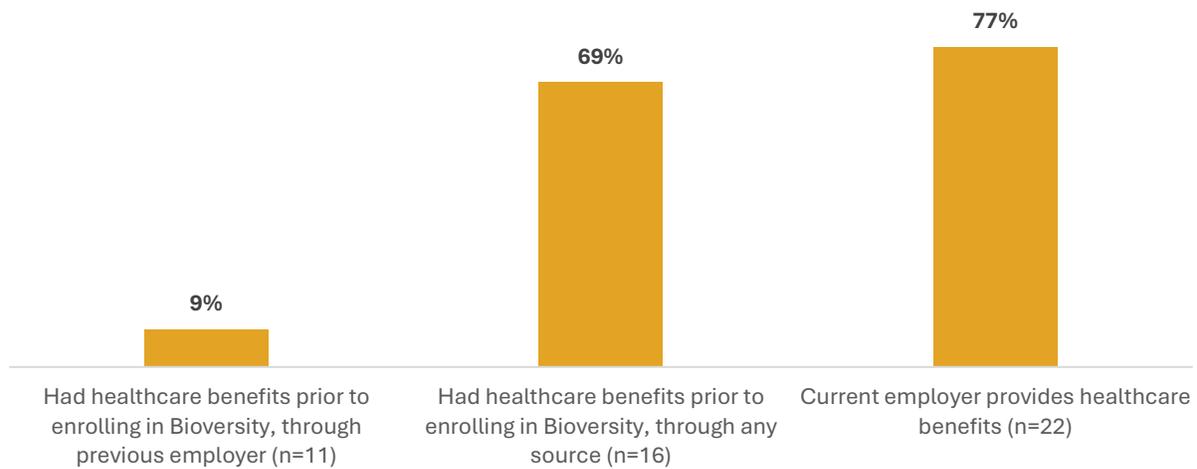
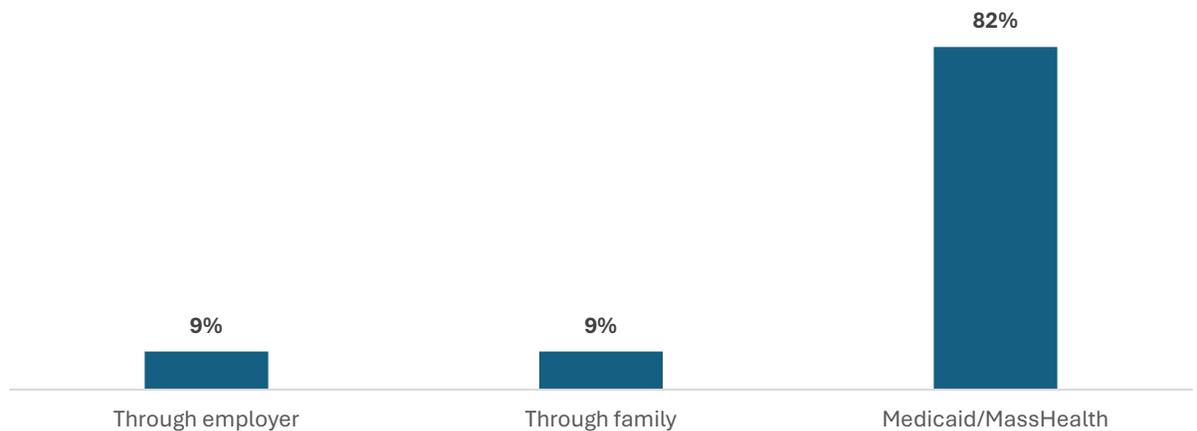


Figure 6. Sources of Healthcare Coverage Prior to Bioversity Enrollment Among Employed Graduates (n=11)

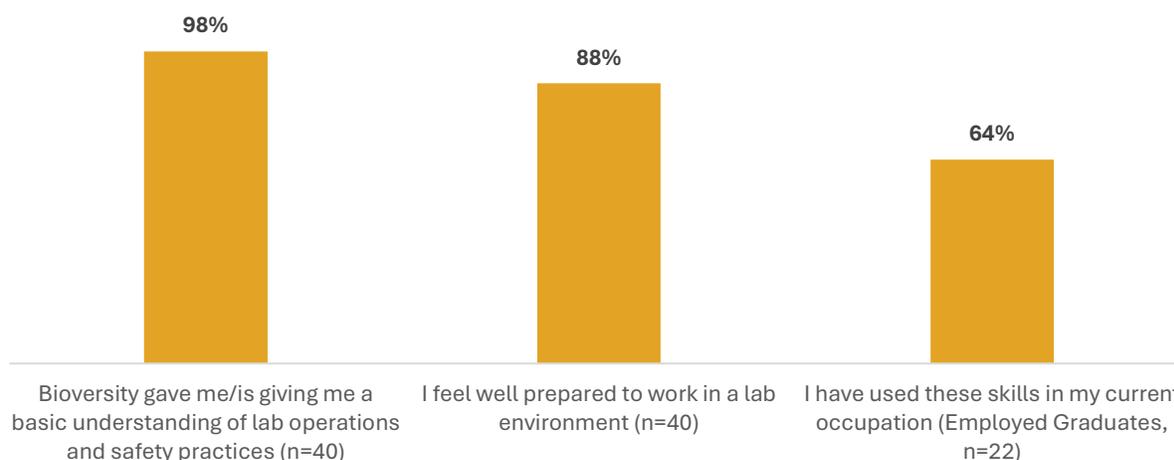


⁸ Contracted or independent workers typically do not receive health insurance benefits. Additionally, employers may wait a certain period of time before providing workers with benefits.

Developing Key Skills in Students and Graduates

Bioversity equips participants with both the crucial technical and non-technical skills for success in laboratory and biotech careers. Notably, 98% of Bioversity participants reported that they gained a basic understanding of lab operations from the program, and 88% said they felt ready to work in a lab environment (Figure 7).

Figure 7. Participants' Perception of Bioversity Outcomes and Workforce Preparation



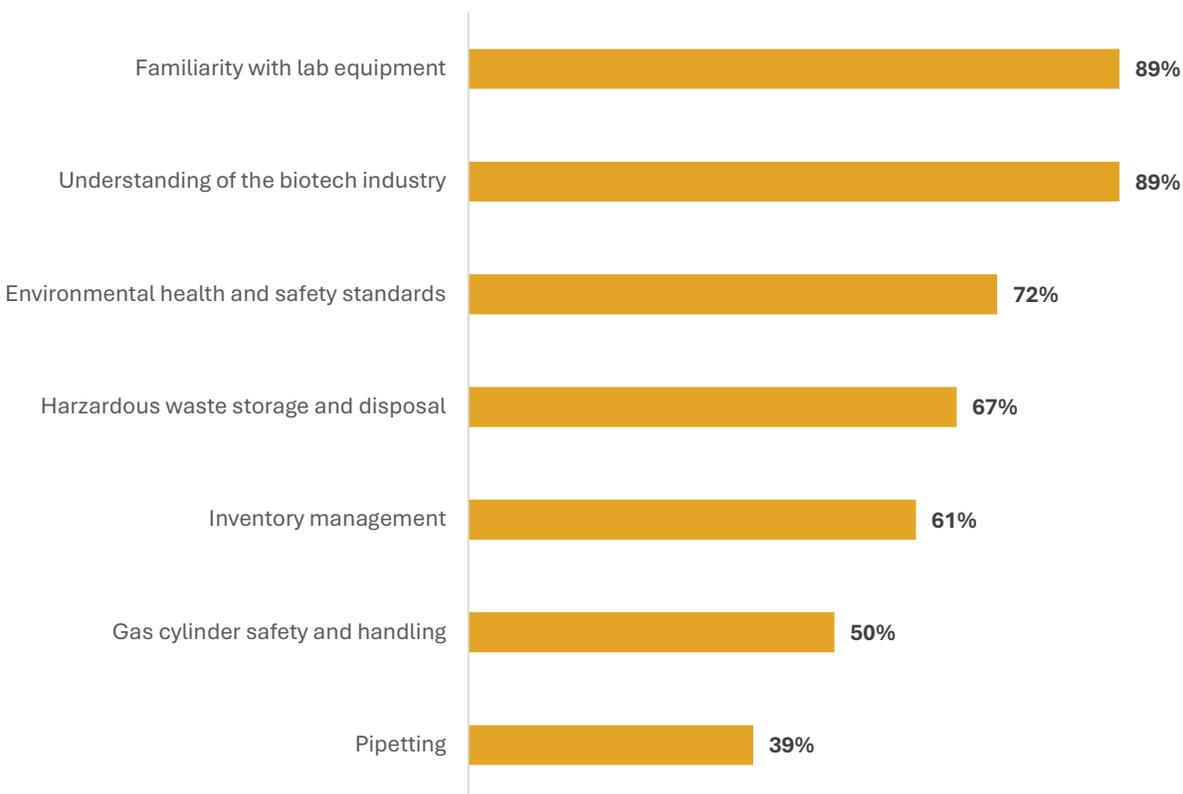
The Bioversity curriculum is designed to prepare students for immediate entry into the life sciences workforce. Through intensive, hands-on training in laboratory techniques, safety protocols, documentation practices, and professional skills, **students develop both the technical and non-technical skills needed to succeed in entry-level scientific roles.**

The top three technical skills gained in Bioversity that program participants reported as useful to their career include an understanding of the biotech industry (89%), familiarity with lab equipment (89%), and environmental health and safety hazards (72%) (Figure 8). In free-response sections of the participant survey, a few respondents also reported that they gained better knowledge of chemistry, mathematics, and Microsoft Excel during the program.

“When hiring, our primary concern was safety and understanding the hazards of what they would be working with.”

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Figure 8. Technical Skills Participants Gained Through Bioversity⁹ (n=18)



The most frequently identified non-technical skills that participants said they gained were collaboration (67%), punctuality (61%), communication (61%), and problem-solving (61%) (Figure 9).

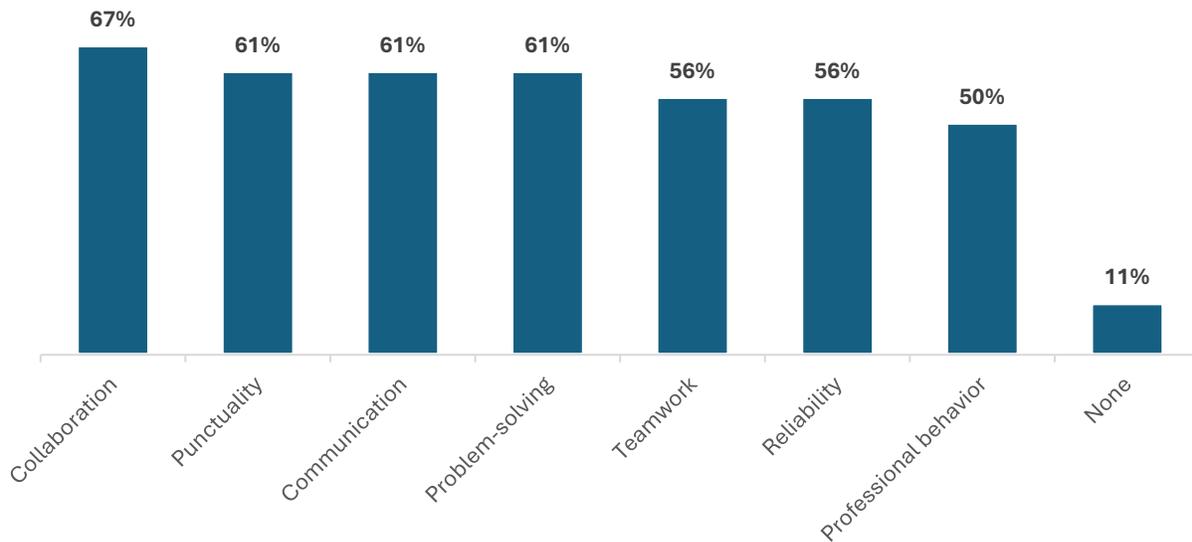
When participants were given free response space to identify other competencies learned in Bioversity that will benefit their career, six of the eight respondents who chose to answer highlighted career development practices such as networking and resume development.

“Our primary thing was that customer service attitude. We pull people out of the hospitality industry often. We tell our hires that scientists are your customers.”

“They need to be highly organized and willing to be agile and adaptive.”

⁹ Multiple responses permitted from respondents; responses may sum to more than 100%.

Figure 9. Non-Technical Skills Participants Gained Through Bioversity (n=18)¹⁰



Meeting Employer Needs

Employers’ overall perception of Bioversity and its graduates was highly positive, and the program was described as having many strengths. Executive interviewees consistently reported that they were very likely to recommend hiring program graduates to other employers in the industry. Recruiters, HR team members, and supervisors who have worked directly with Bioversity participants also described positive experiences, noting that the program helps create a reliable pipeline of candidates for entry-level roles.

In addition to these broad endorsements, employers highlighted specific ways the program strengthens workforce pathways, as described in the sections below.

“Bioversity creates a really strong pipeline of candidates for those entry-level type roles.”

“We would absolutely recommend hiring Bioversity graduates to other employers in the life sciences industry.”

Diversity

Surveyed employers said they prioritize access to a diverse talent pool too, as 91% of respondents rated this as “very important,” directly reflecting Bioversity’s mission to create and expand opportunities for underrepresented populations in the life sciences

¹⁰ Multiple responses permitted from respondents; responses may sum to more than 100%.

industry. In fact, all Bioversity students come from low-income households and 96% of them identify as non-white, demonstrating the program's success in meeting this mission.

Employers reinforced their appreciation for Bioversity's commitment to underserved communities during executive interviews, noting that it aligns with many of their own missions. Interviewees spoke of the need to have more people trained and ready to enter the field of life sciences and biotech, especially those from underprivileged backgrounds who may not have the opportunity to break into these fields otherwise. Bioversity is making strides to meet this need, ultimately benefiting employers and communities.

Employers emphasized that Bioversity creates meaningful opportunities for individuals who might not otherwise have been able to enter the life sciences field. By connecting companies with untapped talent pools, particularly for entry-level roles that often draw large but impersonal applicant pools, the program adds a valuable personal dimension to the hiring process.

Employers further noted that meeting participants face-to-face and engaging with them throughout their training journey not only builds stronger connections but also improves hiring outcomes.

“Bioversity had an incredible mission, it just made a lot of sense.”

“We like to give opportunities to underserved communities. When we recruit, I pull people from very diverse backgrounds, but they are so far away from biotech. We want to give them an opportunity to get into the industry, and Bioversity is doing the same thing, so it really aligns with our mission.”

“In general, their mission is really fantastic. They give people a chance to break into life sciences who may not have previously been able to.”

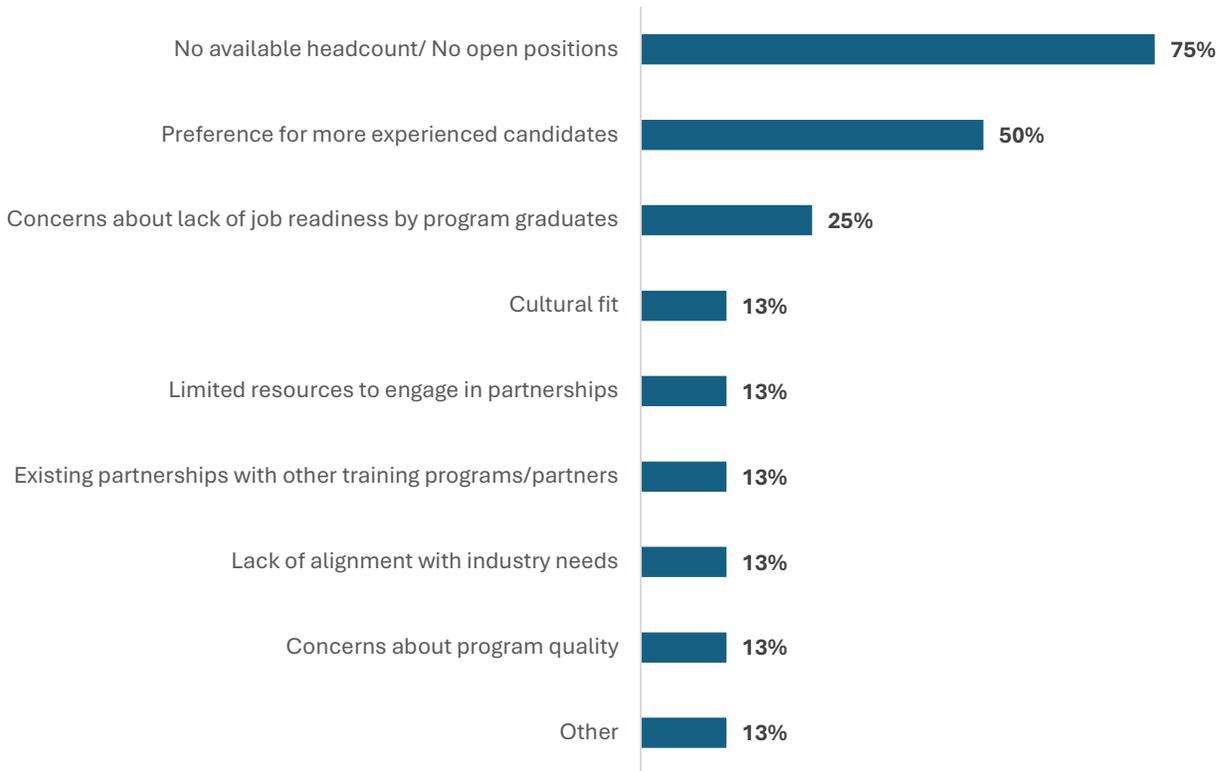
Occupations

Over half (53%) of life sciences employers surveyed have hired a Bioversity graduate, while 42% have not. Among those who have not, the most common reasons cited were lack of open positions (75%), a preference for more experienced candidates (50%), and concerns about job readiness (25%) (Figure 10). However, after reviewing the program curriculum, 63% of employers who had not hired a graduate indicated they would consider hiring one.

Employers that were interviewed reported hiring Bioversity graduates for the following positions:¹¹

- Laboratory Support Technician
- Contracted Environmental Health and Safety (EHS) On-Site Technician
- Lab Operations at Customer Service Sites
- Logistics Technicians
- Specimen Return Specialists
- Client Services Associate

Figure 10. Factors Influencing Employer Decision to Not Hire a Graduate¹² (n=8)¹³



¹¹ This list is not wholly representative of all occupations that Bioversity graduates have been hired for and is the result of a handful of interviews.

¹² Multiple responses permitted from respondents; responses may sum to more than 100%.

¹³ Low sample size (n=8)

Skills

During executive interviews, employers relayed that Bioversity graduates consistently demonstrated a solid understanding of foundational lab basics, safety protocols, and PPE.

All surveyed employers reported laboratory techniques as very or somewhat important for entry level workers, and 86% reported knowledge of health and safety codes as very or somewhat important.

Employers reported appreciation that Bioversity considers students' interests and motivations for being in the biotech field upon enrollment,

contributing to a positive attitude and willingness to learn. Employers typically train new hires to understand their specific organizational processes and standards; however, the

“Bioversity gives a really good foundation of lab practices. And they do a great job vetting if students are motivated and interested in the field.”

“Attitude is also a big aspect. Their willingness to learn and grow, and to take in everything, that has been great with all the Bioversity hires. They dive in and are eager to grow and see what’s next.”

“Bioversity provides opportunities to bring in talent where you know they have been vetted. They have some desire to operate in life sciences and have career ambitions.”

“Workers having that base-level knowledge has been extremely helpful.”

“There’s a connection where we know they’ve gone through the training program and they have a basic understanding of life sciences.”

“We hire either experienced folks or people from training programs. But we found that the folks from Bioversity come well prepared. The program is more extensive than the internal training we do, so it’s certainly helpful. They come in and we get them up to speed pretty quickly.”

foundational training they receive from Bioversity is crucial in enabling them to transition seamlessly into these roles.

Despite the strong technical capabilities of graduates, surveyed employers prioritized soft skills over technical skills for both entry-level and experienced hires.

For entry-level roles, employers consistently rated attention to detail (100%), professionalism (93%), and communication skills (87%) as “very important.” Other valued non-technical skills include interpersonal/client

relations skills (80%), good documentation skills and records management (73%), and flexibility and adaptiveness to change (73%) (Figure 11).

Figure 11. Importance of Non-Technical/"Soft" Skills for Entry-Level Workers Per Employers (n=15)



Recruitment

When it came to the recruitment process, employers reported that graduates were well-prepared for their job interviews. Hiring managers said they appreciated that graduates often take the lead in navigating the hiring process and seek out employment opportunities by having early hiring conversations with employers at career fairs, taking initiative in setting up interviews, and maintaining email correspondence. They also recognized that Bioversity program administrators are always willing to support the recruitment process.

Bioversity’s career fairs, mock interviews, and resume workshops are effective and successful ways for employers to recruit graduates. Career fairs were consistently cited in executive interviews as a beneficial platform for employers to meet the students and streamline their hiring processes. Stakeholders

“Partnerships like this, where employers can volunteer, helps the students for one, but it also gives them an introduction to our organization.”

“What we liked about Bioversity was the ability to partner beyond just fundraising. It’s been a true collaboration we’ve really enjoyed.”

appreciated the personal nature of meeting students before interviewing or hiring, as it allows them to learn about the students interests early on. Additionally, the resume book provided by Bioversity streamlined the hiring process and allowed for hiring managers to quickly and efficiently browse program graduates for potential job placements.

Partnerships

Bioversity’s strong partnerships, connections, and collaboration with the biotech industry are core components of the program. Most employers in executive interviews explained that they were involved in the creation of Bioversity early on, and each one appreciated the opportunity to provide suggestions on industry standards and norms to help develop the curriculum. **The most important partnership priorities were access to a diverse talent pool (91%), relevance to industry needs (82%), quality of training (73%), and flexibility in commitment level (73%)** (Figure 12), all of which may be found in partnership with Bioversity.

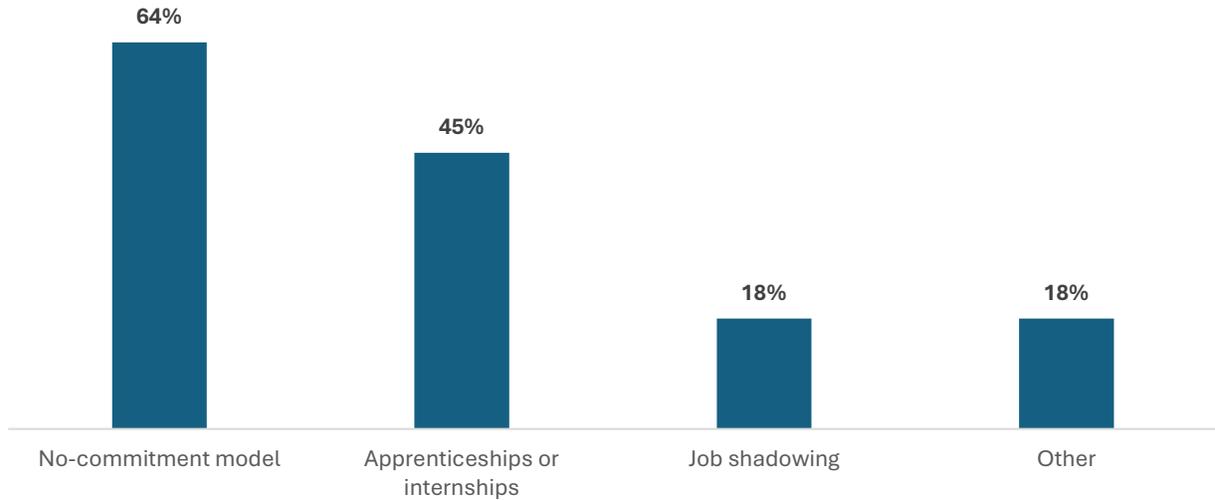
Figure 12. Importance of Employers’ Partnership Priorities (n=11)



Employers value flexible, low-commitment partnerships that prioritize diversity and industry relevance. When considering partnerships, employers overwhelmingly said they prefer a no-commitment model (64%), followed by internships or apprenticeships (45%), and job shadowing (18%) (Figure 13). Other preferred partnership structures included direct hiring models and resume/job interview support in class.

“In this industry, things can change on a dime. A no-commitment model that is more open-ended and where you can take advantage when the opportunity arises is great, because it’s really difficult to plan months ahead and hard to execute on the long term.”

Figure 13. Preferred Partnership Structures¹⁴ (n=11)



¹⁴ Multiple responses permitted from respondents; responses may sum to more than 100%.

Current Challenges

Workplace Readiness

Common challenges that surveyed employers reported with program graduates included a lack of experience with standards of professionalism and an absence of workplace readiness. This included an absence of cognizance in the following areas:

- Professional communication (email etiquette, timeliness of responses)
- Workplace norms (appropriate attire, taking lunch breaks, calling out sick)
- Offer management (navigating the negotiation processes, handling multiple offers)

“There is a little bit of chasing that had to be done at times [when hiring]. Email response times could be improved, we have been in conversation with candidates, and they just go dark. They need to be exposed to turning down offers.”

“Exposure to systems and processes of a full-time job and corporate environment could be improved. That professional development aspect would go a long way.”

“A lot of them haven’t worked in an environment like this before. There is a level of professionalism that is expected and required that some were not familiar with.”

“Some individuals were quite early in their career. It may present a challenge in a complex corporate environment.”

“There’s a learning curve for some of these applicants. Some don’t know how to deal with offer negotiation of a multi-offer scenario.”

The inherent nature of the Bioversity training program allows students to learn the importance of many soft skills. However, there is opportunity for Bioversity to incorporate more time and concrete training dedicated to other soft skills, such as customer service and communication, as well as workplace readiness and professionalism standards to better align with the non-technical skills that employers indicated as important.

While Bioversity equips students with needed skills and provides support for employment in the life sciences industry, both employers and participants reported barriers and setbacks for hiring and

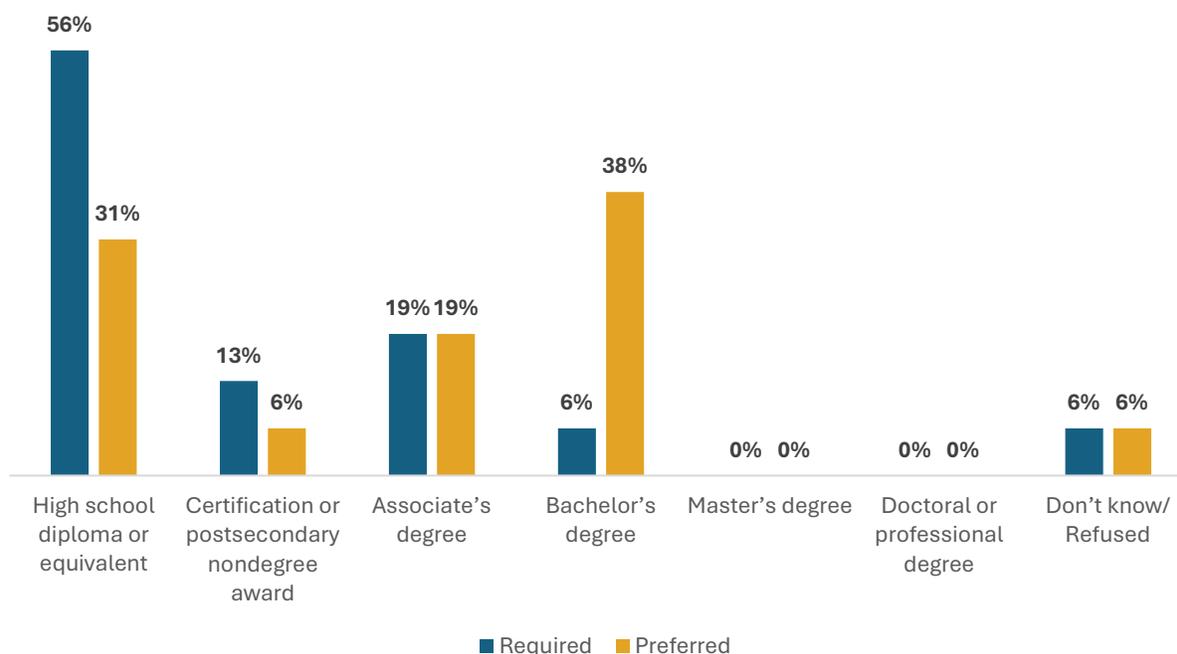
retention after the program.

While most employers reported requiring a high school diploma or equivalent for entry-level roles (56%), **a bachelor’s degree remains a common threshold for advancement.** Despite a focus on diversity, 38% of employers said they prefer a bachelor’s degree for entry-level roles, while only 6% said they require candidates who hold one (Figure 14). This gap suggests a need for future research, exploring the underlying reasons behind employer preferences for a bachelor’s degree, even when it is not a formal requirement.

Existing research indicates that “employers often rely on bachelor’s degrees as proxies for other skills that graduates are assumed to possess.”¹⁵ Offsetting this proxy means building a reputable program that can serve as a signal to employers that graduates possess the same level of knowledge and skills as bachelor’s degree holders.

For non-entry level roles, a bachelor’s degree is both the most frequently required (56%) and preferred (44%) qualification for surveyed employers. Over half of the respondents (56%) who require a bachelor’s degree or higher for non-entry level roles indicated they are “not at all likely” to hire an applicant without one for experienced roles.

Figure 14. Required vs. Preferred Level of Education for Hiring Entry-Level Employees (n=16)



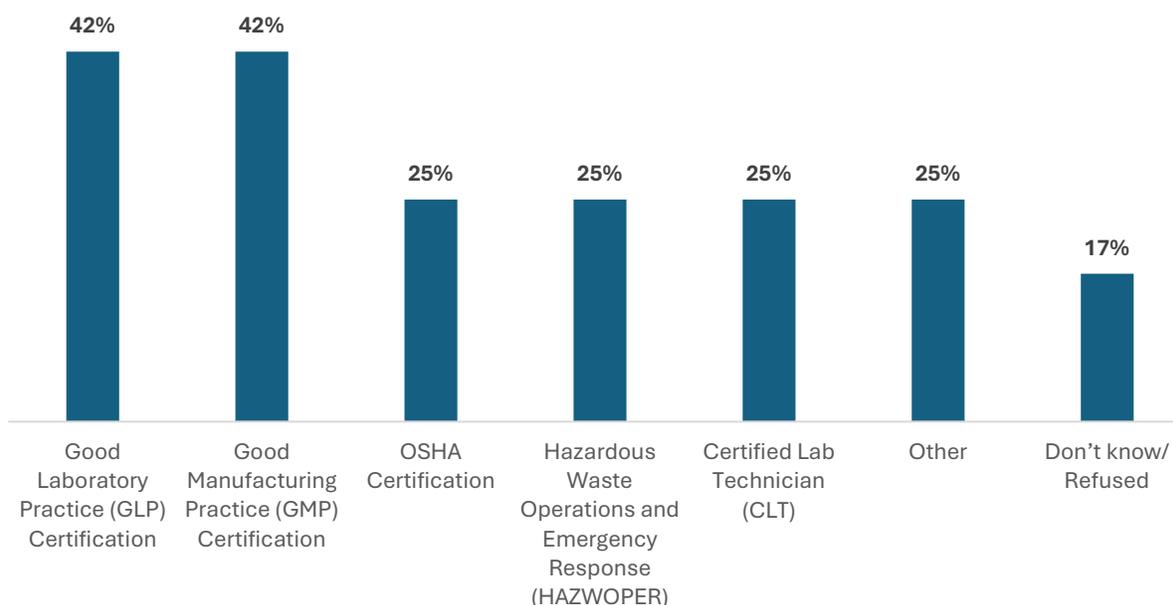
¹⁵ “The Emerging Degree Reset,” The Burning Glass Institute. 2022. https://www.hbs.edu/managing-the-future-of-work/Documents/research/emerging_degree_reset_020922.pdf

Certification and Credential Preferences

The employer survey also found that certifications and credentials play a critical role in developing a skilled workforce. For scientific/technical roles, certifications such as Good Laboratory Practice (GLP) and Good Manufacturing Practice (GMP) were considered important by 42% of employers, and were specifically highlighted as useful credentialing by surveyed employers. Other important certifications include Occupational Safety and Health Administration (OSHA) certifications (25%), Hazardous Waste Operations and Emergency Response (HAZWOPER) (25%), and Certified Lab Technician (CLT) (25%) (Figure 15). Meanwhile, Project Management Professional (PMP) or Certified Associate in Project Management (CAPM) (43%) was the most valued credential for non-technical roles.

While Bioversity embeds familiarity with GMPs, Standard Operating Procedures (SOPs), and Good Documentation Practices into its curriculum, students do not graduate with official certifications of GLPs, GMPs, or other key certifications. Thus, students may not be aware of how to obtain them or of their existence. Bioversity could consider playing a role in supporting students to seek these certifications or credentials, or embedding micro-credentialing into the program to enhance participants' attractiveness in hiring.

Figure 15. Certifications/Credentials Organizations Find Most Important When Hiring Applicants for Scientific/Technical Roles¹⁶ (n=12)



¹⁶ Multiple responses permitted from respondents; responses may sum to more than 100%.

Interview Preparation

Key components of the job search and interview process were also highlighted as existing challenges for program participants and employers. Some respondents in the participant survey expressed a desire for greater support during their job search process or upon starting their careers, after graduation. Interviewed employers noticed some candidates struggled with facing multiple job offers or turning down offers. They also faced challenges with the email etiquette of some candidates, such as appropriate response times.

In job interviews, employers witnessed how Bioversity students and graduates struggled to translate their valuable prior experiences, especially from hospitality, retail, or customer service, into relevant biotech competencies. This finding also emerged in the human-centered design workshop, where stakeholders recommended specifically training students in how to translate their previous experiences into relevant skills for interviews.

Access to Transportation

Lastly, location and transportation remain significant challenges for both employers and program graduates. Many employers in executive interviews reported losing strong candidates due to the lack of accessibility to their facilities. Given that a large portion of graduates rely on public transportation, job opportunities outside major metropolitan areas often present a barrier to employment. However, multiple employers noted that the new Bioversity facility in Lowell, MA will prove helpful in finding candidates closer to their locations or those who live outside the city.

“Our location is a bit of a limiter. We have several sites in Massachusetts, but it’s hard if candidates are dependent on public transportation.”

“Sometimes we’ve run into commute problems because not everyone has a car. That’s one of the tougher things...this was a hurdle for candidates that we would have liked to move forward with.”

“Many employees need access to reliable transportation. We have some sites where there is flexibility with public transit, but not all are.”

Recommendations

The recommendations presented below are designed to support both immediate and long-term improvements to the program. While Bioversity has already integrated many of these elements into its training program in some capacity, speaking with employers and participants throughout the research process revealed that maximizing impact on students will require refining some of these approaches to incorporate additional structure and a contextualized approach that more strongly aligns with both student and employer needs.

The following recommendations are organized by key areas of program development, as shown in the findings of this research study:

- **Additional Modules and Program Enhancements.** Specific program additions highlighted during the human-centered design workshop were strongly favored by the session’s stakeholders and reinforced many themes found in interviews and surveys.
- **Professional Etiquette and Non-Technical/ “Soft” Skills.** Employers consistently emphasized the importance of non-technical or “soft” skill development throughout all avenues of the research process—including in interviews, surveys, and the human-centered design workshop—underscoring the urgent need for intentional soft skill training enhancements. For entry-level roles, the most common skills cited as “very important” were attention to detail and professionalism, offering Bioversity the opportunity to enhance its training model to strengthen its interpersonal and workplace skill development.
- **Public Speaking and Communication.** Throughout stakeholder interviews, employer surveys, and the human-centered design workshop, public speaking skills and communication consistently arose as vital areas for student development.
- **Mentorship, Networking, and Alumni Engagement.** Both students and employers expressed a desire to incorporate more real-world experience into the program. Incorporating mentorship, networking, and job shadowing opportunities can better inform students about realistic work expectations, tasks, requirements, and environments. Additionally, while the program’s mission of connecting underrepresented populations with well-paid careers in the life sciences is effectively realized through successful graduate outcomes, keeping alumni connected and engaged post-graduation has been a challenge.
- **Individual Career Development and Pathways.** Beyond resume and interview preparation, employers identified a need for deeper career development support. Students often struggle to translate prior experiences into relevant life sciences competencies.

Additional Modules and Program Enhancements

To broaden the program's impact, Bioversity could consider expanding upon some existing modules and adding further program elements.

Microsoft Office, AI, and Workplace Software

To better align with employer expectations identified throughout the research process, Bioversity could formalize its computer literacy training to ensure students are equipped with the digital skills most valued in today's professional environments, noting and accounting for the different skill levels among students entering the program. In addition to foundational training in Microsoft Office applications and other common digital tools (e.g. Zoom and other video call platforms, Slack and other instant messaging platforms), the module could expand to include emerging technologies, particularly artificial intelligence (AI) tools. While Bioversity already encourages the strategic use of AI to solve problems and streamline tasks, enhancing this training means teaching students how to critically evaluate and apply AI tools in workplace contexts. Employers are increasingly seeking candidates who are not only familiar with AI but who can use it confidently to support decision-making. Introducing students to industry-specific use cases will help them see how these tools are shaping the future of work. Embedding these examples into classroom activities ensures students gain hands-on experience with the technologies they are likely to encounter on the job, making them more adaptable and competitive from day one.

Rotating Administrative Roles

Within each student cohort, a rotating "office manager" or "office assistant" role can serve as a valuable opportunity for students to practice leadership, responsibility, and accountability—skills essential in every workplace. Students in this role would be responsible for managing daily logistics, such as printing and distributing the schedule, outlining the day's agenda to the class, and helping ensure their peers are prepared and on task. These leadership roles can also be paired with peer-to-peer feedback, where students evaluate or grade each other's work and performance, and then provide feedback. Additional strategies, such as assigning students to temporarily take on instructor-like responsibilities or lead short segments of class, can further reinforce confidence and ownership. Case studies based on real workplace scenarios could also be used to challenge student leaders to navigate common team dynamics, such as resolving scheduling conflicts or managing group accountability. This hands-on experience would

help students develop organizational and management skills that are critical for many workplaces and entry-level positions.

Professional Etiquette and Non-Technical/“Soft” Skills

Bioversity should emphasize professional development and workplace etiquette by continuing to offer site visits and embedding further lessons on professional decorum and communication. Potential near-term enhancements include the following:

“Professionalism 101” Course

Bioversity could consider formalizing a “Professionalism 101” course as part of its curriculum. Under the current approach, many of the lessons on professionalism are taught through informal methods; formalizing this approach means intentionally and thoughtfully teaching the essentials of workplace norms and behaviors, including email etiquette, how to conduct oneself at business luncheons or dinners, effective communication with managers and colleagues, and strategies to appropriately handle mistakes.

Dress Code and Visual Guidance

To help students understand professional expectations, a class-wide dress code—supplemented with visual demonstrations of appropriate attire for various workplace settings—can be highly effective. This approach provides both conceptual understanding and practical guidance on how to present oneself in the workplace. Equally important is ensuring students have access to affordable options for both business and lab attire, so they can meet dress requirements in the classroom and after graduation. A strong example of this model is Year Up United, which enforces a clearly defined business dress code, introduced at the start of their training.¹⁷ The program also connects students with affordable clothing sources and offers free access to their own supply of donated professional attire. At Bioversity, a similar initiative should include clear guidance on typical attire for lab operations and manufacturing roles, with an emphasis on required safety gear.

¹⁷ [Answers to Student Questions | Year Up United](#)

Interactive Classroom Challenges and Real-World Scenarios

Employers consistently emphasized the importance of hiring individuals who are comfortable collaborating in teams, communicating effectively, and demonstrating initiative by asking questions and seeking clarity. To help students build these essential workplace behaviors, classroom activities should be designed to simulate real-world professional dynamics. Bioversity already incorporates this approach in modules such as the laboratory safety challenge and the “what would you do” interview/hiring scenarios, which are based on actual situations recent graduates have faced. These exercises prompt students to think critically, navigate ambiguity, and practice professional judgment in realistic contexts.

Expanding the use of real-world scenarios can further strengthen soft skill development by translating abstract concepts—like leadership, conflict resolution, and collaboration—into tangible, relatable situations. For example, Bioversity’s existing mock interviews serve as role-play case studies that help students prepare for honest hiring conversations. Additional case studies could explore common workplace dilemmas, such as navigating team miscommunication or resolving disagreement. While these activities can be time-sensitive when done thoroughly, they can be embedded into existing modules or assigned as structured homework to avoid extending the overall training schedule. This approach ensures students gain practical experience in handling the kinds of interpersonal and professional challenges they’re likely to encounter in workplace settings.

Real-World Case Studies in Practice

“The case study method forces you to use limited information to decide how to handle a problem—just like in the real world. Learning through the case method allows you to practice this skill in a low-stakes environment.”¹

Bioversity integrates real-world case studies into its curriculum to help students prepare for the kinds of hiring and interview situations that past graduates have faced. These scenarios are designed to build decision-making skills, personal responsibility, and professional judgment—qualities employers consistently value. Bioversity currently employs the real-world case study method to help students prepare for hiring and interview situations that past graduates have encountered. Students are asked to work through realistic challenges, reflect on their options, and discuss how they would respond in each situation. Example scenarios include:

- Scenario 1: You’re invited to a second round, in-person job interview for a role that seems like a good fit. After looking up the company’s location, you realize the commute would be about an hour each way every day, and you do not want to travel that far. The interview is tomorrow. What should you do?
- Scenario 2: You receive a job offer, but the wage is lower than you were hoping to make. You have an interview with a different company scheduled the next day, but the company making you an offer needs an answer on the offer in three days.
- Scenario 3: During an interview, the recruiter asks you directly: “What are your salary expectations?” How should you answer?
- Scenario 4: An employer reaches out to schedule a virtual interview with you. When you log on at the scheduled time, the interviewer doesn’t show up. What should you do?
- Scenario 5: After several weeks of applying for jobs, a recruiter finally calls you with an offer for an initial interview. The role isn’t exactly what you had in mind, but it could help you get your foot in the door. How should you respond?
- Scenario 6: An employer that has hired Bioversity graduates in the past shared a new job posting with Bioversity staff, encouraging everyone to apply. You're in week five of Bioversity and aren't totally sure yet what kind of jobs you want to apply to. What should you do?

Reinforcing the Importance of Site Visits

Site visits should continue to be emphasized as an important part of professional development at Bioversity. To maximize their value, students should be advised to practice active listening, ask thoughtful questions, and observe workplace behaviors and norms during these visits.

Public Speaking and Communication

To further strengthen the program's curriculum on communication skills, Bioversity should consider formalizing additional program elements that emphasize comfort and ease in public speaking. Bioversity is not looking to train students to professionally present on day one of their first role, however the program recognizes that activities such as presentations provide students with the skills necessary for interpersonal communication most desired by employers.

Interactive Speaking Activities

Continuing to integrate icebreakers, group discussions, and conversational prompts into regular lessons can help students build confidence in speaking. These activities offer low-stakes opportunities to practice both formal and informal communication in a supportive environment.

Structured Presentations and Feedback Mechanisms

Requiring student presentations, paired with structured feedback from peers and instructors, ensures consistent practice with public speaking. While most students won't be giving formal presentations in their first job upon graduation, employers repeatedly emphasized the importance of hiring individuals who are comfortable speaking with others, asking questions, and communicating professionally in a variety of settings—including in interviews, team discussions, and one-on-one conversations. Requiring student presentations helps build this confidence and fluency. To deepen the learning process, students can also record themselves and use the videos as a feedback tool, allowing them to reflect on their own delivery and track improvements over time. Instructors can guide students through this type of self-reflection, enabling them to identify areas for improvement. The goal of these presentations and feedback mechanisms is to ensure graduates can communicate effectively (e.g., providing eye contact, active listening) and represent themselves well in any professional context.

Mentorship, Networking, and Alumni Engagement

Currently, Bioversity approaches mentorship and networking through informal methods, including inviting industry professionals to the classroom to discuss their roles and experiences and integrating networking best practices and skills into the curriculum. Additionally, the program has made an effort to maintain and share an inventory of relevant career development events for students. Bioversity recognizes the value of mentorship and networking opportunities, but student and alumni participation in industry events has been limited. In addition to the challenge of increasing attendance for alumni and current students at career events, maintaining alumni relations overall is a challenge for the program; strengthening these connections should be a critical long-term priority. Options to explore as the program's network grows to formalize mentorships include:

Sponsored Professional Mentorships

As the program continues to expand and evolve, Bioversity might consider developing a formal, sponsored mentorship program between current students and alumni. A formal mentorship program would create an ongoing channel for knowledge-sharing. Alumni could help students navigate both classroom challenges and post-graduation realities, while strengthening their own ties to the Bioversity community. Despite the benefits of a formal mentorship program, there are recognizable challenges to developing this program, such as alumni participation and follow-through.

Incentivizing Mentorship and Networking

Additionally, Bioversity could explore small stipends or other incentives for attending networking opportunities and engaging in mentorship activities. Not only would an incentive mitigate the financial challenges that many graduates face, but these supports would reinforce the value of professional relationship-building while increasing student and alumni involvement.

Alumni Guest Speakers and Content Contributors

Alumni could be invited to serve as guest speakers or contribute video content that highlights career lessons and workplace insights. Sharing real-world experiences not only strengthens connections between alumni and students but also provides current

participants with relatable role models and practical advice. A small stipend or reward may be necessary, however, to incentivize participation.

Professional Mentorship Case Study: MeHI's Health IT Mentorship Program

Massachusetts eHealth Institute (MeHI) developed its [Health Information Technology \(Health IT\) mentorship program](#) to provide the opportunity for MA college students to learn about career options, network, and receive guidance from mentors. Mentors come from a diverse range of workplaces, including hospitals, community health centers, community-based organizations, provider groups, and other health care organizations. The program pairs current health IT professionals with students looking to enter the field, and has a structured design of what it entails:

- Meetings of at least one hour every two weeks
- Mentees work on a health IT-focused long-term project with their mentor over the course of the program
- Program culminates in a virtual project showcase
- Virtual networking among mentees
- \$250 stipend to mentees upon successful completion

The program's defined structure, along with elements that stimulate creativity and growth, contribute to its success among both mentees and mentors, offering a promising model for a mentorship program. There are many opportunities for grant funding across the state to support professional development—the [MA Executive Office of Economic Development \(EOED\) Workforce Grants](#) offer numerous viable options for funding to support a mentorship program. While many are industry-specific or strictly eligible to certain age groups (such as youth or high school students), there is potential for Bioversity to secure grant funding to support a mentorship program through programs like those offered by EOED.

Post-Graduate Reflection and Support

Creating a post-graduate course could provide alumni with a forum to reflect on workplace challenges and receive targeted support from instructors and peers. While ongoing classes may be difficult to implement given the schedule constraints of many post-graduates, a one- or two-time “refresher session” informed by employer feedback could provide graduates with meaningful skill reinforcement.

Individual Career Development and Pathways

Bioversity should continue to support students in developing individualized career plans. Potential improvements include:

Skill and Interest Assessments

Bioversity could strengthen its individualized career planning process by formally integrating skill and interest assessments to help students identify their existing and transferable skills, align their strengths with suitable career paths, reflect on how personal likes/dislikes and personality traits connect to long-term career goals, and create individualized learning plans. After students complete the assessment, Bioversity staff can meet with them initially to discuss what they want out of the program. They will then continue to meet regularly throughout the training program to discuss career goals, whether the program is meeting their needs and interests, and next steps in their career.

Career Pathway Informational Packets

To provide students with clearer guidance, the program could develop career pathway informational packets for various industry roles. These resources would detail required skillsets, advancement opportunities, and “day in the life” examples for different industry roles, giving students a realistic sense of potential work environments beyond the laboratory setting; these should be informed by employer and industry input.

Conclusion

Bioversity delivers meaningful and measurable impact, with a proven track record of outcomes that have positively shaped career trajectories and improved the lives of participating students, while addressing significant labor market shortages for area employers. The program has demonstrated a strong commitment to equipping participants with both foundational knowledge and practical skills essential for success in the industry. The research conducted as part of this study indicates a positive impact on both students and firms: the curriculum and structure of the program are well-received by companies, and students are actively achieving positive employment outcomes upon graduating from the program.

The program's culture of continuous improvement is clearly demonstrated by the proactive adoption of many recommendations in some capacity, reflecting a commitment to staying responsive and relevant in a transforming and dynamic industry. With its strong foundation and commitment to improvements and expansion, the program remains a vital contributor to workforce development within the life sciences sector.

Appendix A: Methodology

BW Research Partnership (BW) conducted three research workstreams—stakeholder interviews, participant and employer surveys, and a human-centered design workshop—to evaluate Bioversity’s training program for entry-level life sciences roles and identify opportunities for improvement and/or expansion.

The stakeholder interview workstream consisted of seven executive interviews with employers in the life sciences industry who have hired graduates of Bioversity’s core training program, “Biotech Career Foundations,” to better understand the program’s successes, challenges, and potential areas of expansion. The interviews took place from April to May of 2025, and each interview was scheduled for approximately 30 minutes. A baseline discussion guide was used to direct all seven conversations.

The research team also administered two surveys, one for Bioversity participants, and another for life sciences employers in Massachusetts. The participant survey was conducted from April 29th to June 14th, 2025, garnering 40 responses (n = 40) from 30 Bioversity graduates and 10 students who were in their final days of the program.¹⁸ The employer survey was fielded to a subset of employers within the MassBio universe from June 5th to July 8th, 2025. The survey obtained 23 responses (n = 23) from employers within Massachusetts’ life sciences industry.¹⁹ Of the respondents, 76% of employers had 1 business location in MA, while 12% had 2 business locations.²⁰

Finally, BW conducted a human-centered design workshop with 8 employers and educators in the life sciences industry familiar with Bioversity’s core training program, Biotech Career Foundations, to inform the program’s strategic planning efforts. The workshop took place on September 11, 2025, at Southline Boston and ran for 90 minutes.

¹⁸ Due to self-reported misclassifications of students vs. graduates in a screener question of the survey, BW Research has reclassified several responses based on the date the survey was taken and the email address of respondents. This report cites the reclassified results.

¹⁹ This survey was not intended to be representative of the entire life sciences industry in Massachusetts. Instead, it targeted firms likely to be interested in, or benefit from Bioversity’s program offerings. The sample was deliberately selected based on specific characteristics to assess potential alignment with Bioversity’s services and was provided by Bioversity. As such, findings should be interpreted within this context.

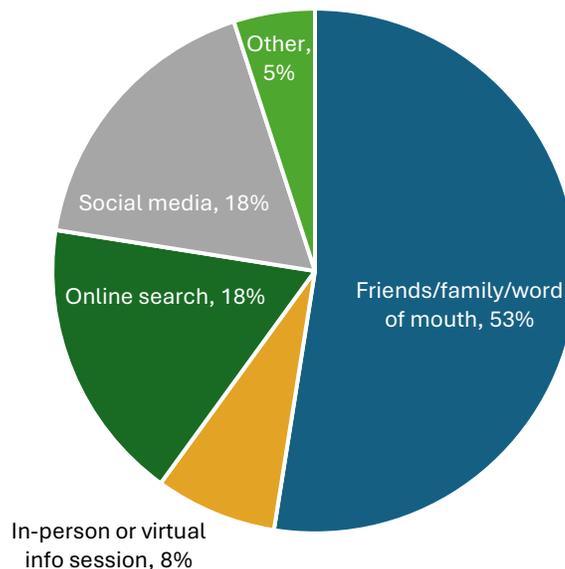
²⁰ The remaining 12% of respondents selected “Don’t know/ Refused” for this question. This question was a free response, however no respondents reported another figure.

Appendix B: Additional Learnings of Employer Preferences and Needs

Awareness and Interest

More than half (53%) of the surveyed participants learned about Bioversity from friends, family, colleagues, or other connections, demonstrating how **word of mouth is a key recruitment tool for Bioversity**. This was the greatest source of awareness by over 30 percentage points. This was followed by 18% who found Bioversity from online searching and 18% through social media (Figure 16). While word of mouth is a key source of recruiting, this may also highlight a need to more closely examine recruitment methods to ensure the program is equitably reaching some of the lowest-income or highest-burdened job seekers who may be missed due to their disconnection from applicable and reliable social circles or online platforms.

Figure 16. Sources of Awareness About Bioversity (n=40)

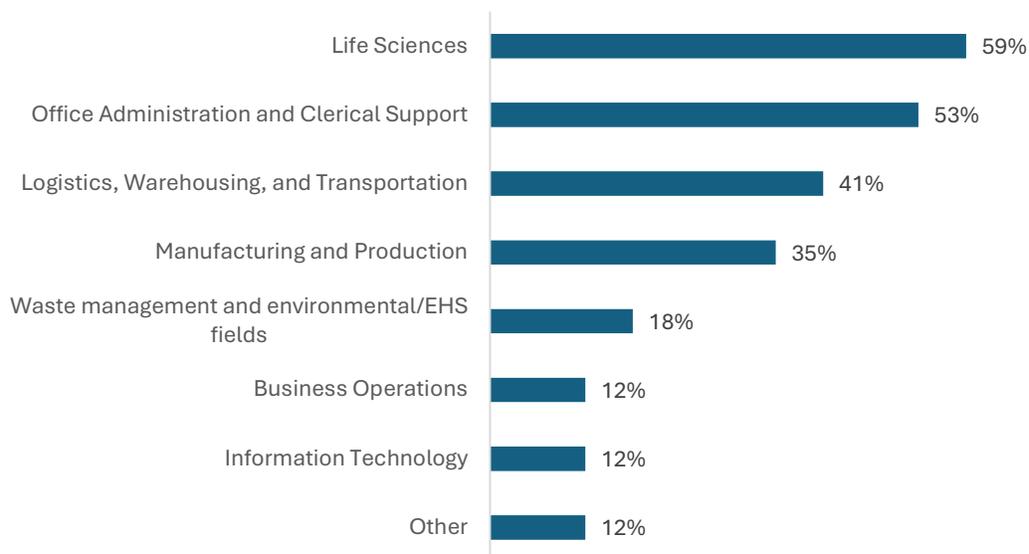


Occupations

Approximately three-fifths (59%) of the surveyed employers indicated their interest in hiring Bioversity graduates in the life sciences industry and 53% had interest in hiring these applicants in office administration and clerical support fields (Figure 17). More

specifically, they reported seeking candidates for roles such as laboratory technicians, including those in media preparation, buffer preparation, and accessioning technicians, along with laboratory and research assistants in the life sciences. For office administration and clerical support, roles of interest included staff assistants, administrative or executive assistants, facilities coordinators, technical services associates, as well as roles in client services, grants, and finance departments.

Figure 17. Fields Employers Reported Interest in Hiring Applicants For²¹ (n=17)

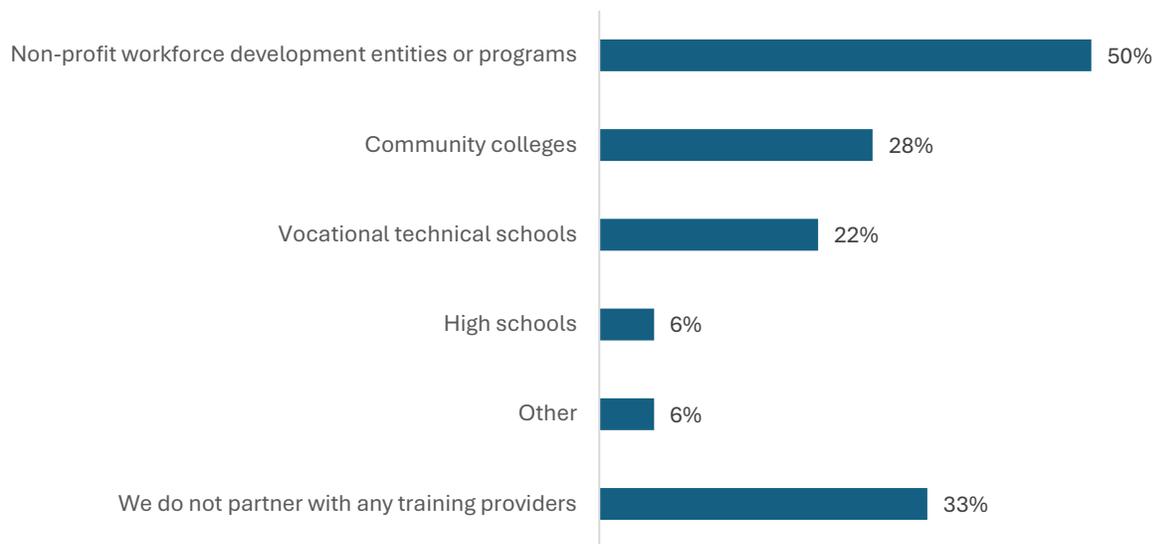


Partnerships

Most frequently, employers said they partner with non-profit workforce development programs (50%), community colleges (28%), and vocational technical schools (22%) (Figure 18). Almost three-quarters (73%) of employers who reported partnering with training programs also hired from these organizations. Of those who have hired a student from a partner program, 88% hired from non-profit workforce development entities or programs, 38% hired from vocational technical schools, 25% hired from community colleges, and 13% have hired right out of high school. One-third (33%) of respondents reported that they do not currently partner with any training organizations; among them, one cited a lack of hiring needs, another cited limited resources, and the third respondent attributed their decision to both factors.

²¹ Multiple responses permitted from respondents; responses may sum to more than 100%.

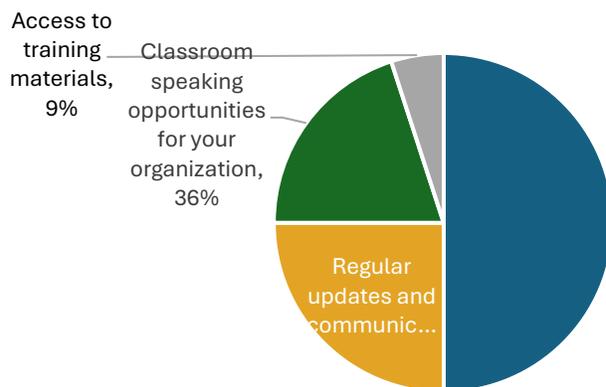
Figure 18. Partnering Organizations to Recruit Talent²² (n=18)



Resources

Employers reported seeking the following resources and support from recruitment partners: opportunities for networking with students/graduates (91%), regular updates and communication (45%), classroom speaking opportunities for their organization (36%), and access to training materials (9%) (Figure 19). Participants in the human-centered design workshop suggested pairing 1-on-1 mentorships between students and industry professionals so that students can ask questions, learn from, and observe the role and workplace of the industry professionals.

Figure 19. What support or resources do you seek from partners? (n=11)



²² Multiple responses permitted from respondents; responses may sum to more than 100%.