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Executive summary

The academic year 2022-2023 marks ten years since Bass Connections launched. In that time, 4,715 unique students have participated in the program — including many who participated across multiple years — and the program now counts over 3,900 alumni. To better understand the long-term impact of the program, we conducted a series of focus groups with Bass Connections alumni in February and March 2023. The purpose of these focus groups was to assess general alumni satisfaction with Bass Connections, the impact of the program on alumni career trajectories, and opportunities to improve Bass Connections programming and engagement with alumni.

Key findings from these discussions include:

- **Student development:** Most alumni agreed that Bass Connections programming helped strengthen their research, leadership, communication and project management skills. Alumni who participated as undergraduate students generally agreed that the program gave them a heightened sense of confidence and comfort expressing their opinion in academic and professional settings, while alumni who had participated as graduate students were more likely to highlight how the program enhanced their project management and leadership abilities.
- Post-graduation paths: Bass Connections had a profound impact on the career paths of many of the alumni interviewed. Most alumni reported pursuing further education or professional opportunities in the same field as their Bass Connections projects, and some shared that they had changed their post-graduation plans after finding a new passion through the program. Most undergraduate alumni pursued further studies after leaving Duke, while several immediately began professional careers. Alumni have since moved into a variety of fields with 40% of alumni working in the for-profit sector, 25% in the non-profit/higher education sector and 21% pursuing further education.
- Formative experiences: Most alumni agreed that Bass Connections was a formative experience.
 When asked about their most memorable experiences in the program, alumni generally reflected on moments when they were forced to operate outside their comfort zones, including off-campus fieldwork or taking on a new, challenging assignment.
- Opportunities for improvement: Despite their generally positive overall experience in the program, most alumni noted that their Bass Connections experience was sometimes frustrating due to unclear goals, confusing expectations and/or disorganized leadership on their team.
- **Alumni engagement:** Most alumni are eager to interact with current students and learn about current Bass Connections programming related to their field.

Background and methods

In the spring of 2023, Bass Connections hired a research assistant, who was also an alumnus of the program, to conduct focus groups with Bass Connections alumni. The goal of this study was to assess the impact of the program over time and identify opportunities to improve the program for future participants by gaining deeper insight into the experiences and perspectives of program alumni.

This study follows up on an <u>alumni survey</u> administered by Bass Connections in October of 2020 and was designed to provide more context and depth to the data collected through that survey.

During these focus groups, participants were asked to reflect on whether their post-graduate career was shaped by their Bass Connections experience, which kinds of skills and knowledge they acquired through their Bass Connections experience, what they would have liked to improve about their Bass Connections experience and how they hope to stay engaged as Bass Connections alumni. A total of 33 alumni participated in six focus groups which were conducted in February and March 2023. Each focus group included four to seven participants and lasted about an hour. While a common base of questions was used across focus groups, some questions were also added to individual discussions based on the continuously changing respondent discourse.

Recruitment design and participation

In early February 2023, 1,419 Bass Connections alumni were invited to a focus group to discuss their experience with Bass Connections. This pool included all alumni with active contact information who graduated from Duke between spring 2013 and spring 2019. This window of time was selected to assess how alumni would reflect on their experience in the program at least four years after graduating. A small handful of students who replied to the 2020 survey and reported that they had not been very involved in their Bass Connections experience were excluded from the recruitment pool to focus on the experiences of those students who had fully engaged in the program.

As Bass Connections is a vertically integrated program including graduate and undergraduate students, the recruitment pool included alumni of Duke undergraduate, graduate and professional degree programs. Alumni were contacted via email and asked to complete a brief survey that included their name, current employment/education information and availability for the focus group. The invitation summarized the purpose of the study and noted that the focus groups would be conducted by a research assistant and that participants' information would remain confidential.

The invitation, which was only sent once, garnered 74 responses, with 60 respondents indicating times when they were available to attend a focus group and 14 respondents indicating that they would be open to discussing their experience with Bass Connections at an alternative time. After alumni filled out the survey, they were sent Outlook invitations with instructions to join a Zoom meeting. Ultimately, 33 alumni attended their designated meeting time.

Among the alumni who participated, there was an almost even split of alumni who participated in Bass Connections as undergraduate versus graduate students, with 16 having participated as undergraduate students and 17 as graduate students. It is worth noting that this is not representative of the overall alumni pool as graduate/professional students comprise about 25% of all Bass Connections participants.

Data collection

During the focus groups, alumni were asked for consent for the meeting to be recorded for transcription purposes, given a brief introduction to the project, and asked questions about their Bass Connections experience and life after Duke. The study questions are listed below. All focus groups answered primary questions 1–5, while certain groups answered secondary questions 6 and 7. Omitting certain questions or adjusting the sequence of questioning was necessary to allow participants to discuss topics freely while ensuring the discussion remained focused and productive. Overall, four groups answered question 6, and three groups answered question 7.

- 1. We have the information you submitted in advance about your current position, but can you please *briefly* summarize your professional journey since graduating from Duke? For example, did you complete additional schooling? Have you held positions other than your current one?
- 2. How, if at all, has your post-graduate career been shaped by your Bass Connections experience?
- 3. What skills and knowledge do you think you developed through Bass Connections? Of the skills and knowledge that you developed through Bass Connections, which have you relied on most in your career?
- 4. In retrospect, what, if anything, would you change about your Bass Connections experience?
- 5. How can we better engage alumni? How might we invite alumni to contribute their expertise to current project teams?
- 6. Describe a memory that sticks out in your mind about your Bass Connections experience. Explain it and why it's memorable to you.
- 7. What was your most transformative experience at Duke? This could be anything: study abroad, a club or volunteer activity, a class you took, DukeEngage, Bass Connections.

Data analysis

After completion of the focus groups, Zoom recordings were transcribed into understandable and concise summaries and then organized by question. Responses were anonymized and then coded according to recurring themes in alumni feedback, which were then used to structure the results.

Results

Post-graduate paths

Alumni were first asked to briefly summarize their professional journey since graduating from Duke. Many alumni, particularly those who participated in the program as undergraduate students, pursued further education after completing their bachelor's degrees, while four undergraduate alumni started a full-time job immediately after graduating.

When asked to classify their current role in the intake survey, most participants reported being employed in a for-profit organization (40%), followed by non-profit or higher education (25%). Seven of the eight alumni in the latter group are working in higher education, two as faculty and the rest as researchers or administrators.

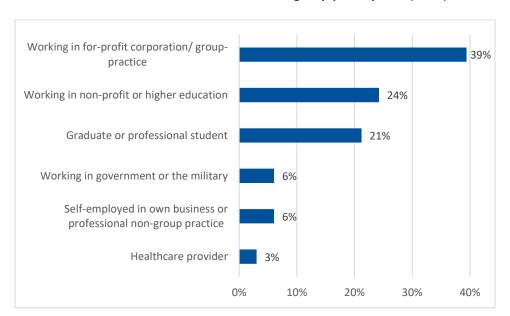


Chart 1: Current roles of alumni focus group participants (n=33)

As noted in the methodology section, 74 alumni, including the 33 alumni who ultimately participated in the focus groups, responded to the intake survey, providing us with additional data on the current positions of alumni. When looking at this larger data set, we see that a similar number of alumni reported working in the for-profit sector, but more alumni reported being enrolled in continuing studies and fewer working in non-profit/higher education.

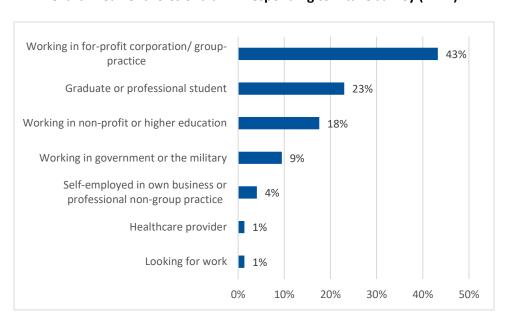


Chart 2: Current roles of alumni responding to intake survey (n=74)

Most alumni involved in the focus groups came from either a background in health/medicine or energy/environment. This is likely due to the fact that Duke has a large pre-health student body as well as the fact that the themes of Bass Connections align with these fields.

No obvious trends emerge from examining the current job titles of participants. Rather, the list of titles and employers is a testament to the diverse backgrounds and interests of those who participate in Bass Connections. To provide just a sampling of these positions:

- Federal Management Consultant
- Associate Environmental Scientist
- Research and Policy Manager
- Associate Director of Sustainability
- Associate Teaching Professor
- Senior Engineer
- Pediatric Infectious Disease Fellow
- Public School Teacher

Among the seven alumni who are enrolled in continuing education, four are enrolled in Ph.D. programs, two in M.B.A. programs and one in an M.D. program.

Influence of Bass Connections on alumni careers

It was clear from the focus groups that Bass Connections has had a profound impact on the career paths of its alumni. Most alumni interviewed said they pursued further education or professional opportunities in the same field as their Bass Connections projects. Some even shared that they had changed their initial post-graduate plan after completing their Bass Connections project, informed by new passions and interests uncovered through the program. Even if Bass Connections did not inform a career path directly, for many alumni, it informed how they approached other academic work such as master's theses and research studies. Only two alumni expressed that their Bass Connections project had no relevance to their choice in career.

"[Bass Connections] made me realize that global health had to be a part of my career, no matter what."

"Wow! You can be a public policy major, but you don't have to go into policy!"

"As an undergraduate engineer realizing I didn't actually want to be an engineer, it was really helpful to have that public policy exposure ... What did it mean to think about all the socioeconomic and political barriers that stood in the way of putting that solution in place?"

Influence of Bass Connections on professional networks

Due to the collaborative and hands-on nature of most Bass Connections projects, many alumni developed lasting relationships with members of their Bass Connections team. Several alumni reported that they retain connections made through Bass Connections, including a few alumni who still work with their Bass Connections supervisor, a few alumni who currently work with colleagues from their Bass Connections project and many alumni who still communicate with colleagues from their Bass Connections project on a regular basis.

"For me it wasn't necessarily the project itself, but the people I met while working on the project that has led me to where I am today."

"My Bass Connections was in energy, and we worked with [Energy Company] ... one of the clients our team worked with from [Energy Company] is now my co-worker."

Skills and knowledge acquired from Bass Connections

Alumni shared a wide array of reflections about the skills and benefits that they gained from their Bass Connections experience, from tangible research skills like using Microsoft Excel, to softer skills like leadership abilities and cross-cultural communication, to deep personal growth and heightened levels of confidence.

Most alumni interviewed agreed that Bass Connections helped them enhance their qualitative research skills by teaching them how to form a research question, use qualitative coding techniques, prepare a manuscript and work with the IRB system. Alumni agreed that these skills have proved helpful in graduate school and in their professional lives, particularly in research settings and in conducting research on topics like health policy, sustainability and social science. Many alumni noted that Bass Connections helped them become more culturally humble and develop an understanding of what goes into an ethical research partnership.

"One of the biggest pieces was learning how to ethically and conscientiously engage with a community in which you are doing research ... learning how to listen first."

"Helped me better understand how to engage in public-private partnerships."

"Identifying and relating to stakeholders and forming the beginning of a policy framework mindset."

"Stakeholder management, project management, communication, being able to set deadlines."

"I always loved storytelling and getting qualitative data but I didn't really know what that looked like in a research setting ... that was a skill I got to work on before taking it to my job."

Several alumni also noted how the program enriched their quantitative research skills. They mentioned that Bass Connections enhanced their ability to use Microsoft Excel, organize and analyze large data sets and conduct cost-benefit analyses. Alumni expressed that, while they were exposed to quantitative research methods in their classes, the opportunity to apply them in their Bass Connections project was extremely impactful. Additionally, being able to understand how the data they worked with applied to real life challenges was eye-opening and rewarding. Interestingly, one alumnus noted being able to use the specific statistical model he made during his Bass Connections project in graduate school, pointing to the relevance of Bass Connections programming.

"[Bass Connections] opened my eyes to how important it is to understand both data, what that looks like in real life, and what that means to people."

"My Bass Connections project was the second time I ever used Microsoft Excel to do any sort of calculations."

"I also learned some concrete science, lab and fieldwork skills I think I've been able to take with me."

Many alumni who participated in Bass Connections as graduate students expressed that they felt more comfortable managing interdisciplinary teams and projects after their project experience. Several alumni noted that while being a mentor sometimes proved to be a challenge, the experience ultimately prepared them to thrive in their current professions. Whether this was through mitigating conflict, addressing challenges when they arose, or forming lasting relationships with undergraduate students, most alumni who participated in Bass Connections as a graduate student agreed that their experience as a mentor positively impacted their career trajectory.

"I hadn't really had an opportunity to mentor anybody before ... it helped me understand that I really do like that aspect of working with others."

"The interdisciplinary environment created by Bass Connections is very relevant to running a company today, working with people from so many different backgrounds and different functional areas."

"Leadership skills, adaptable communication styles, general confidence."

"More specifically ... the idea of project management of a long-term thing ... keeping a project on track with a ... big range of individuals involved."

Additionally, alumni, specifically those who participated as undergraduate students, expressed gratitude for the opportunity provided through the program to get involved in research and the opportunity to connect with experts in their field who could provide valuable career advice. A few undergraduate alumni noted that they gained a heightened sense of confidence through their Bass Connections project, with the help of project leaders who pushed them to share their insights despite trepidation to do so. Both graduate and undergraduate alumni expressed that their Bass Connections project taught them how to work well in, and value, interdisciplinary team settings, a skill highly applicable to their careers.

"Just because you might not have the most expertise doesn't mean that your thoughts and ideas aren't valid or important."

"It felt like I got to work a job before I worked a job, which was very helpful."

Many alumni also mentioned that their Bass Connections experience enhanced their interpersonal communication skills and made them more adept at working with others to achieve a common goal. Most alumni, especially those who had participated in a Bass Connections project that engaged with an international partner, agreed that they became more adept at communicating with others of different backgrounds, asking the right questions of people with different expertise and adapting their communication styles based on different audiences.

"Presenting to a non-peer audience ... having to gear the concepts in a way that was understandable by them ... now I have to interact with different teams in my company, so I have to adopt a similar tactic."

"I second that concept of communicating with others from different backgrounds."

What alumni would change about Bass Connections

Bass Connections teams are organized around a range of research topics and methods and as such are quite variable in terms of team size and structure. As a result, participants in Bass Connections have different experiences depending on the project they choose. Nonetheless, alumni noted several common challenges to their experience in the program.

Many alumni believed that more could be done to clarify the goals and expectations of their projects at the onset, especially for undergraduate students. Some alumni expressed that the "ad hoc" nature of their project made them more comfortable with uncertainty and that the lack of a plan was advantageous. However, most expressed frustration at the lack of a clear project plan and believed their project could have been more impactful if it was better organized.

Some alumni also recalled feeling frustrated by the lack of clear roles and a diffusion of responsibility. Alumni noted that some teams lacked a clear point person or had decentralized leadership, leading to stifled progress and confusing expectations for team members. Other alumni noted that some of their undergraduate team members were not engaged in the project because they weren't taking the class for credit, were doing study abroad programs and were away for a semester, or were generally not interested in the subject, which posed issues for the team's success and project completion. In the same vein, graduate students faced challenges managing their heavy course load with the project management role and often felt unfairly left with the brunt of the project's work.

"Everybody was super focused on the content, and nobody on the process ... process isn't sexy ... but it's so critical to pair with the content."

"I felt like there was a lack of ownership ... no one central person who had the big picture in mind."

A few alumni expressed frustration that Bass Connections was too large of a commitment for the number of credit hours offered compared to their regular coursework. They would have liked more transparent communication related to the project's expectations when they applied to know whether they could feasibly be involved given their schedules.

"The credit hours received versus the time commitment was not balanced from my experience ... it was a much bigger time commitment."

Many alumni expressed interest in staying on their Bass Connections project for longer to see it through to completion. Especially given that most projects have long-term goals, alumni believe being involved with their project for longer — whether in a formal academic capacity, as an intern or as a guest speaker — would have been meaningful for them.

"I think I would have loved to have the opportunity to be involved for a little bit longer ... the experience was very contained."

There were numerous frustrations that were not validated by the rest of the group but were important to the individuals who experienced them. One alumnus expressed that they never got the data needed to complete their project in time. Another said that there were too many bureaucratic barriers at Duke which delayed the project's completion. One alumnus noted that their project deadlines often conflicted with their coursework deadlines and exam schedules. Another alumnus mentioned that they would

have liked more training on qualitative research methods, and another expressed wanting to have learned more quantitative methods during their project because it could have been useful for finding a job. A graduate student alumnus expressed frustration at not being paid for the hours she worked overtime and not being listened to when she tried to defend herself. Finally, one alumnus mentioned that they would have liked more opportunities to bond with their team outside of class after realizing how much they and their team had in common at the end of the project.

Of note, many of these challenges — lack of clear project goals, timelines and roles — are perennial challenges around which Bass Connections leadership continues to coach teams.

How we can better engage alumni

Nearly all alumni agreed that they would like to stay connected to the program through a mix of regular communications, opportunities to engage with current students and projects, and occasions to connect with other program alumni.

Alumni suggested that an easy starting place would be **more communication** related to Bass Connections projects in their field of work. For example, alumni working in the energy sector would enjoy updates on energy- and sustainability-related teams regularly via email. Other alumni expressed an interest in receiving regular updates specific to the team they participated on (to the extent that it continues today) to follow how the project continues to evolve.

"I mean, just reaching out, this was the first time I had heard anything as an alumnus since I left; a simple email is a great place to start."

While most alumni interviewed expressed interest in working with current students and teams, the nature of how they would like to engage varied based on their access to free time. Some alumni expressed an interest in serving as a guest speaker once a year for a Bass Connections project related to their field. Other alumni mentioned acting as a consultant for a project and meeting with the team multiple times a year to check on their progress and offer advice. A few alumni expressed interest in serving as a project lead for a Bass Connections team of their choosing and playing an active role in the project's execution. One alumnus considered the possibility of project teams applying to have an alumni leader using grant funding but questioned how feasible this would be.

"Being able to provide informal or formal mentorship for current students would be a really useful resource for them."

"I would definitely be interested in being an alumni consultant ... if I were messaged by a current Duke student for advice ... [I'd] be more than happy to help."

Alumni also expressed an interest in being **more connected to each other**. Many alumni mentioned a desire to participate in more focus groups to give feedback and meet other alumni with similar interests. Multiple alumni suggested leveraging the Duke Alumni Network to create social media channels on platforms like Facebook and Slack to specifically connect Bass Connections alumni to each other. One alumnus noted that it would be nice to have alumni spotlights like we have student spotlights, which would serve not only to connect alumni to each other but also inspire current students. In fact, the Bass Connections website and newsletter do already feature <u>alumni spotlights</u>, but this feedback is an indication that the program could do more to share these spotlights with alumni.

"Even just talking with everyone here has been great; there are three people here, at least, that are roughly in my field. If there were ways to connect us together or do events that would let us work with students and with other professionals."

What people remember most about their Bass Connections experience

When recounting their most memorable Bass Connections experience, most alumni mentioned fieldwork or trips they took off-campus as a part of their project. Whether this was to a hospital, a pharmaceutical plant, other states to present their research at a conference or a different country, alumni agreed that hands-on learning experiences that "got them out of the Duke bubble" were the most meaningful parts of their experience. It was surprising to hear just how impactful certain international projects were, including one shared by three alumni who all traveled to the Peruvian Amazon on the same project but during different years. Even though the alumni on this project went at different times and posed different research questions, all three said it was the most impactful experience of their lives and helped them narrow their career choices. Additionally, two alumni who were coincidentally in the same focus group were colleagues on a Bass Connections project that traveled to Rwanda, and they agreed that the experience solidified their interest in global health and helped them build lasting relationships with one another.

"I was surprised with the opportunity to ... give a presentation and demonstrate my machine learning model."

"We went to the Amazon in Peru to do environmental research ... I would not be in the same spot today had I not done it."

Alumni also recounted times they faced a challenge or learned a new skill. One alumnus mentioned a time when they and their colleagues spent an entire day learning how to use a new software, and another recounted the moment they realized their project leader had accidentally given them incorrect data to use, presenting an uncomfortable power dynamic that they had to manage. In general, alumni remembered moments when they were forced to operate outside of their comfort zones and came out of the situation stronger and more capable than before.

"My project was related to cochlear implants ... I got to sit in with an audiologist with an actual patient who was getting their cochlear implant activated ... That was a pretty amazing moment."

"We were building these buoys to harvest energy ... The first models didn't really work ... This was the first time I realized that you can't just do everything experimentally, you have to do modeling."

"We spent an entire day learning a new software ... sitting on this computer with a team of 10 ... diving deep into the qualitative data."

Alumni's most transformative experiences at Duke

As time allowed, we asked several focus groups to reflect on their most transformative experiences at Duke. This was intended to surface how Bass Connections fits within and complements the Duke experience. Some alumni noted unique hobbies and clubs like racecar driving and dance, while others recounted fellowships they completed, their coursework at Duke and other research experiences.

"The ability to pursue classes that I found most fascinating ... I made my own major by my senior year ... and it was directly related to my Bass Connections and what I do now."

"The most defining experience of my time at Duke was being part of and running a dance team ... a lot of learning around emotional intelligence and how to be a good leader ... I think a lot of that translates into running a company."

"We designed and built an open-road racecar from scratch every year and would go and race against 100 other schools from around the world in Michigan."

"Taking advantage of any and all kinds of opportunities in the global health space ... Bass Connections was one of the more formative ones."

Three alumni noted that Bass Connections was the most transformative experience as it informed their career passions and trajectory.

Discussion

These focus groups provided rich information about how some alumni reflect on their Bass Connections experience several years after graduating and how that experience has shaped their post-graduate trajectory.

For most alumni, Bass Connections was a positive experience that strengthened their research skills, helped them gain confidence as both mentors and mentees, and influenced career trajectories — whether by solidifying a passion or helping create a new one. Many alumni noted that the most important impact of Bass Connections was the relationships they formed through the project, including with those who have remained friends and become colleagues and supervisors since. This speaks to the highly collaborative nature of Bass Connections and its ability to foster community and lasting connections between people of different backgrounds.

According to alumni, their most memorable Bass Connections experiences occurred off campus, whether in the Durham area, across the country or on a different continent, highlighting the power of fieldwork. Alumni also remember the times when they learned new skills or overcame challenges, underscoring how the program challenges students and provides hands-on learning experiences that complement coursework.

Alumni spoke, perhaps most passionately, about how Duke can better involve them with current programming. Many, if not all, alumni expressed an interest in being involved with student projects or sharing with current students what they had learned since graduation. Thus, Bass Connections should strongly consider finding a way to integrate alumni into project teams, whether by including an alumnus as a consultant, guest speaker or an outside expert on a project related to their field. Alumni also expressed a desire to be more closely connected to each other. They valued the opportunity to give feedback during the focus group and asked that Duke give them more chances like this to meet with each other in either in-person or virtual settings.

Bass Connections should also look at whether current communication with alumni is specific and targeted enough to pique individual alumni's interest. Many alumni expressed frustration at the volume

of emails they get from Duke, particularly related to fundraising, and noted that communication from Bass Connections may get lost in the mix of other email requests. Bass Connections should consider creating alternative streams of communication between alumni and encourage alumni to communicate with each other on social media channels like Facebook, Slack or GroupMe.

This study has a few limitations that must be addressed. First, while the small sample size allowed for indepth discussions between alumni, it limits the generalizability of the findings to the broader alumni population. Additionally, the composition of these focus groups may not accurately reflect the diversity of the target population, especially given that people who do not reflect on Bass Connections positively may be disproportionally less likely to participate in a Bass Connections focus group. During the discussions, individuals may have been influenced by group dynamics and the desire to conform to dominant opinions or perspectives within the group. Conformity bias can discourage participants from expressing dissenting or unpopular views, leading to a skewed representation of opinions. Social desirability bias may also be present, as alumni could have felt pressured to provide socially desirable responses or align with the moderator's or other participants' perceived expectations. This can result in biased or superficial responses that may not accurately reflect their true opinions or behaviors. Additionally, while alumni were told their responses would be shared anonymously, they remained aware of each other's presence, which could have prevented them from sharing sensitive or controversial opinions, inhibiting the exploration of diverse perspectives. Moreover, the moderator could have inadvertently introduced bias through their questioning style, personal opinions or nonverbal cues, influencing the direction and tone of the conversation. Qualitative data is more susceptible to bias than quantitative data, and thus it is challenging to draw reliable, generalizable and statistically significant conclusions from this data.

However, many of the themes and insights from this study align with the findings of the 2020 alumni survey, which provides a degree of validation to the generalizability of these findings. In the future, Bass Connections should consider repeating that alumni survey to track how alumni's views change over time and whether those views continue to support the findings of this study. Bass Connections should also follow up with alumni who participated in the focus groups to see if they would be willing to be a part of a mentorship network or share their story as part of an "Alumni Spotlight."

Conclusion

These focus groups suggest that Bass Connections has had a lasting impact on its alumni and that alumni are eager to remain engaged in the program and the Duke community. As Bass Connections moves into its second decade, its leadership should consider how to leverage this community to strengthen the program for future students. Simultaneously, program leaders should seek to use this feedback to improve the program by addressing common challenges around team organization and by ensuring that teams continue to provide high-impact experiences as noted by alumni, such as fieldwork, opportunities to develop deep relationships and hands-on research assignments that stretch and expand students' skills.