



Diversity by Design

A Deep Dive Into Duke University's
Pre-College Program

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Acknowledgements

We are grateful for the opportunity to contribute to the ongoing conversation surrounding diversity and inclusivity in education. Our sincere appreciation extends to all those who have supported and collaborated with us throughout this research endeavor, from the dedicated staff at Duke University's Pre-College Program to the insightful stakeholders who generously shared their perspectives and experiences. In addition, we thank the Vanderbilt Peabody Faculty and Staff for their continued support, guidance and wealth of knowledge over the course of three years, allowing our research to come to fruition. Furthermore, we extend our deepest gratitude to our friends, families, and mentors for their unwavering and invaluable support and guidance.

It is through initiatives like the Duke Pre-College Program and similar P-16 endeavors that we are able to drive meaningful change and create pathways to educational equity. By nurturing a diverse and inclusive learning environment—from both the P-12 lens and the pre-college level—we lay the foundation for future generations to thrive in an increasingly interconnected and diverse world. We believe that by elevating the voices and experiences of all students, regardless of background or circumstance, we can pave the way for a more equitable and just society.

Together, let us continue to champion the transformative power of education and strive toward a future where every individual has the opportunity to reach their fullest potential.



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Executive Summary

When addressing educational equity across P-16 schooling, the conversation consistently revolves around bridging the gap between P-12 and higher education, with a heavy emphasis on “exposure” and “opportunity” for the college experience. To increase the leveled experience for students in the P-12 setting, especially for students from diverse demographics, post-secondary institutions have initiated pre-college programming to facilitate exposure for middle and high school students to the rigors of a university environment.

In recent years, Duke University has made an effort to strengthen its pre-college programming by focusing on increasing diversity and the representativeness of its student body populations. Duke University pursues this effort through a heightened focus on the priority areas of recruitment, affordability, and programmatic structure. This research study examines the current strategies used within said structures and their influence on increasing diversity within Duke University’s Pre-College Program.

Research Question and Methods Overview

To guide this research, our team centers its work around the following problem of practice:

To what extent does the current Duke University Pre-College Program promote diversity through recruitment, affordability, and programmatic structure?

We frame this research through the following ‘bins’, recognizing their importance in shaping our study. In the context of this paper, the term ‘diversity’ refers to demographic, socioeconomic, and geographic differences.

Recruitment

Our primary focus for recruitment aims to answer the following questions:

- What is the overarching goal of recruitment?
- What are the current recruitment practices?
- What do they look like? Who do they include?

In understanding the overarching goal of recruitment and its inclusivity, we aim to assess how effectively diverse communities were engaged, thus highlighting the program's commitment to inclusivity from the outset. Examining current recruitment practices allows us to delve deeper into the mechanisms employed and their potential impact on diversity initiatives.

Affordability

Our primary focus for affordability aims to answer the following questions:

- How is cost a barrier?
- Is financial aid clear and available?

Considering affordability, we recognize the critical role cost plays as a barrier to access. By exploring the accessibility and clarity of financial aid, we seek to gauge the program's efforts in ensuring equitable opportunities for all prospective students, regardless of financial background.

Programmatic Structure

Our primary focus for programmatic structure aims to answer the following questions:

- What does the staff structure look like?
- What are the learning goals and outcomes for students?

Delving into programmatic structure, we seek to understand how the staff structure contributes to diversity initiatives, recognizing its pivotal role in fostering an inclusive environment. Additionally, we aim to uncover the program's learning goals and outcomes, particularly in terms of promoting diversity and inclusion, thus assessing its commitment to fostering a diverse student body.

Data Tools and Analysis

To support our main bins, our primary focus for data tools and analysis aims to answer the following questions:

- How is Duke University collecting data?
- What are they collecting?
- How is data being analyzed to reach the goals set forth by staff and leadership?

By examining how data related to recruitment, affordability, and programmatic structure are collected, analyzed, and utilized, we aim to gain insights into the program's strategic decision-making processes and its alignment with diversity goals.

In addressing our team's overarching research question, we adopt a mixed methods approach. Our quantitative methodology primarily centers on reviewing historical data, while qualitatively, we conduct semi-structured interviews with stakeholders. This includes a diverse range of 13 participants, comprising families, staff, partner organizations, and peer institutions. Through these interviews, we seek to gain a nuanced understanding of stakeholders' perspectives on recruitment, affordability, and programmatic structure, with a specific focus on diversity considerations.

Key Findings

Points of Pride for Duke University's Pre-College

There is intentional work being done to root decision-making in the mission of the program and maintain momentum toward increased diversity.

Efforts to anchor decision-making in the program's mission towards increased diversity are evident within Duke University's Pre-College Program. While strategic initiatives are required to further increase diversity, the current program exhibits notable strengths. Insights from stakeholder interviews and historical data indicate tangible progress toward diversity and mission-driven outcomes. This progress is evidenced through various initiatives such as Community Day Planning, enhancements in Financial Aid provision in 2024, advancements in funding from 2019 to 2023, and improvements in student diversity over the same period. Additionally, with over 50% of survey responses and family interviews reflecting positively on the program overall, there is clear affirmation of its effectiveness and impact.

Recruitment

Partner Programs are a positive influence on recruitment efforts toward increasing diversity within Duke University's Pre-College Program. However, there is a misaligned vision of best practices for recruitment to increase diversity.

Partner Programs emerge as a significant catalyst in bolstering recruitment efforts aimed at enhancing diversity within Duke University's Pre-College Program. These organizations, referred to as Partner Programs, are primarily youth-facing non-profit organizations and schools that actively work with the Duke University Pre-College Program to recruit, enroll, and finance students so that they may participate in the summer programming. Analysis of trends and interview quotations highlight the pivotal role played by partner programs in attracting students and families from diverse backgrounds, consequently contributing to an observable increase in student diversity between the 2019 and 2023 programs. However, a discrepancy exists in the vision of best practices for recruitment to foster diversity. Despite the positive impact of partner programs in recent years, insights from interviews with staff and families underscore the necessity for a cohesive "top-down" approach to align diversity efforts with the overarching vision and strategy of the program. This alignment is crucial to ensure consistency in understanding and promoting diversity within the program.

Affordability

Partner programs are crucial to make Duke University's Pre-College Program more affordable for diverse populations. Overall, financial aid policies should be promoted and transparent.

Ensuring the promotion and transparency of financial aid policies is crucial within Duke University's Pre-College Program. Both qualitative and quantitative data underscore the need to enhance the visibility and clarity of financial aid options for all stakeholders involved. Analysis reveals a strikingly low percentage of applicants, particularly those identifying as non-white, receiving financial aid, indicative of limited awareness surrounding available financial assistance. Furthermore, partner programs play a pivotal role in rendering the program more financially accessible to diverse populations. Stakeholder interviews highlight partner programs as a primary facilitator in promoting attendance at Duke University's Pre-College Program, attributing to the program's expansion to over 30 partnerships, providing \$465k+ in philanthropic aid.

Programmatic Structure

Lack of communication both internally and externally has led to the misalignment of program goals and program actions. Additionally, Duke University's Pre-College Program staff demographics do not represent the student population (e.g., demographic, geographic, socioeconomic).

The lack of communication, both internally and externally, has resulted in a misalignment between program goals and actions within Duke University's Pre-College Program. Insights from both historical data extracted from student surveys, and qualitative data gathered through interviews with families and staff, underscore a prevailing perspective of the program being perceived as "disorganized" and "disjointed." Furthermore, an evident discrepancy exists between the demographics of the program's staff and the student population they serve, spanning demographic, geographic, and socioeconomic factors. Despite a period of staff expansion from 2019 to 2024, the ratio of people of color within the staff remains stagnant, failing to adequately represent the diverse student body participating in the program.

Data Analysis and Tools

Data Tools and Analyses Procedures are inconsistent from year to year.

The Data Tools and Analysis Procedures exhibit inconsistency from year to year within Duke University's Pre-College Program. Examination of current survey instruments and data analysis tools reveals a lack of alignment across successive surveys in terms of question types and analytical approaches. This inconsistency compromises the program's ability to effectively assess year-to-year growth and progress, thereby hindering its capacity to track and measure advancements over time.

Recommendations

Based on our team's current findings, we recommend that Duke University's Pre-College Program consider the following to promote an increase in diversity:

Make diversity the overarching goal.

To make more immediate and effective traction toward increasing diversity across Duke Pre-College, there is a critical need for unapologetic discussion and action planning of diversity efforts. Diversity is the key term to target.

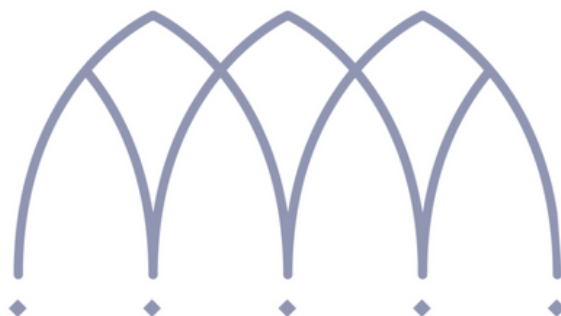
Revamp the organizational infrastructure of the Duke University Pre-College Program staff.

There is a critical need for the Duke Pre-College Staff to reset the organizational infrastructure of the team with a priority focus on organizational roles and responsibilities and year-to-year goals and priorities to see progress with diversity in recruitment, affordability, and programmatic structure.

Champion feedback systems and procedures.

There is a critical need for Duke Pre-College Staff to overhaul the survey instruments to align with pre-determined strategic goals. These tools must be consistent for at least 3 years to monitor progress on benchmarks.

In summary, our research delves into pivotal questions surrounding recruitment practices, affordability measures, programmatic structure, and data analysis methodologies. These investigations aim to illuminate insights into the program's strengths and areas for improvement in fostering an inclusive learning environment. Through a mixed methods approach combining historical data review and stakeholder interviews, we uncover valuable insights into the program's alignment with its mission, and its response to the challenges of educational equity across the P-16 continuum. By exploring strategies to enhance transparency, communication, and alignment with diversity goals, our findings contribute to the ongoing discourse on promoting diversity and inclusion in higher education.



Introduction

Access to a college education is a fundamental opportunity that can unlock boundless potential for individuals, families, and communities. Yet, for many aspiring students, particularly those from underrepresented or marginalized backgrounds, the path to higher education is fraught with obstacles (Scanlon et al., 2019). Financial barriers, lack of academic preparation, and limited exposure to college environments can all impede their journey toward realizing their academic aspirations. This is where pre-college programs play a pivotal role. By providing early exposure to college-level coursework, academic support, and campus resources, these programs bridge the gap between aspiration and attainment (Dyce et al., 2012). They empower students to envision themselves as college-bound scholars, equipping them with the tools, confidence, and support networks to navigate the complexities of the college admissions process and thrive in a collegiate environment. Pre-college programs not only democratize access to higher education but also cultivate a pipeline of diverse, talented individuals who will enrich the fabric of our colleges and society as a whole (Hicks, 2005). In essence, they serve as catalysts for change, breaking down barriers and opening doors to a brighter, more equitable future for all.

Furthermore, understanding education as a continuum is imperative as it recognizes the interconnectedness and seamless transition between various stages of learning—from kindergarten to college. In the context of pre-college education, this comprehensive approach is essential. Pre-college programs operate at the intersection of K-12 and higher education, serving as a critical bridge that facilitates the transition from secondary to postsecondary learning. By viewing education as a continuum, our team recognizes the significance of aligning pre-college initiatives with both K-12 standards and the expectations of post-secondary institutions. This holistic approach ensures that pre-college programs effectively address students' academic needs, facilitate their integration into college environments, and ultimately empower them to achieve their educational aspirations.

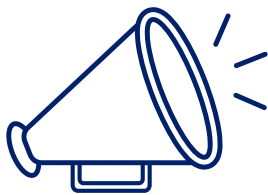
In recent years, Duke University's Pre-College Program has undergone a transformative shift, driven by a concerted effort to enhance diversity and inclusivity. Traditionally renowned for its rigorous academic offerings and esteemed reputation, Duke recognizes the importance of fostering a more demographic, socioeconomic, and geographic representative student body within its pre-college programs. This acknowledgment stems from a broader societal recognition of the value of diversity in educational settings, not only in enriching the academic experience but also in preparing students for an increasingly interconnected global landscape.

As such, Duke implements a series of initiatives aimed at broadening access and opportunity for a more diverse range of students, including those from underrepresented backgrounds. These efforts encompass various facets of the pre-college experience, from recruitment and admissions strategies to curriculum development and support services.

In May of 2023, Duke University asked our team to design a capstone that would foster Duke’s “potential to serve more—and more diverse, in every sense of the term—K-12 learners.” To guide this research, our study focuses on one overarching question:

To what extent does the current Duke University Pre-College Program promote diversity through recruitment, affordability, and programmatic structure?

For the purpose of the study, diversity in population refers to demographic, socioeconomic, and geographic differences. Using a mixed methods approach, this research aims to answer that question for Duke specifically and to contribute to the literature surrounding diversity in pre-college programs.



Recruitment



Affordability



Programmatic
Structure

Institutional Context

Introduction to Duke University's Pre-College Program

Located in the heart of the Southeast, Duke University is a large, private, elite institution founded in the mid-1800s. Duke's campus spans over 8,600 acres and boasts a mix of historic architecture and modern facilities. The university's commitment to academic excellence is reflected in its rigorous programs, distinguished faculty, and groundbreaking research endeavors. Likewise, Duke's interdisciplinary approach to education fosters innovation and critical thinking among its diverse student body. With an admission rate typically below 10%, Duke maintains a highly selective admissions process, positioning it among the top-tier universities in the United States.

Duke University's Pre-College Program offers middle and high school students a transformative experience within a collegiate environment. The program's overarching objective is to introduce students to the possibilities of higher education and serve as a crucial stepping stone for participants, many of whom are experiencing university-level learning for the first time.

Pre-College vs. Bridge

Distinguishing itself from a bridge program, Duke's Pre-College Program is uniquely positioned to cultivate the intellectual curiosity of participants while also exposing them to a university environment. Bridge programs and pre-college programs serve distinct purposes in the realm of education, each tailored to meet the needs of different student populations (*Figure 1*). Bridge programs are primarily designed to facilitate the transition from one educational level to another, commonly from high school to college. These programs often dedicate themselves to specific groups of students who may encounter obstacles in higher education, such as first-generation college students, individuals from low-income backgrounds, or those from underrepresented groups. The focus of bridge programs lies in providing academic and social support to assist students in navigating the challenges of college.

Pre-College Programs

Summer preview of college life and academic rigor

- explore various fields of study
- engage in college-level coursework
- experience campus life firsthand.

Bridge Programs

Academic and social summer supports to help navigate the challenges of college.

- remedial coursework
- mentoring opportunities
- tutoring and college preparation

Figure 1: Pre-College Programs and Bridge Programs Comparison

This support may encompass remedial coursework, mentoring, tutoring, and other services aimed at bolstering students' academic skills and confidence. Pre-college programs are distinguished as opportunities intended to offer high school students a preview of college life and academic rigor. These programs allow students to explore various fields of study, engage in college-level coursework, and experience campus life firsthand. This comparison is outlined in *Figure 1*. While both bridge and pre-college programs aim to enhance students' readiness for higher education, they do so through distinct approaches tailored to their respective target audiences. Specific to Duke University, 6th-11th grade students can join as residential, commuter, or hybrid students.

Duke Talent Identification Program

In its earlier iteration as the Duke University Talent Identification Program (TIP), Duke's Pre-College Program has long been at the forefront of identifying and nurturing academically talented students since its establishment in 1980. Guided by a vision for excellence and support from university leadership, TIP quickly gained recognition as a pioneering initiative dedicated to fostering the growth of gifted students (Putallaz et al., 2005). However, in response to the disruptions brought about by the global pandemic in 2020, TIP underwent a transformation—reemerging as Duke's Pre-College Program to better adapt to the evolving educational landscape and be more inclusive.

As Duke University evolves, so does its commitment to accessibility and inclusivity within its pre-college initiatives. Recognizing the importance of broadening the definition of talent and expanding access to its renowned academic rigor, Duke is dedicated to enhancing its pre-college offerings to encompass a diverse array of students and backgrounds. By consolidating all pre-college programs under Duke's Continuing Studies unit, the university aims to streamline its efforts in providing exceptional pre-college experiences led by Duke faculty and graduate students, thereby enriching the educational journey of aspiring scholars.

Demographic Snapshot

Central to Duke's Pre-College Program ethos is the promotion of diversity, essential for fostering vibrant and inclusive learning environments. Embracing students from diverse demographic, socioeconomic, and geographic backgrounds not only enriches everyone's educational experiences but also contributes to broader university equity goals. *Figure 2* illustrates the demographic composition of Duke's 2022 Pre-College Program participants, focusing on race and ethnicity. *Figure 3* illustrates the 'school type' composition of Duke's 2022 Pre-College Program participants. This data provides a snapshot of the students who make up Duke's Pre-College Program and the different ways we can measure diversity and collect critical information.

Figure 2: Duke University's Pre-College Demographic Data from 2022 Participants

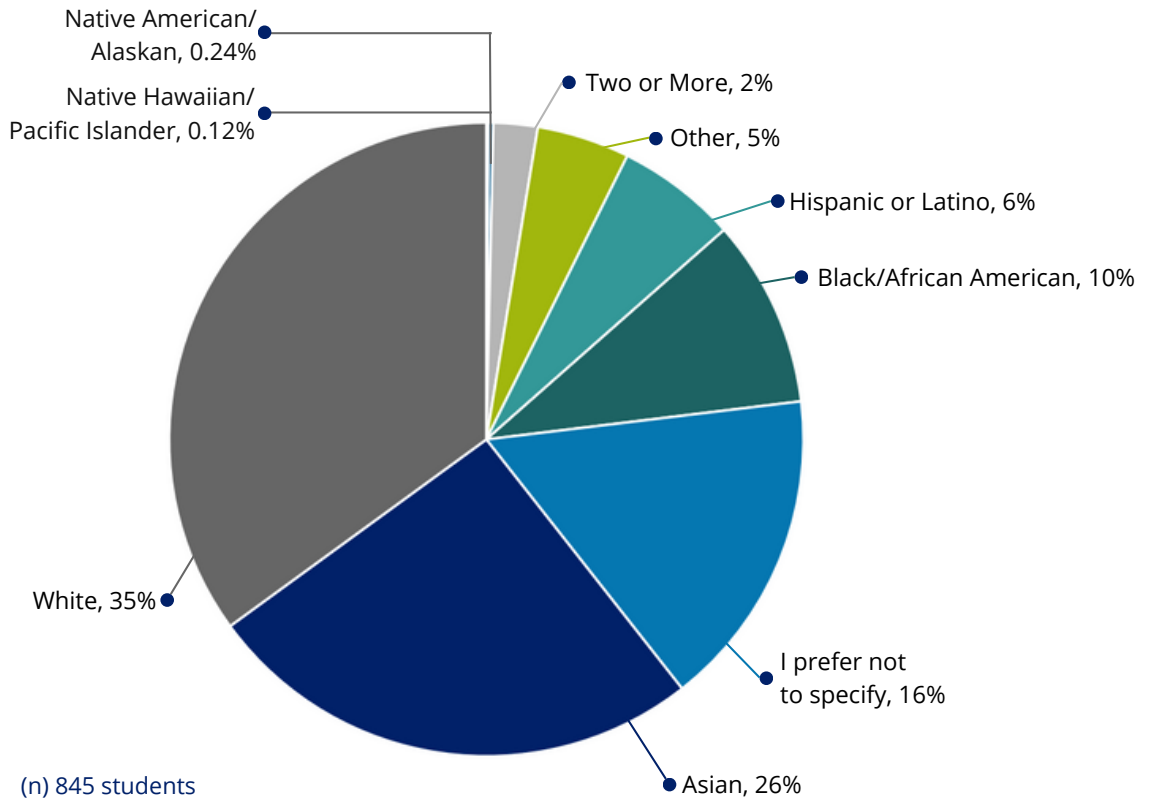
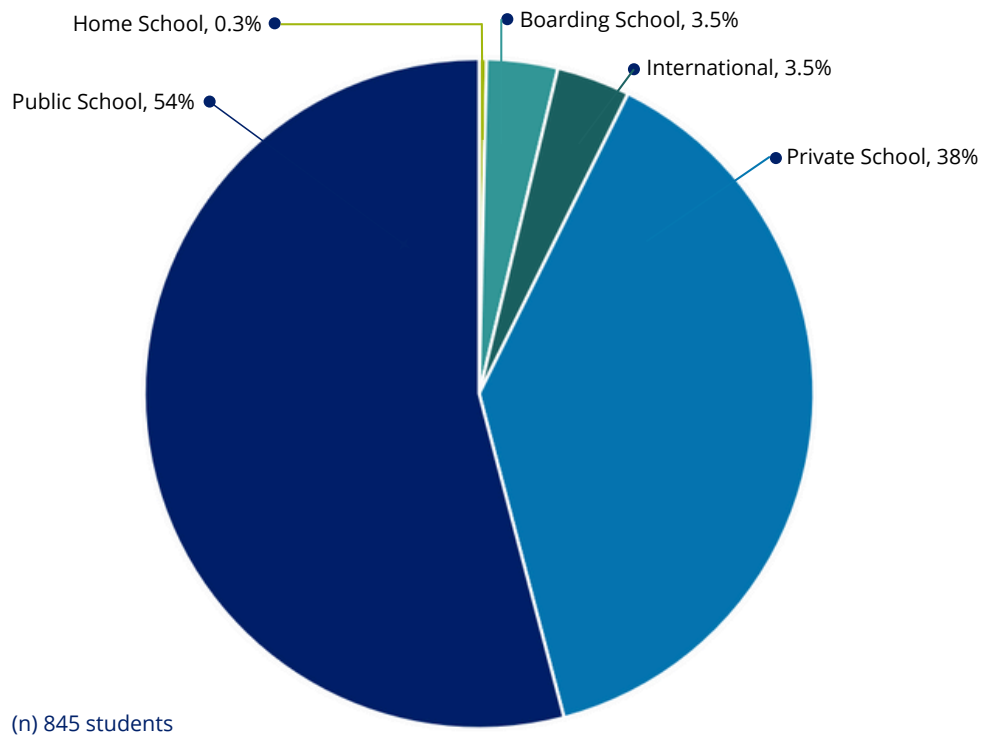


Figure 3: Duke University's Pre-College 'School-Type' Data from 2022 Participants



Research Question

Duke University's Pre-College staff shared with our research team the overarching need to increase access, affordability, and exposure to students predominantly in underserved populations. Further, Duke aims to put a 3-5 year strategic plan in place to monitor program growth. Therefore, the goal of our team's work is to provide recommendations on how to increase diversity within enrollment in Duke's Pre-College Program structure and facilitate the creation of a strategic working document that not only benchmarks this effort, but monitors it to ensure growth in diversity is occurring.

In collaboration with Duke leadership, our team designed a mixed-methods study exploring diversity in Duke's Pre-College Program. As stated in the introduction, our overarching research question guides this work: To what extent does the current Duke University Pre-College Program promote diversity through recruitment, affordability, and programmatic structure?

We initiate our research by delving into the existing literature and theoretical frameworks, enriching our comprehension of pre-college programming, particularly within the context of diverse populations.

Given the highly contextualized nature of this study, *Table 1* outlines the agreed-upon definitions of commonly used terms throughout the paper.

Term	Capstone Definition
Pre-College Program	Duke University defines pre-college as an avenue of exploration to the college experience, for adolescents aged 6th - 11th grades. It is noted that this program is not used as an accredited program or bridge program for placement within the university.
Diversity	For the purpose of the study, diversity in population refers to demographic, socioeconomic, and geographic differences.
Recruitment	Recruitment for pre-college refers to the process of attracting and enrolling prospective students into pre-college programs, often involving promotional activities, information dissemination, and outreach efforts to encourage participation.
Affordability	Affordability for pre-college denotes the financial accessibility of the program, ensuring that costs are reasonable and inclusive to make participation feasible for a diverse range of students.
Programmatic Structure	Programmatic structure for pre-college refers to the organized framework and design of the staff, educational activities, schedule, and components that constitute the overall structure and delivery of the pre-college program.

Table 1: Capstone Glossary of Terms

Literature Review & Guiding Framework

We begin by reviewing a brief history of the founding and implementation of pre-college programming across the country, in addition to the costs and benefits related to summer programming. This historical context will be followed by further investigatory work that examines the influence of pre-college programming on students, particularly through the lens of “self-efficacy” and “self-concept” —especially for diverse populations. Lastly, we will delve deeper into faculty and staff motivations within the pre-college model, exploring how these motivations influence middle and high school students, drawing parallels with community college and adult learning experiences.

Historical Context of Pre-College: The Costs and Benefits for Diverse Populations

As the demands of higher education increase, so does the need for efforts to cultivate a bridge between P-12 schooling and higher education. In an effort to expose middle and high school students to the college experience, many of the most competitive colleges and universities in the United States created pre-college programming as an initiative to help prepare these students for the opportunities and challenges faced in higher education. Some institutions focus heavily on creating bridge programs to avoid summer learning loss, while others are a means to primarily drive towards exposure to the higher education world (McCombs, Augustine & Schwartz, 2011). Regardless of purpose, pre-college programming has led to an increase in benefits for middle and high school students, particularly for students who identify as low-income students.

As higher education institutions begin to mobilize their efforts to create and maintain pre-college programming, literature suggests nine defining characteristics that may lead to methods of best practice. According to Bell and Carrillo (2007),

“nine characteristics of effective summer learning programs are (1) accelerating learning, (2) youth development, (3) proactive approach to summer learning, (4) leadership, (5) advanced planning, (6) staff development, (7) strategic partnerships, (8) evaluation and commitment to program improvement, and (9) sustainability and cost-effectiveness”

with a balance of priority focused on the program’s approach to learning, as well as the program’s infrastructure. For low-income students, these characteristics lead to even more benefits through attendance in the program. Research notes the positive influence attendance has on efforts to close the achievement and opportunity gap, as well as better outcomes for at least two years post attendance in the program in comparison to those who do not attend (McCombs et al., 2011).

However, research on pre-college programming—and similar school-to-college transition programs—reveal the costs that may come with the effort to “equalize” education through the programming, particularly in the realm of financial barriers, opportunity gaps, and social-emotional readiness. Although the intent to expose middle and high school students to the college experience may be the same, programs across institutions reveal significant differences in how much financial aid is provided. Additionally, the student selection process and financial aid threshold vary from institution to institution, with requirements that may include achieving specific grade point averages, remaining drug and alcohol-free, or having parents sign contracts stating that they, too, will meet specific requirements (Kezar, 1999). These differences illuminate the challenges families in low-income thresholds meet when aiming toward exposure and opportunity in higher education settings.

Overall, while pre-college programs offer valuable opportunities for low-income students to enhance their academic skills, explore career options, and prepare for college, it is essential to recognize and address the potential costs and barriers low-income students and students in diverse populations may face in accessing and fully participating in these programs. Although the aforementioned barriers must be acknowledged, it must also be noted that pre-college programs continue to evolve significantly in recent years. With special attention given to the effort invested in creating pathways for students from low-income and diverse populations to attend such pre-college programs, the intent to bridge equity and accessibility gaps in the realm of higher education is pronounced.

***The Pre-College Influence on Students in Diverse Populations:
Self-Efficacy and Self-Concept***

Experts in the field are acutely aware “that summer programs for at-risk and low-income, minority students...can help facilitate their transition and adjustment to college life and improve their persistence rates”, indicating the need to focus attention on increasing diversity within pre-college programs given the potential of positive influence and long term benefit (Hicks, 2005). Researchers of pre-college programs confirm that pre-college programs play a role in promoting the concept of self-efficacy, with literature suggesting that “if implemented appropriately, pre-college programs could work to provide a safe and secure environment with appropriate structure and supportive relationships with staff and counselors, while also presenting opportunities to belong, build skills, promote positive social norms, and develop self-efficacy” (Kirk & Day, 2011; Jackson, et al., 2022). Recognizing the long-term benefit that pre-college programs could have on diverse populations, literature suggests the potential for an even greater lasting impact on pre-college students as a whole.

Additionally, it is critical to note the existing literature that requires further research and analysis in regard to pre-college programming. Comparative analysis of student academic outcomes in pre-college programming, juxtaposed with existing data, suggests that while such programs might enhance representation, self-efficacy and self-concept in post-secondary opportunities, they do not ensure sustained academic success after enrollment in these institutions (Kotlikoff et al., 2022). This is important to note when considering the programmatic structure of pre-college programming. Although literature supports students from underrepresented backgrounds and identities in attending pre-college programs, as doing so bolsters confidence in their preparedness, reduces feelings of overwhelm, and promotes mature habits—like time management skills—necessary for post-secondary learning, there are gaps in the research on how programmatic elements in a pre-college program translate to curiosity around college and post-secondary matriculation (Jackson et. al, 2022).

Tinto's Theory of Integration: Applied to Pre-College Programs

With an increased need to explore the influence of pre-college programs on students, alongside how staff motivations aid in this influence, there is a need for further examination of Tinto's theory of integration in application to pre-college programming. Tinto's theory of integration focuses on the interactions between students and their college environment as a key factor in student persistence and success. The theory suggests that the extent to which students become socially integrated and engaged in academic activities within the college community significantly impacts their likelihood of staying in school and achieving positive outcomes (Tinto, 1975).

When applying Tinto's theory to middle and high school students who attend pre-college summer programs, parallels can be drawn to their experiences. Pre-college summer programs, like colleges themselves, provide a unique environment for students to interact with peers, instructors, and academic content outside of their regular school setting. Similar to Tinto's emphasis on social integration, these programs offer opportunities for students to connect with like-minded peers who share similar interests. Through group projects, discussions, and collaborative activities, students attending these programs can build a sense of belonging and camaraderie, fostering a positive community atmosphere.

Furthermore, Tinto's theory emphasizes academic engagement as a driver of student success (Tinto, 1975). Pre-college summer programs often offer rigorous academic coursework that challenges students to explore subjects beyond their standard curriculum.

Engaging with intellectually stimulating content and actively participating in academic discussions can mirror the academic engagement Tinto highlights as essential for college success. These experiences can cultivate a love for learning, critical thinking skills, and a sense of academic accomplishment among middle and high school students.

It is important to note that while Tinto's theory was originally developed for traditional college contexts, insightful parallels can be drawn to pre-college summer programs. These programs provide a glimpse into the importance of fostering social connections, encouraging active participation, and creating a supportive environment to enhance students' growth, development, and educational experiences. By aligning the principles of Tinto's theory with the unique characteristics of pre-college programs, educators and program organizers can create enriching experiences that prepare students for their future academic endeavors. This act of including Tinto's theory of integration—alongside an understanding of the aforementioned concepts of student “self-efficacy” and student “self-concept”—into the pre-college experience can only be understood if coupled with literature exploring faculty and staff motivations within pre-college programs, as this motivation may dictate the effectiveness within the programmatic structure itself.

Herzberg's Theory of Motivation: Faculty and Staff Motivation in Pre-College Programming

An aligned definition of motivation aids our understanding of what may drive faculty and staff motivation within a pre-college setting. Rooted in Herzberg's Theory of Motivation, job satisfaction—an ultimate driver of motivation—can come from both motivators and hygiene factors. Motivators include intrinsic work conditions such as achievement, growth, and recognition, while hygiene factors are extrinsic work conditions like compensation, leadership, and supervision (Giese & Avoseh, 2018). The authors confirm that “despite a rich history of research in employee motivation and job satisfaction, research focused on higher education employees is limited” (Giese & Avoseh, 2018). From extant literature, experts in the field are acutely aware that “faculty evaluation, in-service training, and similar administrative attempts to influence instructor behavior are of little effect unless combined with institutional support for that which faculty members value” (Cohen, 1974). With this problem receiving limited attention in the literature, there is a compelling argument to continue the conversation from a pre-college perspective to gain a deeper understanding of how faculty and staff at the pre-college level are motivated in order to influence student success within this type of programming.

Herzberg's theory also accepts that motivation within a profession stems from three overarching areas: meaningfulness in the work itself, responsibility for outcomes, and knowledge of results/feedback (Pardee, 1990). When work is defined and designed to enhance these three areas, individual work satisfaction increases (Pardee, 1990). This may be the very reason staff are drawn to pre-college programming, recognizing the positive influence the programmatic model may have on the student population, especially within diverse demographics. Brown et al. (2016) liken working in these environments to a social justice calling. Although the literature heavily emphasizes community colleges, parallels are found in the programmatic structure of community colleges and pre-college programming, especially within the diverse population of students who aim to attend such programming. More explicitly, Brown et al. (2016) equate working in a community college as "an opportunity to work for democratic ideals and social equality by educating students who otherwise might not have ready access to higher education." If pre-college faculty and staff view their work through a justice lens, it could be thought of as "being pulled into...teaching through a set of personally meaningful internal motivations" (Brown et al., 2016). Knowing what motivates faculty and staff will contribute to an even more comprehensive understanding of how student success can be attained in pre-college programs.

Faculty and Staff Support of Student Learning in Pre-College Programs

The literature thus far has explored the effect of pre-college programming on students and the influence of staff motivation on such programming. To further our understanding of how faculty and staff motivation in pre-college programming can influence student success—and ultimately connect to Tinto's Theory with an emphasis on student "self-concept" and student "self-efficacy"—it is critical to also explore the student-faculty relationship. The dynamic between teacher and student matters regardless of the developmental age or environment. This interpersonal relationship begins from the onset with a recognition that the role of support networks—like faculty, staff, and administration—contributes to motivational success for students both in the short term, as well as in the long term (Hatch & Garcia, 2017). Students who enter into any type of college environment tend to face multiple obstacles. These obstacles range from lacking clarity in their own educational pathway to the need to adapt to the institutional practices present within the learning environment in which they chose, which ultimately may play a role in their overall motivation and persistence within their college track (Hatch & Garcia, 2017). Much of the empirical evidence is now dated, going back to the 1980s and 1990s, however, the findings remain the same: the more interaction between student and teacher both inside and outside of the classroom, the higher the student satisfaction and persistence to and through their course of study (Astin, 1993).

Even more specifically, findings indicate that “academic advising has been proposed as among some of the most impactful interventions for mitigating early community college student departure” (King, 1993). These results stamp the positive impact the staff may have on the student's motivation and persistence. Considering the pre-college program structure, findings as such could drive towards the remodeling of the pre-college program in order to enhance the staff role and interactions that go beyond the classroom.

In additional findings, there are mixed results when it comes to the influence of faculty and staff interaction on student performance and success. In one such study, Olsen et al. (1998) note that interactions focused on technical components of assignments lack the intellect and depth one would need for a deeper and more meaningful relationship, primarily due to the expectations of the “student-faculty” dynamic as seen by the students. The shift in results may be due to the social construct dynamics that have continued to evolve in society or it may be a question of *who* is defining the student-faculty relationship—is it the student, or the faculty? Although there is much debate on how the impact of the student-faculty relationship leads to student success and overall motivation, there are notable questions remaining regarding the switch in perspective: What dynamics within the faculty and staff relationship with the student motivate the *faculty and staff* in a pre-college environment? Does this motivation lead to higher success for students—specifically within diverse populations?

Literature Review Summary

It takes more than a strong programmatic structure to support pre-college programming. It takes a thriving environment that motivates faculty and staff in order to promote “self-efficacy” and “self-concept” for attending students, especially students within diverse populations. This work argues that it is not enough to solely focus on factors that influence student motivation, but instead, consider exploring the factors that influence the staff and faculty motivation within pre-college programming. The concept of motivation and integration provides the analytical framework we aim to examine particularly within the realms of recruitment, affordability, and programmatic structure of pre-college programming, as this undergirds the traction to meet overarching goals aimed toward increasing diversity. Although much of the literature emphasizes research within solely college programs, much of the writing provides strong parallels to the structure of pre-college programming. To deepen our understanding of staff motivation within the pre-college program, and the influence this has on student success, further research must be conducted with a pre-college program focus in mind.

Logic Model

With the objective of developing recommendations for Duke University's Pre-College Program, our team focuses on enhancing diversity through recruitment, affordability, and programmatic structure. Our team's approach is two-fold: we must understand the literature, and utilize the literature to guide our data collection strategies and processes. It is evident that the concepts of "self-efficacy" and "self-concept", alongside the topics of "perception" and "motivation" are relevant to understanding the purpose of pre-college programs, especially for diverse populations. These "perceptions" will also play a pivotal role in stakeholder understanding, as well.

The logic model of Duke University's Pre-College Program is described in *Appendix A*. In review of the logic model, the theory of action specifies that increasing diversity within enrollment in Duke University's Pre-College Program will lead to increased accessibility, all while maintaining the university's prestige as a renowned pre-college program. By contacting and collaborating with stakeholders across families, staff, and peer institutions, the program has the opportunity to unpack and thoughtfully analyze recruitment practices, affordability, and programmatic structure geared towards diverse populations, leading to more equitable programming and higher programmatic success.

Background Information

Recruitment: *The following information is key to understanding resources, inputs, and activities, shaping our planned work surrounding recruitment.*

Because our client is requesting a landscape analysis, our team compares outward-facing information published by peer institutions that also host pre-college programs for youth. Much of the language remains the same throughout: programs encourage applicants by implying that attending their programs serves as an opportunity to bolster college applications, and discover a community while becoming accustomed to life on a prestigious university campus. An additional point of analysis is discoverable through the relationships created via the community partner programs the Duke University Pre-College program facilitates. This relationship is integral for both recruitment and affordability for the program, as the partnership encourages students to apply and attend the Duke University Pre-College Program. Through the lens of increasing program diversity, our team's recommendations for Duke University's Pre-College Program analyze the program's data and tackle these larger conversations in the pre-college space, further championing underrepresented students attending the summer program.

Affordability: *The following information is key to understanding resources, inputs, and activities, shaping our planned work surrounding affordability.*

Pre-college programming, particularly at elite institutions, receives both accolades and critiques specifically related to affordability. The Washington Post highlights discrepancies in its article, America's elite universities are making millions off summer programs for teens - but do they really help kids get into college? In this piece, the Post mentions Duke University's Pre-College Program and the cost to attend: "Duke, for example, offers a non-credit Summer Academy' for \$6,745; its 'Summer College' program, which allows students to take one Duke course for credit, costs an additional \$2,800. By comparison, the cost of an entire semester's worth of credits at North Carolina community colleges is capped at \$1,216" (Strauss & Kim, 2019). Although we note that the current price of the program is no longer nearly \$7,000, the stark contrast of the cost is not lost on Duke University's Associate Vice Provost for Academic Affairs and leader of the Pre-College Program, who aims to focus on its recruitment practices and affordability—especially towards youth who are local to campus and the surrounding area. One aspect that our team investigates is the cost of the program and if the price associated (including living expenses and travel) are impeding student applications, enrollment, and overall success in the program.

Programmatic Structure: *The following information is key to understanding resources, inputs, and activities, shaping our planned work surrounding programmatic structure.*

Attending Duke University's Pre-College Program encourages students to step out of their comfort zones and prepare for college. Duke University's Pre-College website outlines student applications for the program to include school transcripts, a resume, and a personal statement (Duke University, 2023). For middle schoolers, the personal statement can be a video, poem, or song. Unless there are glaring discrepancies (i.e., a student clearly not being prepared to engage in the curriculum), Duke University's Pre-College Program works to accept the majority of applicants. In 2023, Duke offered 39 unique courses for middle school and high school students, and plans to welcome approximately 1,000 students into the program for Summer 2024 (Duke University, 2023).

Annually running from June to July, the pre-college program is offered as a residential, hybrid, and online experience. Potential applicants are encouraged to note their interest in financial aid in the submission of their application and to email the program directly with their inquiry. For the majority of these applicants, financial aid is given upon acceptance. Daily lessons include both synchronous and asynchronous sessions where students take part in active small and whole-group activities. Residential students engage with college readiness programming, evening activities, and socials.

Commuter students are not permitted to stay later than course sessions but are encouraged to attend the college readiness workshops. Each of the courses offered for students in Summer 2023 is noted in *Appendix B*. It is important to note that hired staff, such as Teaching Assistants (TAs) and Resident Assistants (RAs), play a pivotal role in shaping the pre-college experience by providing academic support, mentorship, and guidance to students. Their presence helps create a supportive and enriching environment conducive to learning and personal growth. The result of understanding this information aligns with the initial request from the Duke University Pre-College team.



Design & Methods

Our team commits to adopting a comprehensive mixed methods approach to ensure a thorough exploration of Duke University's Pre-College Program. In addition to methods employed by Patton (1990), the program theory and logic model (*Appendix A*) offers an initial framework encapsulating our team's early perspective on work guiding the research. Our quantitative data heavily focuses on historical data captured from institutional records, while our qualitative data is collected through semi-structured interviews and focus groups. We triangulate the data from all sources to address our overarching research question.

Quantitative Data: Sample and Methods

Our data encompasses valuable historical insights, with quantitative data providing findings rooted in diversity. As outlined in *Table 2*, this dataset forms the cornerstone of our analysis, complemented by publicly available information that opens avenues for a comparative examination of similar programs across peer institutions. Our team's initial analysis focuses on the following:

Table 2: Duke University's Pre-College Program Quantitative Data Sources

<p>Institutional Surveys</p>	<ul style="list-style-type: none"> • 2021-2022 Student and Family Exit Surveys • 2022-2023 Student and Family Exit Surveys
<p>Institutional Records</p>	<ul style="list-style-type: none"> • 2022-2023 Student Demographic Data • 2022-2023 Student Enrollment Data • 2022-2023 Pre-College Marketing (website) • 2024 Duke Pre-College Program Viewbook
<p>Internal Analysis</p>	<ul style="list-style-type: none"> • Duke University 2022-2023 Survey Analysis

Although the institutional records and historical artifacts allow for preliminary analysis of collected data, students and families of the program serve as primary stakeholders given the program is geared toward their interest level and investment.

The current data provided by Duke University’s Pre-College Program sheds light on enrollment demographics and feedback on the program itself. Further data is collected from the family and student perspective on key factors that would influence an increase in diversity through demographic, geographic, and economic lens.

Qualitative Data: Sample and Methods

The heart of our work focuses on qualitative data collection and analysis. With an emphasis on qualitative research, our team’s methods focused on the richness and depth of the interviews versus the sample size itself, recognizing that the significance of our findings is rooted in the richness of the landscape of where the study is being conducted (Patton, 1990). To delve deeper into the quantitative data from historical documents and artifacts, our research encompasses a series of semi-structured interviews with key stakeholders, as noted in *Table 3*. These stakeholders include peer

Stakeholder	No. Interviews
Pre-College Program Families	4
Pre-College Program Staff	6
Community Partners	1
Peer Institutions	2
Total	13

Table 3: Duke University’s Pre-College Program Qualitative Interviews by Stakeholder

institutions, families of youth who participated in the pre-college program, and community partners. Through both a focus group and 13 individual interviews, our aim is to unravel the multifaceted dimensions of diversity within Duke University’s Pre-College Program. To facilitate this process, our recruitment email (*Appendix C*) and interview protocols (*Appendix D*) are included respectively. Data has been collected from semi-structured individual interviews from November 2023 through January 2024. Semi-structured individual interviews have been conducted online in 45-60 minute, audio-recorded sessions. Each interview is transcribed using Otter.ai transcription software. All stakeholders have provided consent prior to beginning the interviews. *Appendix E* contains a quote matrix constructed by our team for a systematic analysis of our qualitative interviews. Organized by stakeholder and bin, these matrices reveal prominent themes and trends, forming the foundation of our key findings and recommendations.

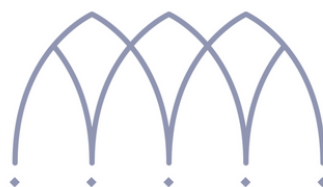
We have identified the primary and secondary stakeholders that not only constitute the Duke Pre-College Program, but who are consumers of the program itself. As noted in *Appendix F*, key stakeholders include leadership administration, students, families, recruitment staff, pre-college educators (faculty), middle and high school leaders of student applicants, and community partners.

For example, through initial conversations with Duke's Associate Vice Provost for Academic Affairs, it is clear recruitment efforts are organized and planned by only one individual who targets varying demographics for a program that enrolled more than 1,000 students. As the sole decision-maker for recruitment strategies, this individual's perspective is imperative for a more in-depth understanding of the decision-making process taken when recruiting. Understanding this stakeholder's role allows for a deeper analysis of how these decisions influence diversity-based strategic planning in the program.

Experiential Learning: APCPD Conference Presentation

Furthermore, while recognizing the value of context and industry trends, our strategy extends to experiential learning. During Fall 2023, our team participated in the Association for Pre-College Program Directors Annual Conference, allowing us to gather firsthand observational data on the "best practices" deployed in recruitment strategies by partner institutions. Titled, *Diversity Through Data: How Collecting and Analyzing Various Data Can be Used to Promote and Enhance Diversity in Programming*, this interactive engagement enabled our team to assess and contrast the diverse approaches taken by Duke University alongside competing institutions pertaining to diversity and inclusion.

In summary, our research is characterized by a multi-layered methodology that encompasses historical data, stakeholder perspectives, and industry insights. By blending quantitative analysis, qualitative exploration, and participatory observation, our work illuminates a comprehensive narrative of Duke University's Pre-College Program while concurrently contextualizing it within the broader landscape of pre-college initiatives in the academic sphere. Through this holistic approach, we aspire to contribute valuable insights that inform effective practices and drive positive outcomes for the program and its participants.



Key Findings

Through qualitative and quantitative research, our team triangulates the data in order to identify key strengths and areas of growth within Duke University's Pre-College Program. Through analysis of our data, our team concludes that there is a need to revisit the vision and approach of all categories as the alignment, goals and clarity of mission towards increased diversity is lacking in the current model.

For quote references:

- "F#" designates *Family* and interview number
- "S#" designates *Staff* and interview number
- "ST#" designates *Student* and survey response
- "CP#" designates *Community Partner* and interview number

Points of Pride

There is intentional work being done to root decision-making in the mission of the program and maintain momentum toward increased diversity.

The data suggests the need to acknowledge the positive influence the Duke Pre-College Program has on all stakeholders—from staff to families to students. While challenges remain, the data reflects that the program is moving toward the goal of an aligned vision and approach to promote diversity. In review of historical data, our team notes the following progress:

- *Financial Aid and Funding*; Based on institutional records, \$135,000 in financial aid was offered to students interested in the Duke University Pre-College Program in 2022-2023. In 2023-2024, financial aid is predicted to reach about \$600,000, highlighting an increase of over \$465,000 in just one academic year due to increased philanthropic partner engagement.
- *Program Transparency*; The creation of the 2024 Pre-College Program Viewbook (*Appendix G*) is crucial for prospective students and their families. It serves as a comprehensive guide, offering insights into the program's offerings, faculty, campus life, and resources. This view book not only showcases the unique opportunities available but also provides vital information to help students make informed decisions about their summer investment.
- *Increase in Enrollment with Students from Diverse Backgrounds*; In 2022, approximately 65% of Duke Pre-College students identify as non-white, meeting the current Duke University enrollment of 63% who identify as non-white.

- *Positive Influence on Students*; Over 50% of stakeholder survey and interview data highlight the positive influence the program has had overall.

While the findings that follow this section target areas for growth, our team recognizes the progress the Duke University Pre-College Program staff is making in order to reach the goal of increasing enrollment diversity.

Recruitment

In the context of our work with Duke University's Pre-College Program, the term "recruitment" refers to the process of attracting and enrolling prospective students into pre-college programs, often involving promotional activities, information dissemination, and outreach efforts to encourage participation. In particular, our work centers around the need to recruit for more diverse populations in order to promote diversity within the program.

Recruitment: Finding 1

Partner programs are crucial to making the program more affordable for diverse populations.

A key theme that emerges after the review of institutional records and family interviews is the positive influence of partner programs on increased diversity in student enrollment. These partnerships are primarily community partnerships catered towards sponsoring youth with funds to attend programs that influence their educational trajectory—programs like that of Duke University's Pre-College Program. During staff and family interviews, 10 out of 10 stakeholders name partner programs as a positive element to the pre-college programming, as a whole. One specific family who identifies as a family of color names the need to continue the partnership moving forward, stating the following:

...So you know, kudos to them [Duke University's Pre-College Program] for continuing to keep that line of communication and opportunity open...So I think that's great. I really think they need to continue doing it. Yeah, yeah. The partner organizations are a big piece of the program (F1)



Above are the logos of some current community partners of the Duke Pre-College Program.

Another family, also identifying as a family of color, notes that the only chance their student had in attending the program was through a partner organization that came to her attention through word of mouth:

So the reason we did a pre-college program, one of my church members was able to have a relationship... So the lady...afforded her our grant with a scholarship to give to a student as long as they qualified and were accepted. into the program. They will pay the full ride of the camp...And my son was the first one who was able to apply for the program and get accepted. It would not have happened if it was not for the program (F2).

The increase in partner programs affiliated with Duke University's Pre-College Programming signifies an upward trend towards increased efforts - and hopeful impact - on increased enrollment of diversity overall.

Recruitment: Finding II

There is a misaligned vision of best practices for recruitment to increase diversity.

The term “recruitment” is found to have varied meanings with the Duke University Pre-College staff, and the lens of “recruitment to increase diversity” reveals an even more misaligned understanding of the vision and approach to promote diversity. With a mix of semi-structured interviews and focus groups, qualitative data reveals that Duke University Pre-College staff has differing interpretations of the goals of recruitment and the methodology behind it. One staff member sheds light to the overarching theme of misalignment:

And so [this team member] recruits staff, and [this team member] recruits kids, or maybe they are also recruiting staff? See...I don't even know, right? It's very disjointed. And that from the best of my understanding has been the history of the program. It's been very disjointed (S1).

Staff also reports that the team recruits participants with different goals in mind, with one signifying “accessibility” and “affordability” as the overarching goals, while another names “children being mature enough” as the recruitment effort. As a result, the historical data taken from student surveys reveals student responses pointedly illuminating the lack of representation within the program:

I think the camps could be more diverse, I didn't see much Latino representation (ST1).

When asked to share the strategic plan for recruitment for the current academic year, Duke University Pre-College Staff name that no concrete plan is in place—another indication of misalignment across a team. Overwhelmingly, stakeholder interviews and historical survey data confirm the lack of alignment with vision and approach toward recruitment efforts to promote diversity.

Affordability

The affordability of Duke University's Pre-College Program denotes the accessibility of the program, ensuring that costs are reasonable to make participation feasible for a diverse range of students. Our team works to address the affordability of Duke University's Pre-College Program, benchmarking it alongside its peers, and discusses the topic with staff, families, partner programs, and peer institutions.

Affordability: Finding 1

Financial aid policies should be promoted and transparent.

In the beginning of our working relationship with Duke, our team discovered financial aid was not noted on the website, pamphlet materials, or other external publications produced by the Duke Pre-College team. In conversations with the staff, we probed about the financial aid of the program (i.e., if it was offered, how much was provided to students, and the application process itself). Initially, staff members shared that prospective students would have to inquire to program staff personally, or indicate their need in their official application, in order to request financial aid. During an interview with a family, the following was disclosed:

...if you really want to attract people from different economic backgrounds, then it has to be blatant... The only way for anyone to usually find out about anything is by seeing it advertised with the program (F2).

In interviews, the cost of the programming is noted as a “dissuasive factor” by those students and families who would have otherwise applied to the two-week program. The Duke University Pre-College team, aware of this information, has shifted its pricing for the upcoming Summer 2024 programming. Below, *Table 4* outlines various institutions that are considered peers comparatively to the Duke University Pre-College Program and their listed fees for Summer 2024:

Table 4: Peer Institution pre-college program comparison

Institution	Duration of Program	Cost of Attendance
Peer A	2 weeks; Overnight	\$6,500
Peer B	1 - 6 weeks; Overnight and Commuter	Overnight (\$2,195 - 7,495)Commuter (\$1,726 - 5,635)
Peer C	1 ½ weeks; Overnight, Commuter, Online	Overnight (\$6,065) Commuter (\$4,660)Online (\$1,950)*per credit hour enrolled
Peer D	3 - 10 weeks*; Overnight, Commuter, Online*Overnight = 3 - 8 weeks	Overnight (\$5,407)Commuter (\$5,407)Online (\$5,407)
Peer F	1 - 2 weeks; Overnight	\$1,725 - \$4,450*cost dependent on age group
Duke's Pre-College Program	1 - 2 weeks; Overnight, Commuter, and Online	Overnight (\$2,150; \$4,700)Commuter (\$1,525; \$3,050) Online (\$795)

Figure 4 indicates that very few students requested financial aid in AY 22-23. Of all applications submitted, only 6% indicated that they were interested in learning more and were in need of some form of financial assistance in order to attend the program. Of this percentage, 10% were non-white identifying students and families and only 2% were white identifying. To reiterate, the Duke Pre-College Program price from 2023 to 2024 has decreased.



Figure 4: Duke Pre-College Percentage Breakdown of Requested Financial Aid (2022)

Affordability: Finding II

Partner programs are crucial to making the Duke Pre-College Program more affordable in diverse populations.

As mentioned above, the Duke Pre-College team has established strong partnerships with community organizations who in turn aid in sponsoring students in the program by providing financial assistance. Review of historical records show an increase of partnerships from 12 partnerships in 2022, to 15 partnerships in 2023, and 30 partnerships in 2024. The increase in partnerships demonstrates significant growth in the financial aid obtained. In AY 22-23, the Duke Pre-College Program received roughly \$135k in aid from community partners, and in AY 23-24, the program is experiencing a growth of an estimated \$465k increase of funding, to total \$600k. This effort is led by the professional staff for the Duke Pre-College Program who work to continually identify and strengthen partnerships from programs designed to support students with underrepresented identities and their access to post-secondary education.

One partner discloses Durham's storied past and its limitations for people of color, citing their own personal history:

I am originally from Durham, grew up here, and this was during the Jim Crow era, actually... and Duke University was never high on our list, you know, in the black community... Well, to have the opportunity to do reach-out for this type of experience... Here's an opportunity for many of our young people to get that exposure not... Keeping them out (PC1).

In fact, peer institutions (Peer D) also indicate the importance of community partners, referring to them as Community Based Organizations (CBOs):

In the US, we work with three different CBOs, and they match funds. And then we have a special program with the Chicago Public School System. It's called College Bridge. The university funds 25 commuter students to take a class over the summer at Duke. And that's about \$5,000 worth of tuition, we buy their books as well. So, we've got the 25 CPS—which is the Chicago Public School System—students under our College Bridge.

In the above examples, the utilization of community partners works to ensure the youth sponsored by their program have the capability to engage in pre-college programming opportunities.

Programmatic Structure

Programmatic structure refers to the organized framework and design encompassing staff composition, educational activities, scheduling, and overall components that shape the delivery and operation of the pre-college program. This multifaceted structure serves as the foundation for the program's effectiveness in fostering a diverse and inclusive learning environment. Through a comprehensive examination of the programmatic structure, we aim to assess its alignment with diversity goals and its impact on the overall program experience for participants from various demographic, geographic, and socioeconomic backgrounds.

Programmatic Structure: Finding I

Lack of communication both internally and externally has led to the misalignment of program goals and program actions.

The findings regarding Duke University's Pre-College Program programmatic structure illuminate critical issues surrounding communication efficacy, both internally among program staff and externally with program participants and their families. These communication breakdowns have resulted in a misalignment between the program's professed goals and its operational execution. The testimonials of participants and their families echo this sentiment, shedding light on instances where inadequate communication has engendered feelings of uncertainty and disappointment. For instance, one parent expresses apprehension about the program's accessibility, articulating concerns about potential challenges in contacting program personnel when needed:

...if I'm having problems getting contact with them, and my daughter's not even there, am I going to have problems getting in contact with them when she is there? And if not, I'm going to be really nervous about sending her (F3).

This quote encapsulates the tangible impact of communication deficiencies on the perceived trustworthiness and reliability of the program, thereby heightening parental anxiety and eroding confidence in the program's ability to meet participants' needs.

In today's sociopolitical landscape, parents sending their children to educational programs in North Carolina (NC) may have concerns about diversity, state policies, and the level of care their child will receive. NC, like many states, face diversity and inclusivity challenges amidst broader societal debates and political dynamics. Parents, especially those from underrepresented or marginalized backgrounds, may worry about potential discrimination, prejudice, or lack of support for their children in NC educational settings, influencing their decision to attend this summer experience.

Moreover, a student of the program expresses disappointment regarding the program's organizational aspects and activities, regretting the perceived mismatch between the prestigious reputation of Duke University and the actual delivery of the pre-college experience:

I was really looking forward to Duke because of its reputation, and I expected the camp to be representative of the premier level, but I was disappointed in the organization and activities. This was a huge financial investment and I really don't feel like I got my money's worth (ST2).

This sentiment underscores the profound impact of unmet expectations on participants' overall satisfaction and perceived value of the program. This potentially calls into question the program's ability to uphold its institutional reputation and deliver an experience commensurate with its esteemed standing.

Fifty-two unique quotes from our team's quantitative survey analysis illuminate instances of disorganization between 2022 and 2023. When presented to Duke University's Pre-College Program staff, the team reveals a notable disparity between perceptions and actual occurrences—staff assumes negative feedback would be much higher. This disparity underscores the pervasive nature of communication challenges within the program and illustrates the urgency of implementing effective strategies to address these issues. The frequent changes in organizational structure, exhibited by six organizational charts within the past eleven months, contribute significantly to the lack of communication and alignment among staff. Reflecting on the ongoing impact of COVID-19, this pattern persists, with at least three chart revisions annually since 2019, making it challenging to maintain clarity and consistency within the team.

These findings underscore the vital importance of effective communication in shaping participants' experiences and perceptions of the program. In essence, they emphasize the necessity for targeted interventions aimed at enhancing communication efficacy and bridging the gap between program goals and operational realities.

Programmatic Structure: Finding II

Duke Program staff demographics do not represent the student population (e.g., demographic, geographic, socioeconomic).

Encompassing factors such as demographic, socioeconomic, and geographic representation, Finding II reveals a significant gap between the demographic composition of Duke University's Pre-College Program staff and the student population they serve.

Stakeholder perspectives and observed trends within the program vividly illustrate this discrepancy.

A past family emphasizes how imperative it is for the program to mirror the demographic makeup of the communities it serves, urging a critical examination of the program's demographic representation. This parent highlights the importance of aligning staff demographics with the backgrounds and experiences of students, stressing that *"if the program does not reflect at least a 5% or 10% representation from its own city"*(F4), it raises questions about the program's ability to find talented individuals locally. This sentiment underscores the program's obligation to authentically engage with and be a part of the community it serves, rather than seeking talent elsewhere without adequately representing its local demographics.

Table 5: Duke University Pre-College Program Staff Demographics

Year	POC Staff	Total Staff
2018-2019	2	6
2021-2022	2	4
2022-2023	2	4
2023-2024	3	8

Table 5 illustrates the proportion of staff who identify as people of color (POC) within the Duke University Pre-College Program. While there have been fluctuations in the representation of people of color in the staff over the years (*with discrepancies from 2019-2021 during COVID) the proportion has generally remained low compared to the total staff count. This highlights a persistent underrepresentation of POC staff within the Duke University Pre-College Program, suggesting a need for concerted efforts to enhance diversity and inclusivity in staff recruitment and retention practices.

One staff member notes a significant racial disparity between the academic and residential sides of the program, magnifying the need to address the lack of diversity among program staff.

One staff member notes a significant racial disparity between the academic and residential sides of the program, magnifying the need to address the lack of diversity among program staff.

"the academic side was heavy white, the residential side was heavy black," (S2)

This observation resonates with the concerns raised by families about the importance of seeing themselves reflected in the program's staff composition. The staff member's acknowledgment of this disparity amplifies the significance of representation not only among students but also among teaching staff.

The staff member's reflection emphasizes the message conveyed to students when they do not see representation of their own racial or ethnic group among the teaching staff, stating:

"just think of what message we're sending... that a black person or a person of color cannot be their teacher" (S2)

This sentiment aligns with the concerns expressed by families about the impact of inadequate representation on student perceptions and experiences within the program.

Acknowledging the current staff demographics while striving for diversity and inclusivity within the Duke University Pre-College Program underscores the importance of innovative approaches to hiring and retention. Embracing creative strategies not only demonstrates a commitment to fostering a more representative staff but also enriches the program's overall culture and effectiveness. By actively seeking out and supporting people of color on staff, the program can better reflect the diversity of its student population, fostering a more inclusive learning environment where all individuals feel valued and supported. Moreover, attracting a diverse range of talented individuals to join the staff not only enhances the program's reputation but also brings fresh perspectives and experiences that contribute to innovation and excellence. Ultimately, prioritizing diversity and inclusivity in hiring and retention processes not only aligns with the program's values but also strengthens its ability to fulfill its mission of providing a transformative educational experience for all participants.

Data Tools and Analysis

In the realm of pre-college education, the effective use of data holds immense significance, serving as a cornerstone for informed decision-making and program improvement. Employing a diverse array of software and tools, institutions can harness the power of data to meticulously collect, process, and interpret information pertaining to various facets of their pre-college programs. In this section, we delve into the use of data tools and analysis within the context of the Duke University Pre-College Program, highlighting key findings.

Data Tools and Analysis: Finding I

Data Tools and Analyses Procedures are inconsistent from year to year.

The inconsistency in data tools and analytical procedures from year to year within the Duke University Pre-College Program signifies a significant challenge in maintaining continuity and reliability in evaluating program satisfaction and effectiveness. The main inconsistency is found in the act of changing the survey instruments every year that a survey was administered. Changing survey instruments annually disrupts the consistency needed to track longitudinal trends and assess the impact of programmatic changes over time. Therefore, without consistent data collection methods, it becomes difficult to compare results across different years accurately. This inconsistency undermines the ability to conduct meaningful analysis, hindering the program's capacity to make informed decisions aligned with its mission, vision, and goals. Establishing standardized data collection procedures and maintaining consistency is imperative for facilitating accurate and reliable program assessments.

Consistency is important because analysis can support the vertical alignment between mission, vision, and goals. *Appendix H* is the deidentified 2023 survey analysis provided by Duke Pre-College Program staff. While the text may contain valuable insights, it lacks the systematic approach and quantitative data needed for meaningful comparison against prior years with different survey instruments. Without standardized metrics or consistent data collection procedures, it becomes challenging to measure trends over time accurately. Therefore, a more systematic approach to data collection is necessary to better understand the program's achievements and challenges. Over time, these efforts will drive meaningful improvements aligned with Duke's overarching program objectives.

Focus Group Findings

Duke program staff demonstrate unwavering commitment to inclusion.

In late February, our team visited Durham, NC to present our initial findings and conduct a focus group with the Duke Pre-College team. This session served as a crucial opportunity to engage directly with key stakeholders and uncover their collective vision of diversity within the program. By exploring their perspectives, reflections, and strategies for fostering inclusivity, our team has gained invaluable insights that complement our broader findings. The focus group provided a platform for team members to articulate their individual roles, reflect on their collective vision for diversity, and discuss actionable strategies for creating an inclusive and supportive environment for all participants. Additionally, the session enabled participants to identify personal and team-oriented goals aimed at advancing the program's overall mission.

The focus group serves as a cornerstone in our research, offering nuanced perspectives and enriching our understanding of dynamics within the Duke Pre-College Program.

To start, we believe centering everyone around a common definition of diversity would set the stage for a productive focus group. The Duke Pre-College team collectively formulated a definition that underscores the program's commitment to diversity and inclusion. Aligned with Duke University's ethos, their diversity definition emphasizes the critical role of diversity in fostering a representative and inclusive community. This recalibrated vision serves as a guiding principle for the team, informing their future strategies and actions for the program. By articulating this definition, the team solidifies its dedication to cultivating a pre-college experience that embraces and celebrates diversity in all its forms.

Duke Pre-College Program Definition of Diversity:

Complimentary to Duke University, diversity in the context of the Duke Pre-College Program aims to build a representative community that is welcoming, inclusive, and reflective of adolescent populations across the globe.

Reflections from individual team members and the collective team highlight varying perspectives on their roles and responsibilities within their individual jobs. While some expressed personal reflections, others emphasized the importance of cohesive teamwork in realizing the program's goals. This conversation was prompted by an activity that asks participants to chart their current responsibilities and ideal responsibilities. *Figure 5* illustrates the reflective exercise the Duke Pre-College team was tasked with.

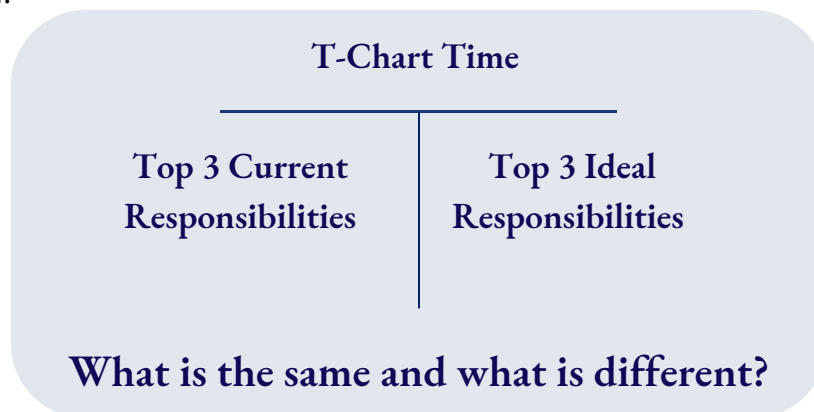


Figure 5: Duke Pre-College Team Focus Group Activity

In response to the question, *"What suggestions do you have for enhancing communication and collaboration among staff members within the pre-college program?"* various strategies were discussed, including fostering open communication channels and establishing adequate support systems for team members. Moreover, there is a consensus on the importance of assessing the effectiveness of interactions with pre-college students and their families, with participants highlighting the necessity for ongoing evaluation and feedback mechanisms to ensure alignment with program objectives. Similarly, the Duke Pre-College team identified personal and team-oriented goals aimed at enhancing their contributions to the program's diversity initiatives. These goals range from fostering cultural competence to implementing innovative programming strategies.

Overall, the insights from the focus group signify the initial step in an ongoing conversation for the Duke Pre-College Program. The team's unwavering commitment to fostering inclusivity and support for diverse adolescent populations is evident throughout our discussions. Moving forward, the team is poised to leverage continuous reflection, collaboration, and strategic planning to advance their program goals and enrich the pre-college experience for all participants. This focus group marks the beginning of a concerted effort to enact meaningful change within the program, ensuring that diversity and inclusivity remain at the forefront of their mission and practices.

Findings Summary

Amidst challenges and areas for improvement, it is essential to recognize the positive impact that Duke University's Pre-College Program has had on students and families. By providing early exposure to college-level coursework, academic support, and campus resources, the program empowers aspiring scholars from diverse backgrounds to envision themselves as college-bound individuals. Through enriching experiences and supportive networks, students gain valuable skills, confidence, and a sense of belonging that prepares them for success in higher education and beyond. For families, the program offers a pathway to educational opportunities that may have been previously inaccessible. This transformative impact underscores the importance of the program in cultivating a pipeline of diverse, talented individuals who will enrich the fabric of our colleges and society as a whole.

The challenges identified, including inconsistencies in recruitment strategies, affordability barriers, lack of communication, and data analysis procedures, demonstrate critical areas where the program can strive for improvement to better fulfill its mission and goals.

By addressing these challenges, the program can enhance its inclusivity, effectiveness, and overall impact on student success. Moving forward, the following section will outline specific recommendations aimed at addressing these findings and advancing the program's commitment to fostering a diverse, accessible, and transformative educational experience for all participants.



Discussion

The extant literature has noted the positive influence of pre-college and summer learning program attendance on efforts to close the achievement and opportunity gap, with nine characteristics of effective summer learning programs that lead to this influence:

1. *Accelerating Learning*
2. *Youth Development*
3. *Proactive Approach to Summer Learning*
4. *Leadership*
5. *Advanced Planning*
6. *Staff Development*
7. *Strategic partnerships*
8. *Evaluation and commitment to program improvement*
9. *Sustainability and cost-effectiveness*

This is in tandem with a focus on the program's approach to learning, as well as the program's structure (Bell & Carrillo, 2007). Research has shown that for low-income students, these characteristics lead to even more benefits through program attendance. Several of our findings aligned with the existing literature, particularly in the focus areas of strategic partnerships, cost-effectiveness, advanced planning, and leadership. When considering recruitment, affordability, and programmatic structure, stakeholders name the benefit of partner programs as financial aid and funding providers and simultaneously provide constructive feedback toward the challenges with cost-effectiveness and programmatic infrastructure. While our team was able to conclude that our findings largely mirror previous research, we also note additional research that could be utilized in order to influence pre-college programming, as will be discussed further below. While our team was able to conclude that our findings largely mirror previous research, we also note additional research that could be utilized in order to influence pre-college programming, especially in the realm of organizational theory, as will be discussed further below.

Recruitment and Affordability: Strategic Partnerships and Cost Effectiveness

Partner Programs are a positive influence on recruitment efforts toward increasing diversity within Duke University's Pre-College Program. This aligns directly with the current literature and research stating community partnerships and scholarships allow public education to address inequality in academics by promoting quality summer

programs for all income levels, allowing for a more equalized approach (Winship et al., 2005). In interviews, families acknowledge this inequality and name the program to be “cost prohibitive” or “geared only towards the wealthy” if partner program scholarships were not in place. Other families indicate the cost to be a “barrier” for many families who don’t make the means possible for a quality program like Duke University’s. From the literature, it is clear that historical evidence continues to prove that public and philanthropic funding for summer programs should be in place to help bridge both academic (summer school) and opportunity gaps (pre-college programs) that exist between youth of both lower and higher income families in order to support the drive to receive the skills and experiences that should be in place for all, particularly for students who do not have access to such opportunities (McCombs et. al, 2019). Although the implementation of strategic partnerships and cost-effective programming is just one factor that would help promote increased enrollment across varied demographics, the current literature suggests a deeper look into elevating this approach to enable equity with opportunity, despite the reality of economic disparities. Despite the need to allow for more equitable opportunities, the literature also outlines the current reality, naming that with “the problems associated with increased college costs and the erosion of publicly funded financial aid, a growing number of colleges and universities have instituted policies limiting the access of qualified low-income students to campus-based aid” and this includes programs that promote a pre-college experience (Kezar, 1999). While the economic disparities continue to rise, it will be critical that funding and scholarships are put in place in order for pre-college programming to be the most effective for students across a variety of demographics.

Programmatic Structure: Advanced Planning and Leadership

A core component of effective programming stems from effective leadership and organizational structure. Through both staff and family interviews, stakeholders name “misalignment” and “disorganization” as barriers that have slowed down the effectiveness of Duke University’s Pre-College Program’s goal of increasing diversity. Current literature affirms that “aligning employees with the [organization’s] larger strategic goals is critical if organizations hope to manage their human capital effectively and ultimately attain strategic success” (Boswell et al., 2006). In much of the literature, the term “line of sight” is used to facilitate the pathway towards reaching organizational goals. At Duke University, immediate staff name “disjointedness” and “confusion” as a trending perspective, which inevitably leads to the challenge of creating an aligned “line of sight” to reach the goal of increased diversity. As noted above, in its current state, the organizational structure of the Duke staff has undergone at least six revisions within the past eleven months - and three chart revisions annually since 2019 - contributing to the lack of “line of sight” within the Duke Pre-College Program staff.

Ultimately, the impact lands on the students who name the program to be “messy”, “disorganized” and “overwhelmingly confused”. Further literature mirrors this finding, specifically in the context of organizations that work directly with humans—from adults to youth. Research in the science of behavior names the effectiveness of highly organized and well-designed programs to best prepare for effective response in crisis situations and in meeting strategic goals—both of which mirror the vision and approach of the internal programmatic structure at Duke University’s Pre-College Program, as named by varying staff members. As the literature notes, “a small group of people with complementary skills who are committed to a common purpose, set of performance goals, and a shared approach for which they hold themselves mutually accountable” allows for even more effective implementation of action towards goals (Katzenbach & Smith, 1993). When organizations and programs like Duke University are well designed from top down with the same goals, vision and approach, the positive influence of this methodology lands directly on the consumer—and in this case, the consumer being the diverse population the Duke University Pre-College Program is hoping to recruit.

Further Research Recommendations

Although there is varied research that supports our current findings, the professional literature on pre-college programs and school-to-college programming is somewhat limited with literature particularly emphasizing P-12 summer schools and remediation programs. When considering the gaps in research, further studies would need to be done to analyze the effects of diverse staff on recruitment of diverse populations—one of our core findings. Although previously found literature equates working in a college program as “an opportunity to work for democratic ideals and social equality by educating students who otherwise might not have ready access to higher education”, there is limited literature that demonstrates the influence of diverse staff on recruitment of diverse populations (Brown et al., 2016). Literature currently delves deep into the influence of staff diversity on student investment and motivation. However, when considering Duke’s goal of increasing diversity within enrollment, further research must be conducted to assess the influence of diverse staff on recruitment strategies. Does a more diverse staff influence the number of diverse families and students who apply, are accepted and ultimately enroll in pre-college programs? Would diversity in staff influence an onset of increased staff voice in strategic planning of recruitment to target areas of diversity? Geographically, rural populations are frequently under-represented, making further research on the experiences and challenges faced by rural students attending such programs invaluable for developing more inclusive and equitable initiatives.

One peer institution named the shift in focus from recruiting nationally to recruiting in state, naming the following:

"...our institution has been trying to shift their focus from recruiting nationally, we were at a tipping point as a public institution where for years we had had more out of state students than in state. And so our mission has really shifted to focus. And that's really where my interest is, anyways, we're a rural state, we really need, you know, an educated workforce and people that have opportunities"

It is recommended that further research is conducted to allow for a more all-encompassing understanding of diverse staff influence on pre-college programming, specifically in the realm of recruitment strategies and practices.



Limitations

In this section, we outline the limitations encountered during the research process of our study and its impact on outcomes. These limitations are crucial to acknowledge as they impact the interpretation and generalizability of our findings, particularly in the context of enhancing diversity within Duke's Pre-College Program.

Internal Limitations

Despite efforts to establish consistent procedures, our team takes note of differences in how interviews are both conducted and interpreted. This variability may stem from the unique perspectives and approaches of individual team members. Variability in communication styles may influence the depth and type of insights gathered during interviews, thereby potentially limiting the comprehensiveness of our data analysis. Unintended biases within the interview protocol are also present. Despite efforts to design neutral questions, inherent human biases from both interviewers and interviewees could influence the data collected.

External Limitations

A notable limitation is the discrepancy between the interviewee sample size and the broader Duke University Pre-College Program population. Despite efforts to ensure representation, the sample size does not fully capture the diverse perspectives within the organization, impacting the generalizability of our findings.

Additionally, our reliance on a limited snapshot of quantitative data—only accessing two years of relevant metrics—hinders our ability to comprehensively understand the long-term effects of the protocol. The lack of longitudinal data restricts our ability to conduct year-over-year analyses, limiting the depth of our analysis and the conclusiveness of our findings regarding the protocol's effectiveness over time. Furthermore, the unforeseen challenges introduced by the COVID-19 pandemic disrupted Duke University's data collection, impacting the reliability and consistency of data collection methods and introducing confounding variables beyond our control.

Despite these limitations, we believe our study contributes valuable insights into increasing diversity within Duke's Pre-College Program through recruitment, affordability, and programmatic structure. Recognizing these constraints underscores the need for future research, which will work to address these limitations while also discovering additional nuances regarding the enhancement of diversity within pre-college programs.

Recommendations

The following recommendations are designed to address each of the key findings. Understanding that change must be introduced in stages, our team has developed a phased approach to achieving increased diversity through recruitment, affordability, and programmatic structure. Each of the following recommendations is categorized as “Immediate”, “Annual”, and “Continuous” such that the Duke Pre-College team can address the first step of the recommendation plan, return annually to assess and devise additional actions to achieve their goals of increasing diversity, and have the structure in place to continuously address need.

Recommendation I: Make Diversity Your Overarching Goal

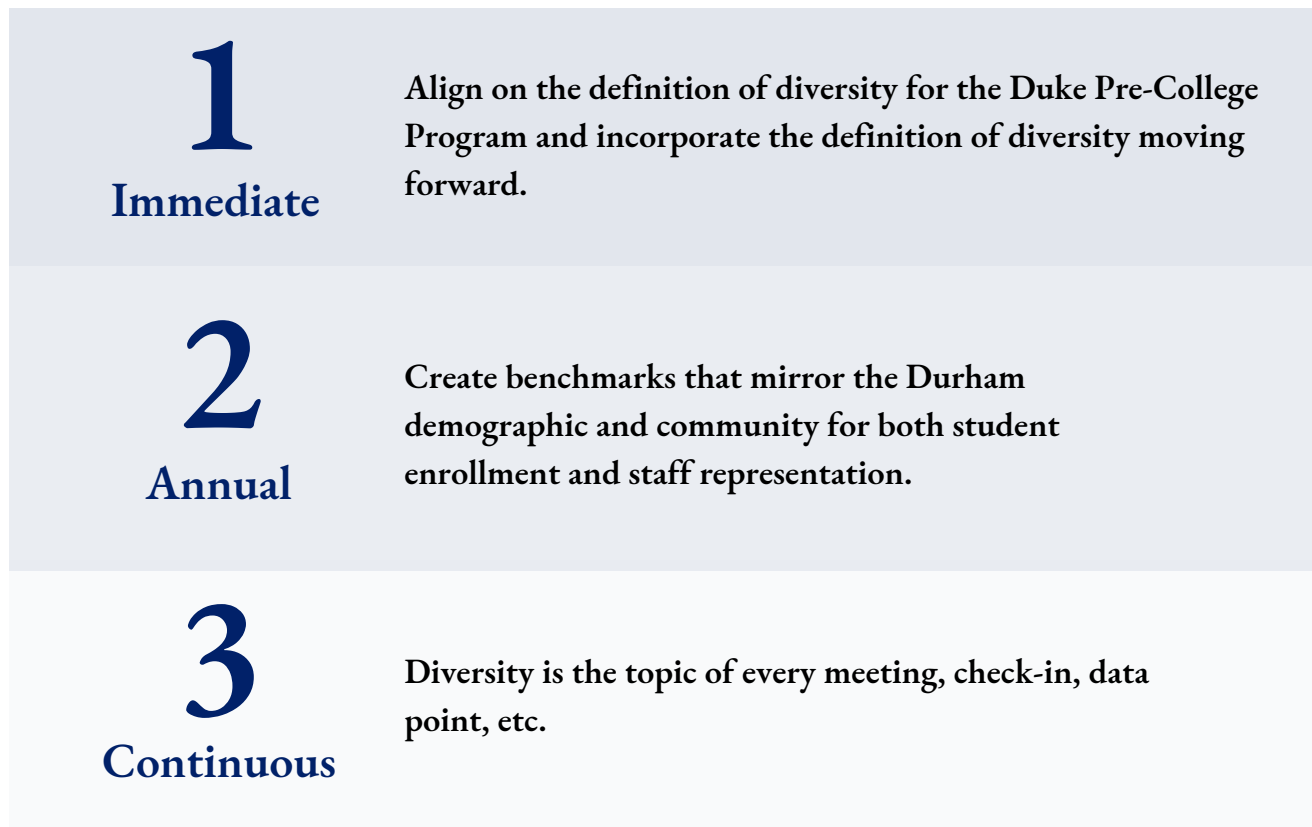
To make more immediate and effective progress towards increasing diversity across the Duke Pre-College Program, there is a critical need for unapologetic discussion and action planning of diversity efforts. Diversity is the key term to target.

Interview data suggests the Duke Pre-College Program staff have varied conceptualizations and definitions of diversity. Our team notes the following question when determining this priority recommendation: “How can a group of individuals work toward diversity, if the group itself does not hold a united definition of what ‘diversity’ may mean in the context of their program?” Thus, our team recommends that the Duke Pre-College Program staff prioritize devising and aligning on the definition of diversity and its impact on the program. Post data collection and analysis, our team moved forward in facilitating just that. Our team, as noted in the Focus Group Findings, had the opportunity to work with the Duke Pre-College Program to begin the work of creating a shared vision and goal of diversity. In the workshop portion of our presentation, our team asked the staff to engage in an exercise referred to as “Chart and Paper Pass”. Each member wrote their own individual definition of diversity in the context of the Duke Pre-College Program. After each individual created their own definition, they passed their paper to the teammate next to them, giving this person time to indicate on the sheet where they agreed and aligned by starring specific words and phrases. This exercise continued until each staff member read each peer’s individual definition of diversity. At the conclusion of the exercise, each person was made aware of the working definitions for one another. The team then held dialogue and discussion to come to group-consensus for what diversity may mean for Duke’s Pre-College Program. Although our team facilitated the onset of this recommendation, this development of an aligned definition of diversity must be constantly reflected on, revised and maintained.

To ensure that diversity remains the program’s north star, the Duke Pre-College Program staff must engage yearly in analyzing the demographics (socio-economic, geographical, and racial) of the organization and those students enrolled in the program. Duke Pre-College Program leadership indicate that they want for the program to eventually reflect the surrounding city within their programming – providing local youth with the opportunity to be exposed to the premier institution. Therefore, our team recommends annual creation of benchmarks that reflect the demographics of the surrounding city (or cities) and that of the institution, for both the students who are enrolled and the staff that are employed to manage the program.

Our final suggestion is to ensure that the topic of “diversity” is at the forefront of team meetings, check-ins, data-points, and goals of the program. Oftentimes, discussions regarding diversity may seem too large, and can be watered down when not addressed or hedged out of discussions. Our group’s suggestion is to merely not lose-sight of the goals ahead – if the goal of increasing diversity is the mission of the team, then the work to achieve that goal must be consistently addressed. This is outlined in *Figure 6*.

Figure 6: Phased Approach to Recommendation 1



Recommendation II: Revamp Organizational Infrastructure

There is a critical need for Duke University's Pre-College staff to reset the organizational infrastructure of the team with a priority focus on Organizational Roles and Responsibilities and Year to Year Goals and Priorities.

To improve diversity in enrollment within the Duke University Pre-College Program, there is necessary change within the infrastructure of the program, specifically with roles and responsibilities and overarching goals and priorities. This will require an effort to streamline operations, improve communication, and enhance administrative efficiency. To effectively move forward towards the goal of increased diversity within enrollment, each Duke Pre-College staff member will need to clearly understand the overarching mission of recruitment in the scope of diversity (as noted above), as well as their specific role in these efforts. Moving forward will require a cohesive approach in order to meet goals efficiently and effectively. Based on our findings, a top-down approach is necessary in order to effectively instill a structure of vertical alignment in vision, goal and approach—all rooted in the predetermined aligned definition of diversity.

As an immediate step, our team recommends a revision of Duke University's Pre-College Staff Organizational Chart revamping the specific roles and responsibilities of each staff member. This will require an internal resetting of roles and responsibilities to align to the overarching definition of diversity and overarching vision and approach for the year. This will also require an outward facing exposure to the community at large, as findings show a need for more transparency in roles with incoming families and students in order to build more trust and rapport across diverse populations.

As an annual step, our team recommends a team session at the launch of each year prioritizing a “step back and reflect” approach, highlighting where the program has been in the past year, where the program is and where the program is heading. This session would be led by the Assistant Vice Provost in order to unpack the team's reflection of previous goals and align on the goals and priorities to move forward. As noted in the initial recommendation, this session should fully be rooted in the overarching goal of diversity.

Our final recommendation is one that allows for continuous checks and balances of roles and responsibilities. Our findings show a lack of understanding of one’s own roles and responsibilities and simultaneously a lack of understanding of each other’s, leading to unintentional work streams conflicting. A challenge as such can lead to confusion amongst the staff, which can ultimately send a message of confusion and disorganization to families and students—a finding that has currently been noted through both qualitative and quantitative results. In order to mitigate this potential confusion, our team recommends consistent peer to peer accountability on roles and responsibilities as a means of reinforcing the revamped infrastructure of the team. Without a cohesive understanding of roles, responsibilities, goals and priorities between all members of Duke University’s Pre-College Program staff, the goal of increasing diversity within enrollment will only be minimally effective in comparison to what it could be. This is outlined in *Figure 7*.

Figure 7: Phased Approach to Recommendation II



Recommendation III: Champion Feedback Systems and Procedures

There is a critical need for Duke Pre-College staff to overhaul the Survey Instruments to align with pre-determined strategic goals. This tool must be consistent for at least 3 years to monitor progress on benchmarks.

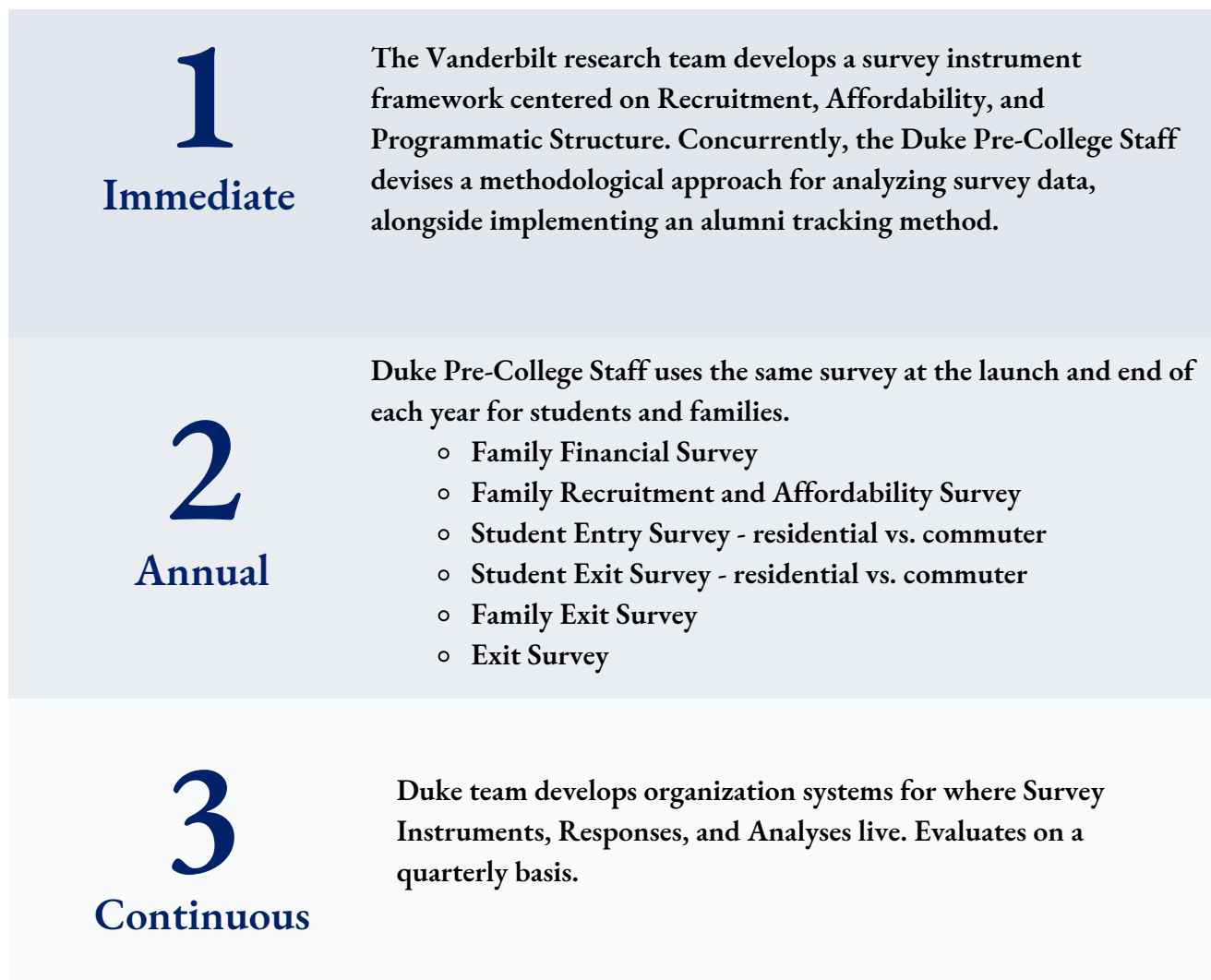
In response to the evolving landscape of higher education and the dynamic needs of students, the Duke Pre-College Program underwent a thorough evaluation process, identifying areas where enhancements were necessary to ensure the program's continued effectiveness. It is evident that the existing feedback systems and survey instruments utilized by the program need to be adequately aligned with its predetermined strategic goals. This misalignment hinders the program's ability to collect consistent and reliable data for assessing progress on critical benchmarks related to recruitment, affordability, and programmatic structure. Consequently, a pressing need emerges to overhaul the survey instruments to establish a standardized and systematic approach to data collection.

Furthermore, the recommendation to maintain consistency in survey instruments for at least three years reflects an understanding of the longitudinal nature of program evaluation. By ensuring that survey instruments remain consistent, the program can better monitor trends, identify areas of improvement, and measure the impact of strategic initiatives implemented to address identified challenges. A longitudinal approach not only enhances the reliability and validity of collected data but also fosters accountability and transparency within the program. It empowers program administrators and stakeholders to make data-informed decisions, allocate resources strategically, and ultimately enhance the program's ability to fulfill its mission of providing a transformative educational experience for all participants.

Broken out into three phases—immediate, annual, and continuous—the following outlines our action-based suggestions to help support the overall recommendation of championing feedback systems and procedures. These bite-sized and action-based recommendations serve as integral components that collectively support the larger recommendation. Immediate actions, such as implementing a focused instrument framework and creating a methodological approach to analyzing survey data, will lay the groundwork for establishing a robust feedback mechanism aligned with the program's strategic goals. By prioritizing recruitment, affordability, and programmatic structure in survey instruments, the program can systematically gather data and measure progress toward predetermined benchmarks. Additionally, creating an alumni tracking method ensures that the program can track the impact of its initiatives and tailor future programming to meet evolving needs.

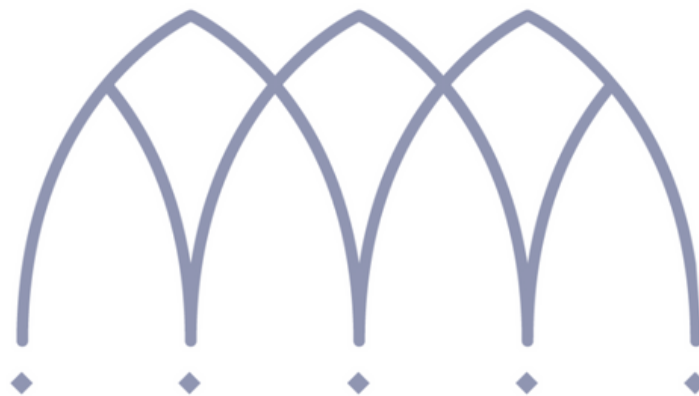
Annually, the use of consistent surveys at the launch and end of each year for students and families, along with specialized surveys focusing on recruitment, financial aspects, and program satisfaction, ensures that data collection is standardized and comprehensive. The continuous action of developing organizational systems for survey instruments, responses, and analyses, along with quarterly evaluations, ensures that the program maintains accountability and transparency in its data management practices. Scaled-down, these actions contribute to establishing a robust feedback system that enhances the program's ability to assess and improve its effectiveness. This is outlined in *Figure 8*.

Figure 8: Phased Approach to Recommendation III



The recommendations presented for Duke's Pre-College Program encompass a holistic approach aimed at enhancing program accountability. The first recommendation emphasizes the importance of making diversity the overarching goal, recognizing the value of fostering a diverse and inclusive learning environment that reflects the richness of varying human experiences and perspectives. The second recommendation calls for the revamping of organizational infrastructure to streamline operations, improve communication, and enhance administrative efficiency. Finally, the third recommendation highlights the critical need to champion feedback systems and procedures by overhauling survey instruments, establishing consistency in data collection, and developing robust analysis frameworks. These recommendations, grounded in evidence-based practices and strategic foresight, collectively support the program's mission of providing a transformative educational experience for all participants.

Considering the recommendations' potential impact on Duke's Pre-College Program, it is evident that successful implementation holds immense promise for advancing program excellence and fostering positive outcomes for students and families. Through a commitment for continuous improvement, the Duke Pre-College Program is poised to remain at the forefront of pre-college education, empowering students to achieve their fullest potential.



Conclusion

The Duke Pre-College Program has experienced remarkable growth and development in recent years. Through transitions in leadership, institutional structure, and the need to expand programming, the staff and leadership of the Duke Pre-College Program continue to meet goals and successfully engage in the work. For our capstone group – in a year of learning about organizational improvement, research, and the dynamics of team – we have acquired skills in facilitating the development of a sound structure for the Duke Pre-College Program, guided by four pillars of learning: recruitment, affordability, programmatic structure, and data tools/analysis. Within these pillars, our research identifies several key findings illuminating various inner workings of the Duke Pre-College Program, contributing to both its success and points of continual growth. Our research team provides the organization with a range of strategies and recommendations for future success, including identifying recruitment strategies, emphasizing the importance of community partnerships, clarifying financial aid resources, and enhancing staff communication methods. To reiterate, our key findings and recommendations are outlined below:

Key Findings

Recruitment

- Partner programs are crucial to making the program more affordable for diverse populations.
- There is a misaligned vision of best practices for recruitment to increase diversity.

Affordability

- Financial aid policies should be promoted and transparent.
- Partner programs are crucial to making the Duke Pre-College Program more affordable for diverse populations.

Programmatic Structure

- Lack of communication both internally and externally has led to the misalignment of program goals and program actions.
- Duke Pre-College Program staff demographics do not represent the student population (e.g., demographic, geographical, socioeconomic)

Data Tools and Analysis

- Data Tools and Analyses Procedures are inconsistent from year to year.

Focus Group

- Duke program staff demonstrate unwavering commitment to inclusion.

Recommendations

1. Make Diversity Your Overarching Goal
2. Revamp Organizational Structure
3. Champion Feedback Systems and Procedures

As our work concludes with the Duke Pre-College Program, our team has the unique opportunity to share these findings and recommendations with the staff and leadership at the institution. It has spurred heartfelt conversations regarding the work, the group's commitment to diversity, and the vision for the upcoming summer's programming. During this discussion, our group also took time to recognize the importance of the work of the Duke Pre-College Program, and its indelible impact on young people who visit the institution, having their first glimpse of what college may be. Below, a quote from a former student, reflecting on their time and experience:

"I loved how this program really mimicked the college experience. I felt immersed in the campus while eating in the dining hall, sleeping in the dorms, etc. I liked how there was a substantial amount of time for actual academic class, but there was also room in the day to talk to friends and participate in non-academic activities"

—2023 Duke Pre-College Program Student

The Duke Pre-College Program provides—for many—the preview of college life. As a tool of equity, it allows for young people to practice networking skills, create relationships, engage in challenging (yet fulfilling) classroom content, and dine in world class facilities. For those students who may have never imagined themselves in the spaces of higher education, the Duke Pre-College Program supports them by saying, "You should be here. You belong here. You are welcome here." With the commitment to increase diversity, the Duke Pre-College Program makes a promise to all scholars and to the future leaders of tomorrow.

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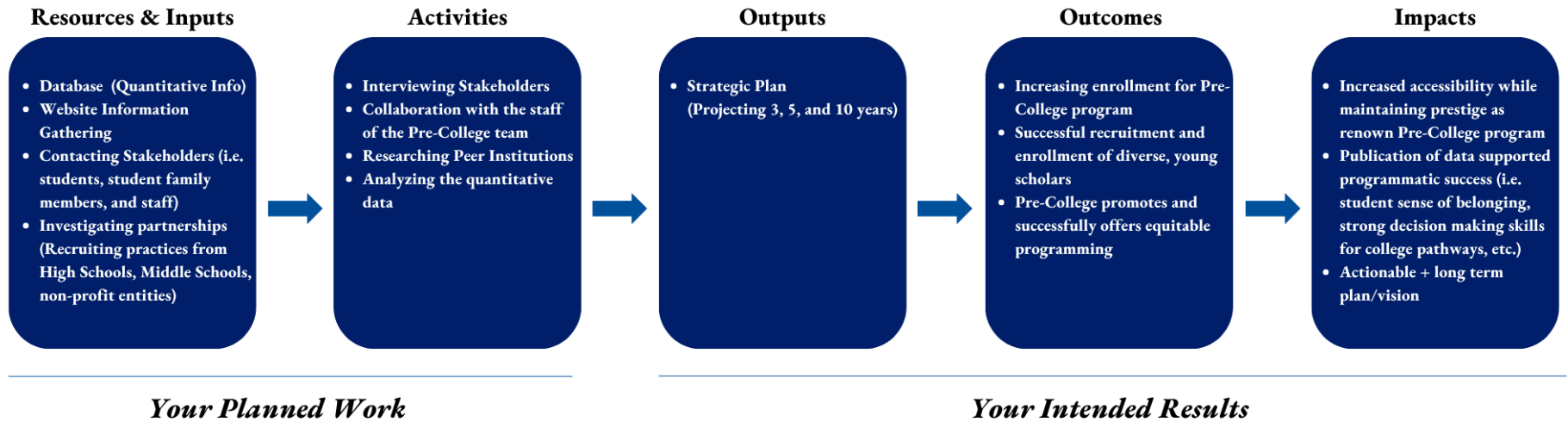
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Appendices

- Appendix A: Capstone Logic Model
- Appendix B: Duke Pre-College Program Course Offerings (2023)
- Appendix C: Interview Recruitment Email
- Appendix D: Combined Interview Protocols (Duke Staff, Families, Community Partners, Peer Institutions)
- Appendix E: Qualitative Interview Quote Matrix
- Appendix F: Stakeholder Analysis
- Appendix G: Duke Pre-College Program Viewbook (2024)
- Appendix H: Duke Pre-College Program Survey Analysis (2023)

Appendix A: Capstone Logic Model

Program Theory & Logic Model



Appendix B: Duke Pre-College Program Course Offerings (2023)

Duke Pre-College Cost: Curriculum; Summer 2023					
Course Title	Course	MS or HS	Residential	Commuter	Online
Engineering Solutions for Global Health: The Human-Centered Design Process	Engineering	HS	\$4,900	\$3,200	N/A
From Gel to Sell: Research, Ethics, and Business of Biomaterials	Engineering	HS	\$4,900	\$3,200	N/A
Biomedical Engineering: Fantastic Hearts	Engineering	MS	\$4,900	\$3,200	N/A
Audio Engineering	Engineering	MS	\$4,900	\$3,200	N/A
Academic Writing: The Daily Grind	Humanities	HS	\$4,900	\$3,200	N/A
Academic Writing: The Daily Grind - Online Course	Humanities	HS	N/A	N/A	\$2,100
Exploring Art, Museums, and Archives	Humanities	HS	\$2,900	\$2,900	N/A
Powerful Narration in Creative Writing	Humanities	HS	\$4,900	\$3,200	N/A
The Woman Ruler: Powerful Female Leaders in Greece and Rome	Humanities	HS	\$4,900	\$3,200	N/A
Contemporary Art History: Museums and Artistic Creation	Humanities	MS	\$4,900	\$3,200	N/A
Exploring History through Photography and Mixed Media	Humanities	MS	\$4,900	\$3,200	N/A
Writers' Studio: Podcasts and Digital Storytelling	Humanities	MS	\$4,900	\$3,200	N/A
Writers' Studio: Scene Writing	Humanities	MS	\$4,900	\$3,200	N/A
Writers' Studio: Speculative Fiction and World-Building	Humanities	MS	\$4,900	\$3,200	N/A
Applied Econometrics	Mathematics	HS	\$4,900	\$3,200	N/A
Exploring Cryptography Through Gamified Programming	Mathematics	HS	\$4,900	\$3,200	N/A
Exploring Cryptography Through Gamified Programming - Online Course	Mathematics	HS	N/A	N/A	\$2,100
Cryptography	Mathematics	MS	\$4,900	\$3,200	N/A
Financial Literacy	Mathematics	MS	\$4,900	\$3,200	N/A

Mathematical Logic and Proofs	Mathematics	MS	\$4,900	\$3,200	N/A
Chemical Toxicology	Sciences	HS	\$4,900	\$3,200	N/A
Healthcare Professions and Modern Medicine	Sciences	HS	\$2,900	\$2,900	N/A
Medical Research Panels	Sciences	HS	\$2,900	\$2,900	N/A
Neural Integration and Sensory Pathways	Sciences	HS	\$4,900	\$3,200	N/A
Ocean Sustainability in the Anthropocene	Sciences	HS			\$2,100
Animal Cognition	Sciences	MS	\$4,900	\$3,200	N/A
Astrophysics	Sciences	MS	\$4,900	\$3,200	N/A
Business Strategy and Entrepreneurship	Social Sciences	HS	\$4,900	\$3,200	N/A
Criminal Law at the Intersection of Race, Class, and Power	Social Sciences	HS	\$4,900	\$3,200	N/A
Politics of Empire	Social Sciences	HS	\$4,900	\$3,200	N/A
Social Psychology and the Law	Social Sciences	HS	\$4,900	\$3,200	N/A
The Sustainable CEO – Transformative Business Leadership	Social Sciences	HS	\$4,900	\$3,200	N/A
Truth, Justice, and Reconciliation in Post-Conflict Societies	Social Sciences	HS	\$4,900	\$3,200	N/A
Mock Trial: Practicing the Tools of Justice	Social Sciences	MS	\$4,900	\$3,200	N/A
Digital Music Production	Technology	HS	\$4,900	\$3,200	N/A
LEGO Stop Motion: Animation	Technology	MS	\$4,900	\$3,200	N/A
Mastering the 60-Second Documentary	Technology	MS	\$4,900	\$3,200	N/A
Sports Analytics	Technology	MS	\$4,900	\$3,200	N/A
Writers' Studio: Podcasts and Digital Storytelling	Technology	MS	\$4,900	\$3,200	N/A

Appendix C: Interview Recruitment Email

Dear [Name],

We are contacting you on behalf of Vanderbilt University to kindly ask if you would agree to be interviewed about Duke University's Pre-College Program. The purpose of our study is to gain a deeper understanding of diversity in pre-college programs. We believe that your insights and expertise as _____ would greatly contribute to our research.

If you decide to participate, one of our researchers will reach out to coordinate a virtual interview at a time that is convenient for you. The interview is expected to last approximately 45 minutes, during which a team member will engage in a conversation with you about your knowledge and experiences related to practices and processes in the Duke Pre-College Program.

By participating, you will be contributing to the advancement of our understanding in these areas and helping to shape recommendations that can positively impact pre-college programs. Should you be interested in joining us for this interview, kindly reply to this email with your availability in the coming weeks. Upon receiving your confirmation, a member of our research team will follow up promptly to arrange the interview details.

Your participation is valuable to us, and we appreciate your consideration.

All the best,

XXX

[Contact Information]
Vanderbilt University

Appendix D: Combined Interview Protocols (Duke Staff, Families, Community Partners, Peer Institutions)

Interview Protocol - Introduction (All)

Research Question: To what extent does the current Duke University Pre-College program promote diversity through program affordability, current recruitment strategies, and programmatic structure?

Bins:

- Duke's Pre-College Program Affordability
- Duke's Pre-College Program Recruitment
- Duke's Pre-College Program Program Structure

Introduction/Icebreaker

- Opening
 - Thank you for your time.
 - I am a doctoral student at Vanderbilt University.
 - I am interested in better understanding Duke's Pre-College Program (PCP) to ensure equitable access to quality programming, as these factors (our bins) directly impact the participation of students from diverse socioeconomic backgrounds. Addressing affordability and recruitment challenges helps foster inclusivity, enabling all aspiring students to benefit from valuable learning opportunities and better prepare for their college journey.
 - Your perspective is imperative to my understanding of this topic, so again, thank you for your time. I am excited to learn more.
- Housekeeping:
 - No names will be used. We will change names in our final paper.
 - Today I will be recording our conversation with an app called Otter.AI. This is a cool tool that allows me to capture the richness of our conversation and your perspective- while also transcribing at the same time. Please feel comfortable asking me to stop recording at any time.
- Transition
 - Can I help answer any additional questions?
 - I'm eager to jump in - ready?

STAFF QUESTIONS

Professional Background & Overview

- How did your career lead you to Duke?
 - Probe: How long have you worked in the PCP space?/Did you work in PCP before at another institution?
- Can you provide an overview of the pre-college program, including its goals and objectives?

Affordability

- How would you describe the costs of the PCP?
 - Probe: is cost a barrier? In what ways can cost be a barrier?
 - What do you currently do in your practice to help reduce barriers to students?
- How do students secure financial aid?
 - Probe: Is the financial aid process transparent?
- What does financial aid look like for this program?
- What percentage of students are at each aid level? (100%, 75%, 50%, 25%)
 - How do you anticipate this changing over the next few years? (PCP cycles)
- What would you change about the financial aid process for PCP?
 - Probe: How would you like to see financial aid administered?
- What are you hearing from families in terms of program cost?
- Is cost something that is measured on your exit survey?

Recruitment

- Imagine I am the parent of a prospective student. How would you recruit me?
 - Probe: What are your recruitment practices and how would you describe them?
- How would you like to see your recruitment process improved?
 - Probe: where are the opportunities for growth?
- How are partner schools determined?
- How are students selected?
- How do you ensure a diverse PCP class? (all demographics)
- In what ways do you and your team work to address diversity in your recruitment practices?
- How are you growing the program through recruitment?
 - Probe: what are future growth plans for Duke PCP?
- What criteria are used to select participants for the program?
- Is there a competitive application process, and what materials are typically required?

Programmatic Structure

- Are class materials designed in an accessible way? (e.g., students from all kinds of high schools would be able to excel in these classes.)
 - Probe: How does the program assist students in adapting to college-level coursework and responsibilities?
- How is the curriculum taught?
 - Probe: who teaches the classes?
 - Probe: How are these instructors paid?
- How are hands-on, experiential learning opportunities incorporated into the curriculum?
- Are there any extracurricular or enrichment activities offered alongside the academic curriculum?
- How are these activities designed to enhance the overall learning experience?
- What kind of academic and non-academic support services are available to participants?
- How does the program assess student progress and performance?
- Is there a system for providing feedback to students and their families about their academic journey?
- How does the program prioritize the health and safety of participants?

Data & Outcomes

- How is Duke collecting data?
- What are they collecting?
 - Probe: What are key data points that you focus on collecting from participants?
- Who are you collecting data from?
- Why are they collecting data?
 - Probe: what do you do with the data? How are you utilizing the information collected to inform future practices of PCP?
- What are the typical outcomes for participants after completing the program? (e.g., college acceptances, academic achievements, etc.)
- Do you have any data or success stories that showcase the impact of the program on past participants?

Final Questions

- If you could wave a magic wand over Duke's PCP, what would you fix?
- Why is PCP important to you?
- Is there anything else you would like to share, or that you think I should know about PCP that would help in my team's analysis?

External Supporting Documents

- Annual financial reports
- PCP demographic data
- DestinyONE Database
 - Database housing satisfaction surveys from participants and their families
- Newsletters
- Mission statement
- Marketing outreach/letters/ads
- Curriculum plans/maps
- Scholarship information
- Matriculation rates/statistics

FAMILY QUESTIONS

Framing:

- Thank you again for taking the time to chat.
- As you know, the focal point of our research is on increasing diversity within the Pre-College program. Given that Duke University is predominantly white in demographics, our goal is to understand the perspective of varying identities to help promote diversity. If you don't mind, can you share if you identify as a person of color?
- Wonderful - thank you so much, because this does help us understand your lens, because this does matter.

Recruitment

- How did you hear about the Duke Pre-College Program?
- Did you know what a Pre-College program was beforehand?
- Did your student apply to multiple Pre-College programs?
 - Why or why not?
- What led you to choose Duke as the Pre-College Program of choice?
- What parts of the recruitment process attracted you to the Pre-College program?
- If you had a magic wand, what would be the top 3 pieces of information you would have wanted to know about the program during the recruitment process?
 - Why?

Affordability

- How did finances play a role in your decision to attend?
- Do you believe the process of receiving financial aid for the program was accessible?

- If yes, how so?
- If not, why not?
- How did you hear about the financial aid process?
- How would you have wanted to hear about the financial aid process?
- What would you change about the financial aid process for PCP?
 - Probe: How would you like to see financial aid administered to families?
- Given your perspectives, have you had an opportunity to share this with the program?
 - If yes, how?
 - If not, how would you want to share your opinions on affordability?

Program Structure

- Did curriculum play a role in your decision to have your child attend the Duke Pre-College Program?
 - What parts of the curriculum attracted you to the program?
 - What would you have wanted to see included?
- What was your child's perception of the instructional model of the program, and did this influence your decision to accept?

COMMUNITY PARTNER QUESTIONS

Professional Background & Overview

- How did your career lead you to [Community Partner Name]?
 - Probe: How long have you worked in the space?/Did you work in this field before at another organization?
- Can you provide an overview of your program, including its goals and objectives?
- Why is the Duke Pre-College Program important to your clients/students?
- How did this relationship develop? How long has this partnership existed between your organization and Duke?

Affordability

- How would you describe the costs of the Duke PCP?
 - Probe: is cost a barrier? In what ways can cost be a barrier?
 - What do you currently do in your practice to help reduce barriers to students?
- If it is needed, how do your students secure financial aid?
 - Probe: Is the financial aid process transparent when working with Duke PCP?
- What would you change about the financial aid process for PCP?
 - Probe: How would you like to see financial aid administered?

- What are you hearing from families in terms of program cost?

Recruitment

- How would you describe your partnership with Duke PCP's recruitment practices?
- Imagine I am the parent of one of your students. How would you suggest to them that their student enroll in the program?
 - Probe: What are your recruitment practices and how would you describe them?
- How would you like to see your recruitment process improved?
 - Probe: where are the opportunities for growth?
- How are students selected?
- What criteria are used to select participants for the program?
- Is there a competitive application process, and what materials are typically required?

Programmatic Structure

- What do you know about the program structure of Duke PCP?
- In what ways do you believe this is a positive influence in your student's development?
- How does the program assist students in adapting to college-level coursework and responsibilities?
- What types of programming would you suggest for Duke PCP?
- Does your program measure and/or assess student progress and performance after attendance at Duke PCP?
- Is there a system for providing feedback to students and their families about their experience with Duke PCP?

Data & Outcomes

- What, if any data do you share with the Duke Pre-College Program?
 - What types of data?
 - Why do you think this is important?
- Why are they collecting data?
 - Probe: what do you do with the data? How are you utilizing the information collected to inform future practices of PCP?
- What are the typical outcomes for participants after completing the program? (e.g., college acceptances, academic achievements, etc.)
 - How would you describe the growth/difference in your students when they return from Duke PCP?
- Do you have any data or success stories that showcase the impact of the program on past participants?

Final Questions

- If you could wave a magic wand over Duke's PCP, what would you fix?
- Why is PCP important to you?
- Is there anything else you would like to share, or that you think I should know about PCP that would help in my team's analysis?

External Supporting Documents

- Annual financial reports
- PCP demographic data
- DestinyONE Database
 - Database housing satisfaction surveys from participants and their families
- Newsletters
- Mission statement
- Marketing outreach/letters/ads
- Curriculum plans/maps
- Scholarship information
- Matriculation rates/statistics

PEER INSTITUTION QUESTIONS

Affordability

- How do students secure financial aid?
 - Probe: Is the financial aid process transparent?
- What does financial aid look like for this program?
- What percentage of students are at each aid level? (100%, 75%, 50%, 25%)
- What would you change about the financial aid process for PCP?
 - Probe: How would you like to see financial aid administered?
- What are you hearing from families in terms of program cost?
- Is cost something that is measured on your exit survey?
 - Probe: do you have an exit survey?

Recruitment

- What are your recruitment practices and how would you describe them?
- How would you like to see your recruitment process improved?
 - Probe: where are the opportunities for growth?
- How are partner schools determined?
- How are students selected?
- How do you ensure a diverse PCP class? (all demographics)

- In what ways do you and your team work to address diversity in your recruitment practices?
- Is there a competitive application process?

Programmatic Structure

- How is the curriculum taught?
 - Probe: who teaches the classes?
 - Probe: How are these instructors paid?
- How does the program assist students in adapting to college-level coursework and responsibilities?
- How are hands-on, experiential learning opportunities incorporated into the curriculum?
- Are there any extracurricular or enrichment activities offered alongside the academic curriculum?
- How are these activities designed to enhance the overall learning experience?
- What kind of academic and non-academic support services are available to participants?
- How does the program assess student progress and performance?
- Is there a system for providing feedback to students and their families about their academic journey?
- How does the program prioritize the health and safety of participants?

Data & Outcomes

- How are you collecting data?
- What data are you collecting?
 - Probe: What are key data points that you focus on collecting from participants?
- Who are you collecting data from?
- Why are you collecting data?
- Probe: what do you do with the data? How are you utilizing the information collected to inform future practices of PCP?
- What are the typical outcomes for participants after completing the program? (e.g., college acceptances, academic achievements, etc.)
- Do you have any data or success stories that showcase the impact of the program on past participants?

Final Questions

- If you could wave a magic wand over your PCP, what would you fix?

Appendix E: Qualitative Interview Quote Matrix

Interview Matrix: Duke Pre-College Program Staff

Construct	Theme	Duke Staff Quotes
Recruitment	Alignment in Goals for Recruitment and Program	<ul style="list-style-type: none"> ● “But I would tell them, sort of what the program is, it's an introduction to college, they're going to go to classes, they're going to be mixed in with other students from all across the country and the globe, to focus in on a certain subject for two weeks to sometimes produce a product that may or may not be published at the end of those two weeks. And to get a taste of college. I would also really stress to any potential parent that that, that their child needs to be mature enough to handle that kind of experience. If their child is in middle school, that's going to be more hand holding, right? Like, if they've never been on a university before, like we're going to make sure your middle schooler can get from point A to point B, before high school student like if your high school student can't wake up on time. If they can't follow simple instructions. If they can complete their projects, then this can be sometimes a pressure cooker. It's an intense environment for two weeks. And yes, we do want to have fun, but we also want to learn in those two weeks.” ● “So when you said recruitment, I know that you're thinking about how we recruit kids. I'm also thinking about how we recruit staff, because those are, those are equally intertwined. And so Leisha recruit staff, and narrow recruits, kids, or maybe there's recruiting staff, I see I don't even know right, it's very disjointed. And that from the best of my understanding has been the history of the program. It's been very disjointed. And even in their first this past summer was like the most cohesive it had ever been.” ● “Our current goal is two basic things. Accessibility affordability period.” ● “That's definitely something I noticed when I first came in 2019. The academic side was heavy white, the residential side was heavy black, and I said, just think of what message we're sending to were that a black person

Construct	Theme	Duke Staff Quotes
Affordability	Transparency of Progress with Increasing Financial Aid (transparency within staff and transparency to communities)	<p>or a person of color, cannot be their teacher,”</p> <ul style="list-style-type: none"> ● “Exorbitant. And again, my background is in primarily just regular camp in the woods, right. And I have worked with some of the most expensive camps in this country. And when I saw the price tag at Duke, I was aghast.” ● “So at that time, we had maybe 30,000 for middle school and 90,000 for high school, but we went from nothing right so that was crucial, but we can at least offer something. So now we have definitely bumped it up some so I think now our financial aid is over \$500,000 and we're just talking about in a small in a few years that we've been able to to be awarded a lot of funding that we can then put right back out. And you know, so that's allowed me to increase partnerships, partnerships, who will only send in one or two kids, they can now send four and eight kids because our funding is different. So it's a much better feeling to tell people that that we have financial aid now. So now we have financial aid for international and domestic students. ” ● “So while I would say we probably had maybe an average of 15 students outside of partnerships who were able to get financial aid in the last two years, this year, I suspect we'll have more than like 30 to 50. And we can give you you know, final numbers when we get to that point but we have a lot more funds, we've set up rubrics to decide who gets that 100% And it's all going to be 100% tuition, not the not the stepladder, you know, because that's so subjective. You know, if a student doesn't want to share and that's always an option, you know, you don't have to share your financial situation. If we're not asking for tax information, then how do we determine who really needs the bonds, you know, based on what they're telling us?” ● “Now something that we have done this year, is try to break out tuition from Housing and Dining so people can clearly see.”
Programmatic Structure	Increase in Staff	<ul style="list-style-type: none"> ● “So I'm very intentional that everyone needs to see some representation of

Construct	Theme	Duke Staff Quotes
	Representation	<p>themselves and our staff, whether it's residential staff, whether it's academic staff, it doesn't matter. So I want them to be able to see themselves I don't want anyone to be the only person that's representing their group and not have someone to connect with. So that's really big for me when I'm out recruiting.”</p> <ul style="list-style-type: none"> ● “I want to see diversity changes, probably increasing diversity in who's leading our classes. And that's very big for me, because I'm the person that's out recruiting. So sometimes I can address that and sometimes it's just not going to be many options just based on what people are majoring in what people are specializing in, and what we know our customers want as far as courses,” ● “And so I think the safest programs, to me are the most realistic programs that like, things are bad, and they're going to happen. And we don't just need a contingency plan, we need three. And so I would continue to recommend this little bit of a pivot. But to have a very clear line of command. Because when we have disjointedness, when we have people that are reporting to four people, when we have people that are only reporting to two people, that creates a lot of confusion.” ● “But since I've been with Dupree College we have never met with admissions. So that clearly tells you that Duke is not concerned with using the pre college as a marketing tool or any kind of pathway into undergraduate recruitment. Which, you know, that's a cultural top down change. So I don't know that we'll be over time that that changes, but I think that we now have some attention on our program, because we have been doing so well and particularly in this last year, and, you know, supporting the other departments I think will really bring added value to what the university sees that this program can do.” ● “...for the first time we're going to have what we call community days. So throughout the year outside of the summer, on this day that schools are closed. We will have like a teacher workday, you know, program where students become for the day they will have like a glimpse of what the

Construct	Theme	Duke Staff Quotes
		<p>programs would be in the summer. So like a one day introduction to one of the programs that we're having in my summer course. And then there's a place for them to go, you know, for parents who don't have other childcare options, and the endowments will go a long way to funding. Those types of programs have a small registration fee to help us cover the luncheon and salaries, but the most the majority of the costs will be covered by these endowments.”</p>
Data Tools	Misalignment	<ul style="list-style-type: none"> ● “One of the things that I have talked with ____ about is, like, can we add safety questions into that survey? Even if it's just one, or like, ‘did you feel safe in your program?’ and let it be open-ended, right? ‘Do you feel like your child had a safe experience?’ And that's how we can potentially get more information. Because a lot of people sometimes disclose things in surveys or in writing that they don't feel safe, or they don't feel like they're like, oh, this wasn't a big deal.” ● “So we worked with them to not only say okay, these are the benefits, we want you to apply early and give us your contact information if you want the link to the early application. But the second part of that was do you want to be about the pre-college you know, can you be a guest speaker Do you want to share your expertise? Do you have any interest in volunteering? And so we collected all right at 300 names/298 names from the alumni. About half of them wanted both opportunities, and the other half just wanted to volunteer. So I mean, I think that that is huge. In my opinion, although it might seem small numbers based on the large alumni group, you know that we now have this huge base of people to draw on to come and and be guest speakers and get involved in class.”

Interview Matrix: Duke Pre-College Program Families

Constructs	Theme	Family Quotes
Recruitment	<p>Increase Enrollment of Students of Color</p> <p>Local Community Recruitment</p> <p>Racial Differences in Recruitment</p>	<p><u>Increase Enrollments of Students of Color + Local Community Recruitment</u></p> <ul style="list-style-type: none"> ● “I mean, you've got to have both, you've got to have the proper recruiting mechanism, and you've got to have it's got to be affordable. For the demographic...it's tough because you can recruit. And if it's not affordable, it's not going to happen. Yeah, not in this community.” ● “We've always lived in upper middle class areas and she's always been kind of like the only African American in programs like this...I would have liked to have kids in her [student] racial background...the type of kids going into this program- [I would have liked to know] what type of kids are you expecting” ● “Also something else I want to emphasize they need to take a hard look at the demographic...mirror your campers and where they are coming from... if you don't have a least a five or 10% of people from your own city that you operate in. Yep. You're telling me that you can't find smart kids enter? Yep. That's a problem and you feel like you got to go look elsewhere. But yet you want to be a part of the community but you're not right. You are all the benefits of standard you're associated with Durham and Durham is known to be a very diverse community any you could tap into the heritage and because of Black Wall Street, even like to me a Black Wall Street curriculum.” <p><u>Racial Differences in Recruitment</u></p> <ul style="list-style-type: none"> ● “Danielle was not labeled as gifted... We have a very ● close relationship with the guidance counselor and Daniel's with the gifted students in many of her classes. So she was told about it by her guidance counselor.” - Parker ● “... all I remember is predominantly white. And diversity was not part of our lexicon back then.”

Constructs	Theme	Family Quotes
Affordability	<p>Financial Accessibility for All Income Levels</p> <p>Positive Attitude for Partner Organizations</p>	<p><u>Financial Accessibility for All Income Levels:</u></p> <ul style="list-style-type: none"> ● "...you know, full disclosure, my friend was able to access the program at no cost. And honestly, that's the only way he was able to go. Although my husband is a graduate [of Duke], it is not something we probably honestly would have considered. It was cost prohibitive." ● "Just make it more affordable. I mean, it's a great program and from my son's vantage point, there are lots of wealthy kids...but kids that look like him, I presume, who may have not been a little wealthy." ● "Just to give you a broader lens, we have sent our daughter to a program, but it wasn't anything near what the cost was...for that program wasn't anything near what we paid what we would have had to pay for Duke. And so that was sending her way. We sent her away...program was longer and didn't cost as much and she was away so yeah, even including, you know, the flight to get her there and all that sort of thing." ● "<i>Would you send your child again?</i> Not at the current cost now. No." ● "But there are parents I mean, even within her school, who were like, oh my god, I would love for my daughter to do this, but I can't afford that. So your question was how that economic factor and for us, it wasn't really a factor...So it's easy for us to say, Okay, we're gonna get \$4,000 for her and everything we do is about what it's not so much like okay, we hope that this will help her get into college." ● "I think in my opinion, if you really want to attract from different economic backgrounds, then it has to be blatant as the only way for anyone usually how you find out about anything is by seeing it advertised with the program. So financial aid is available. So when you click on free college program, it should be fine print...I mean, any, any college everyone has that it's like, you know that financial aid is available because it is blatantly advertised. Are you really wanting other people to apply? Are you really wanting to get the financial aid or are you wanting only people who are able to?"

Constructs	Theme	Family Quotes
		<ul style="list-style-type: none"> ● "...affordability of two \$3,000 for the two three week camp, in my mind didn't add up. I was like, Oh, that's a lot of money because there was so many other camps that afforded them opportunities to do similar activities. Yeah, they were offering at Duke so I will always see it, but it was in one ear. out the other." ● "Just because the lady who developed that partnership, she knew the process on the back end...And they're at a price point that will keep people out." ● "I would love for somebody to have contacted us and said, Okay, we see your income level, even though we might not be able to give you a full ride. Because I do care. So many grants and endowments we all could do to research on that. You're willing to pay half to encourage because you fit the demographics of people that we want to increase right." ● "We were heavily heavily assisted. But it only covered the program. And for families that can't afford a hotel or transportation, that that's going to be a barrier. It was not our barrier, because we're going to couponing and finding deals, but for some families, the cost of the program is tough...And if we had not gotten that scholarship, I don't know what we would have done. I would have gone probably gone into credit card debt for it." ● "I mean, when we when we logged on and registered, I recall this was a long time ago, but a lot has happened. But I recall, you know that there was a thing to click for applying for financial aid on the website. Just like there is at Vanderbilt just like there is at because we looked for about ● five minutes." <p><u>Positive Attitude for Partner Organizations</u></p> <ul style="list-style-type: none"> ● "...they've also offered that opportunity through her organization for another student. So you know, kudos to them for continuing to keep that line of communication and opportunity open...So I think that's great. I really think they need to continue doing it. Yeah, yeah. The partner organizations are a big piece of the program."

Constructs	Theme	Family Quotes
		<ul style="list-style-type: none"> ● “So the reason we did a pre college program, one of my church members was able to have a relationship... So the lady who I cannot think of her name afforded her our grant with a scholarship to give to a student as long as they qualified and was accepted. into the program. They will pay the full ride of the camp, okay. And my son was the first one who was able to call you know, apply for the program get accepted.”
Programmatic Structure	<p>Family and Student Aligned Interest</p> <p>Family Engagement</p>	<ul style="list-style-type: none"> ● “Because if they didn't have if they didn't offer something that we thought was beneficial, and something he was interested in, then there was no reason for going.” ● “I would have wanted to get more detail about curriculum, like what they would be one step by step. And the reason why that was important is to be able to know whether or not what she was learning the curriculum match what she hoped to get out of the program.” <p><u>Family Engagement</u></p> <ul style="list-style-type: none"> ● “...if I'm having problems getting contact with them, and my daughter's not even there, am I going to have problems getting in contact with them when she is there? And if not, I'm going to be really nervous about sending her.” ● “...parental involvement like lay out how federal state did they laid out the entire week or two weeks? There's, there's the camp or schedule. So parents had a physical copy, or a digital one to reference. This is what my child is doing all the time to kind of detach that and of course, ya know, can kind of know what's going on because you're if you're trying to do diversity, you got to take the assumption that maybe everybody has never been on a college campus at all, and it's their first time being away from home.” ● “I want to make sure you all feel included and invited into play. I don't see the same feeling of, hey, I want all minorities to feel welcome here. Because if that was the case, and I'm not saying dumb down your curriculum or anything like that or lower the standards, but that was the case you will see more diversity at Duke.”

Constructs	Theme	Family Quotes
		<p>Different Perspective:</p> <ul style="list-style-type: none"> • “So we knew that it was highly structured environment, which is what middle schoolers even the best middle schooler needs structured environment. We knew that there were going to be field trips. We knew the field trips that she was going on for her program. We knew a lot of details, because when you're handing your little middle schooler over for the first time for three weeks, and now we're going to see now I really appreciated how detailed Duke was with what Danielle's experience was going to be”
General	Stakeholder Voice	<ul style="list-style-type: none"> • “No, no, I don't think they've asked me. You're the first to ask. I presume they knew that there was an issue, which is why they offered such a program [research] such an opportunity.” • “I would I want to share it well, I guess how I would want to share it would be in a way that is that would be heard right? I don't want to spend time or waste time. If it's not something that they're genuinely interested in. Making a change, or, you know, making some progress as far as diverse students.”

Interview Matrix: Community Partners

Construct	Theme	Community Partner Quotes
Recruitment	<p>Community Engagement and Recognition</p> <p>Diversity and Inclusion</p> <p>Historical context of racism at Duke</p>	<ul style="list-style-type: none"> ● "They reached out to me because they knew what I was doing in the community, in terms of educational services." ● "They were very interested in having more minorities to participate." ● "So, now having Duke as one of the institutions our students can apply to, you know, I'm very intentional." ● "We have one this year will be the first time that we can recommend two high school students and two middle school students." ● "I am originally from Durham grew up here and this was during the Jim Crow era, actually. And before my family before we moved to Los Angeles, and Duke was never high on our you know in the black community. aspects of the community, you know, high on our list. So this is you're talking years years years ago. Well to have the opportunity for do to reach out for this type of experience. I thought it was not only I was very pleased, but here's an opportunity for many of our young people to get that closure not to save that duty while keeping them out because you know they have minorities there." ●
Affordability	<p>Financial Accessibility</p> <p>Meaningful Access</p>	<ul style="list-style-type: none"> ● "Because we are a partnership and this is where I'm so thankful. Is that because we are a partner with the pre college, our students do not have to pay." ● "That's wonderful. We didn't know is so we're talking \$3,000 for five days, 10 days. I can't remember the number of days, those students. Now when I say, and you, I'm so glad you asked about access. Those students that I have recommended would not have the opportunity they would not have had or have the opportunity to go unless they had tuition-free access to the tuition so that that's that is fantastic."

Construct	Theme	Community Partner Quotes
Programmatic Structure	Partner perspective: community wrap around service	<ul style="list-style-type: none"><li data-bbox="850 280 1822 386">● "It means access, it means an opportunity now to have not only the dialogue, Amanda, with Duke, but to actually be a part of helping young people."<li data-bbox="850 391 1822 496">● "I know the child, I know the parent. And I want to make sure that this is going to be a good fit because agency is also on the line too. So our reputation is very critical."

Interview Matrix: Peer Institutions

Construct	Theme	Peer Institution Quotes
Recruitment	<p>Smaller programming</p> <p>Multiple ways to determine diversity</p> <p>Virtual is a key component of outreach</p> <p>Recruitment processes and numbers are dependent on community partners and local public schools</p>	<ul style="list-style-type: none"> ● “We only do a virtual fair. And we've increased this year, our mailings and our outreach to local schools to try to get that commuter number up. So I would say that recruitment at this point is primarily electronic outreach. And less here of the, you know, going and visiting the different schools and countries.” ● “We consistently see that the highest rating of what they've gotten out of the program is they are thinking more independently. And they feel more confident when able to go to college. And they're more interested in applying to INSTITUTION 1. That's an interesting thing there Brittany, because the top universities, we are somewhat, we work with undergrad admissions to a certain degree, but they're not looking for more applicants, right. In the top universities, they've got plenty of applicants. In lower ranked universities, we do see that there's more of a connection. In fact, some of the pre college programs are in the admissions department to try to entice these top students to come to their university. Right. And so even though we do see it as a positive that students are more interested in attending undergrad at INSTITUTION 1, that's not one of our reasons for having the program.” ● “...our institution has been trying to shift their focus from recruiting nationally, we were at a tipping point as a public institution where for years we had had more out of state students than in state. And so our mission has really shifted to focus. And that's really where my interest is, anyways, we're a rural state, we really need, you know, an educated workforce and people that have opportunities.” ● “We're in a strange space, because our institution is really growing tremendously. They want us to grow too. So we need to revise our strategic goals because we don't really have capacity for much more growth right now. We are kind of stretched beyond our limits already. So I think as we

Construct	Theme	Peer Institution Quotes
		<p>redefine our strategic goals, what we will be looking to do is grow in terms of access.”</p> <ul style="list-style-type: none"> ● “But when we look at, you know, who actually shows up in our programs, where we're looking at those, because we want to make sure some of our programs have historically skewed extremely white, for example. And, you know, for us, that's not who STATE is. And if it's a STATE centric program, and we're talking about, say, leadership and service in STATE, where's the rest of STATE?”
Affordability	<p>Scholarships are provided by CBOs</p> <p>Financial aid is prominently displayed on the website</p> <p>Lean on community partners to relay financial aid information</p> <p>Barriers to apply</p>	<ul style="list-style-type: none"> ● “In the US, we work with three different CBOs (Community Based Organizations), and they match funds. And then we have a special program with the Chicago Public School System. It's called College Bridge. The university funds 25 commuter students to take a class over the summer at INSTITUTION 1. And that's about \$5,000 worth of tuition, we buy their books as well. So, we've got the 25 CPS, which is the Chicago Public School System, students under our college bridge. And then we have the three CBOs. And those are needs based.” ● “We may lose money, but the university will just take the hit to make sure that we have more day camps available, because it's kind of a rural place. There's not a lot of options. Or in a lot of cases, we'll have scholarships. So scholarships can be based on merit, but most of them at this point are based on financial need, and merit in combination with one another.” (INSTITUTION 2)
Programmatic Structure	<p>All instructors are faculty/staff at the institution</p> <p>Dependent on temporary/seasonal staff to function</p>	<ul style="list-style-type: none"> ● “And I think it's very important that when the student comes that they're not just getting, you know, a high school teacher, that they're actually getting at INSTITUTION 1 faculty, or you know, somebody who's teaching at INSTITUTION 1, they could be a grad student, but they should be teaching the classes. And it really does make a difference in the experience for the students, because they have this mentality, their professor is a INSTITUTION 1 faculty member, right? We do follow a lot of the gifted

Construct	Theme	Peer Institution Quotes
	<p>Classes are determined based on the needs of the institution or of the needs identified by community partners.</p>	<p>pedagogy, right? So very hands-on, very interactive, culminating projects, a lot of participation by the students required, I have less control over the credit classes, because the credit classes are really designed for INSTITUTION 1 undergrad students.”</p> <ul style="list-style-type: none"> ● “I would say, the two primary purposes for pre-college for us are outreach and access in a state where access to education has historically been a real problem. And the second thing that we do is recruit and hopefully matriculate students to university. Certainly, the university has begun to see the power of this in the last few years, we've been really trying to make the case because while I think outreach is a really important thing, I know I can't always rely on the rest of the institution to value it. So I've been really trying to raise our profile, and I think they're finally getting it, which has been fantastic.” ● “You know, the other thing that I've made the case to my colleagues is, we can learn about students, the next generation of students coming to us before they get here. If y'all are working closely with our kids, you are learning things about what they need and what appeals to them, how to market to them, how to reach them, how to support them, and success.” ● “In our online high school, we have both our enrollment manager and her grad student, checking on students making sure that they communicate with them and their families. And if they're having trouble helping them identify whether it's resources in their school, or resources here that they can use to succeed.”
<p>Data Tools</p>	<p>Sends surveys to students, parents, and staff</p> <p>Assesses program halfway</p>	<ul style="list-style-type: none"> ● “And then finally, this last year, we got an integrated system. This is the first year we're using it, I can tell who didn't complete my application processes now. Haha, these folks didn't complete. They started, they wanted to do it. And they didn't finish. Why not? Now I can ask the question of why aren't they here with us? Yeah. So collecting that information about the people who didn't show is just as important as the information for the folks that did show up.”

Construct	Theme	Peer Institution Quotes
	Pre and post-surveys are provided to participants, measuring both satisfaction of the program and knowledge gained	

Survey Matrix: Students

Constructs	Theme	2022 & 2023 Student Survey Quotes
Recruitment	Awareness of Underrepresentation	<p>2022 Survey</p> <ul style="list-style-type: none"> ● Provide positive feedback about the program (ie. things you liked about the program, what you would like to see added to make the programming better) <ul style="list-style-type: none"> ○ I like the diversity of the contents and people here and I'd like to see enough equipments in the lab next time. ○ I really liked being able to hear people from so many different backgrounds. ○ I enjoyed the subjects even though brutal very much and for that I'm thankful for both information and different point of views ● Provide constructive feedback about the program (ie. things we could improve on, what could we add or change to improve the programming) <ul style="list-style-type: none"> ○ I want to see more diversity In opinions rather than a liberal bunch running the show. Please and thank you ● If you answered "NO" to the previous question please explain why: (why students don't want to go back) <ul style="list-style-type: none"> ○ I thought the course and the experience would be much more engaging, intresting and fun as well as the people. I'd expected many more international people. The people here weren't so welcoming and friendly ● Provide any additional feedback about your Duke Pre-College experience that wasn't included in other sections. <ul style="list-style-type: none"> ○ why are there almost no latino people? what's up with that? <p>2023 Survey</p> <ul style="list-style-type: none"> ● Provide any additional feedback about your Duke Pre-College experience that wasn't included in other sections. <ul style="list-style-type: none"> ○ I really want to reiterate that my teacher was fantastic and she did an excellent job. The vast majority of the staff was really great. However it seemed like anyone who had decent grades and applied

Constructs	Theme	2022 & 2023 Student Survey Quotes
		<p>to the course got in, which made it feel like a lot of rich kids who wanted to pad their college applications rather than actually learn about something they were passionate about.</p> <ul style="list-style-type: none"> ○ I think the camps could be more diverse, I didn't see much Latino representation.
Affordability	<p>Desire for Cheaper Options</p> <p>High Program Cost</p> <p>Dissatisfaction</p>	<p>2022 Survey</p> <ul style="list-style-type: none"> ● Provide constructive feedback about the program (ie. things we could improve on, what could we add or change to improve the programming) <ul style="list-style-type: none"> ○ Additionally, there was a high cost attached to this program (for 2 weeks) which is a highly dissuasive factor. ○ The program cost too much money (over 3 thousand!!!). This is way too expensive for a 2-week program, even if we don't come from a poor background. Also, the meal card could contain more money, since any small snacks or drinks are very expensive.. ● Provide any additional feedback about your Duke Pre-College experience that wasn't included in other sections. <ul style="list-style-type: none"> ○ Please make it cheaper <p>2023 Survey</p> <ul style="list-style-type: none"> ● If you answered "NO" to the previous question please explain why: (why students don't want to go back) <ul style="list-style-type: none"> ○ Disorganized and poor ● Provide any additional feedback about your Duke Pre-College experience that wasn't included in other sections. <ul style="list-style-type: none"> ○ more \$\$\$ ○ A small discount to 3rd year returners would be amazing! I know so many people who would love to come back for the third time its by far the best program and the best school!! GO BLUE DEVILS!!! ○ Cancel this program or have Duke TIP run it again because for being a great school and having us pay 6000 dollars this is ridiculous and horrible to run this absolute scam.

Constructs	Theme	2022 & 2023 Student Survey Quotes
		<ul style="list-style-type: none"> ○ I was really looking forward to duke because of it's reputation and I expected the camp to be representative of the premier level, but I was disappointed in the organization and activities. This was a huge financial investment and I really don't feel like I got my money's worth. I attended Wake Forest Summer Immersion Program and I was highly impressed with the itinerary and activities they provided for me. I was disappointed and had higher expectations for Duke summer camp, it did not live up to the reputation of the University.
Programmatic Structure	<p>Communication and Organization Issues</p> <p>More Transparency and Information</p> <p>Program Organization and Planning Critique</p>	<p>2022 Survey</p> <ul style="list-style-type: none"> ● Provide positive feedback about the program (ie. things you liked about the program, what you would like to see added to make the programming better) <ul style="list-style-type: none"> ○ More freedom and better access to information ○ Remind was very useful for communication and is definitely a good idea. ○ I like the schedule and how the day was laid out. ○ I enjoyed the period lengths and think that the structure of the day is perfectly planned. ○ ● Provide constructive feedback about the program (ie. things we could improve on, what could we add or change to improve the programming) <ul style="list-style-type: none"> ○ There were times were it feels as though various RAs (not just mine) were missing information. Better communication between both the managers of the program and the staff would be greatly appreciated. ○ The communication regarding time and places of events was not always clear.

Constructs	Theme	2022 & 2023 Student Survey Quotes
		<ul style="list-style-type: none"> ○ Miscommunication seems to be the biggest problem in the program. Arrival day was hectic because no one knew the schedules, and some of my friends didn't even know about the orientation. ○ More communication with participants before the program. ○ Getting information on travel and other details was difficult prior to leaving. ○ Also, a better course description would be helpful for students who want to come to this program. I received very little info about this program before coming. ○ The program needed more organization. Communication was bad, my class's materials did not arrive on time, and the location of the lab changed numerous times, so the lab felt rushed. ○ I think it would be beneficial to make everything more transparent. I know a lot of the time there was a ton of miscommunication on the admin's part and it made it hard for campers to know whats going on. ○ more info provided ○ I think a lot of the overall planning of activities at an administrative level (not the RAs) was not planned out as well as it could have been. ○ At times the stuff concerning the residential side of the program (anything that wasn't in class) felt really unorganized. ○ I think you could improve on the organization of the program - the freedom, rules, regulations, etc. ○ I really think the program would benefit from more transparency as to what is happening each day earlier than a couple hours prior because it made it difficult to know what to go to and what you could go to a different day. ○ program was very unorganized and we didn't get to do many of the things that were promised. a lot of time was spent waiting for supplies and sitting through lectures

Constructs	Theme	2022 & 2023 Student Survey Quotes
		<ul style="list-style-type: none"> ○ The organization could use some polishing ○ maybe clarify the schedule more ○ There could have been more communication. ○ I wish that the College connections program was more organized. It seemed like you were always scrambling to find speakers and the programs were always changing last minute. ○ I would say the communication prior to coming to the program, if they could send email reminders a few days before about the covid test and other important notes that would be very helpful. ○ I felt that many things changed last minute, and it would have been better to have a defined schedule. ○ There were a lot of issues with the schedule and getting lost as we went to different locations, so if those could have been finalized beforehand or better managed it would have improved the experience. Additionally, the packing lists were very vague, so there were a lot of unnecessary items brought to the program. Having a schedule for the individual programs sent out earlier before coming to Duke would have also helped. ○ I think it was a little unorganized and rushed and I think it should be a little more put together before we arrive. ○ I think that a lot of the preparations for the camp were confusing, issues about emails, late CampDoc notifications, etc. ● If you answered "NO" to the previous question please explain why: (why students don't want to go back) <ul style="list-style-type: none"> ○ The advisors did not organize my class well, causing it to feel rushed, which resulted in bad outcome from the lab. Needed better communication. ● Provide any additional feedback about your Duke Pre-College experience that wasn't included in other sections. <ul style="list-style-type: none"> ○ I think that the organization could be better. Me and a lot of other people experienced issues where we weren't getting any emails, so I,

Constructs	Theme	2022 & 2023 Student Survey Quotes
		<p>as an effect, missed the orientation (because I was never informed there was one) and was very confused for the first half week.</p> <ul style="list-style-type: none"> ○ Assign a RA to commuters so they have someone to ask questions to. ○ I wish the roommate survey asked what grade we were entering because I was paired with someone two years younger than me and I felt a significant maturity difference. This made time in my dorm less relaxing, and I wish I had been paired with another rising senior so that our maturity levels were more similar. <p>2023 Survey</p> <ul style="list-style-type: none"> ● If you answered "NO" to the previous question please explain why: (why students don't want to go back) <ul style="list-style-type: none"> ○ I felt it was poorly organized and didn't give me the idea of duke life that I did this camp for. There are other college camps that I attended that gave me a much better experience. ○ I will be applying to more competitive summer programs in preparation for college applications ○ The program was generally unorganized. ○ It was a good experience however the residential experience was a lot worse than other camps I've been to ○ The course was not engaging and the course description was misleading. Additionally, the entire program seemed very unorganized and chaotic, with little to no communication between those in charge. ○ My biggest problem was that it wasn't organized well ○ I like having a schedule and structure and I did not find that here. I came here hoping to interact with Duke professors and labs and didn't really find that. ● Provide any additional feedback about your Duke Pre-College experience that wasn't included in other sections.

Constructs	Theme	2022 & 2023 Student Survey Quotes
		<ul style="list-style-type: none"> ○ I would like it to be a bit more organized ○ I hope that the Pre-College program will be more transparent about the courses. ○ The program should become more organized in informing commuters. ○ I wish a more thorough outline of what I would be doing outside the course was advertised. ○ The schedule was significantly tighter than I expected it to be, and we were not informed of what we would be able to do before we arrived at the campus. ○ It would be helpful if the adults and instructors were more coordinated with planning, to prevent miscommunication between adults and students. It would also be an improvement if there were more relevant hands on activities and labs. ○ I think that it could have been a little more organized and the TAs and RC's should have been more prepared. ○ I think the course was amazing, I definitely would do it again but I think some of the events and activities could be organized a bit better. ○ I think that at first it wasn't organized that well so I think that that's the only thing. ○ Overall, I think that the organization of the entire program could be improved, but overall had a good experience. ○ Have Duke run the program. ○ Please get organized. And get a better contract for your TA's—they deserve it! Also some RC's are so unprofessional, I don't even know how they got hired.

Appendix F: Stakeholder Analysis

Duke University Pre-College Stakeholder Description and Analysis

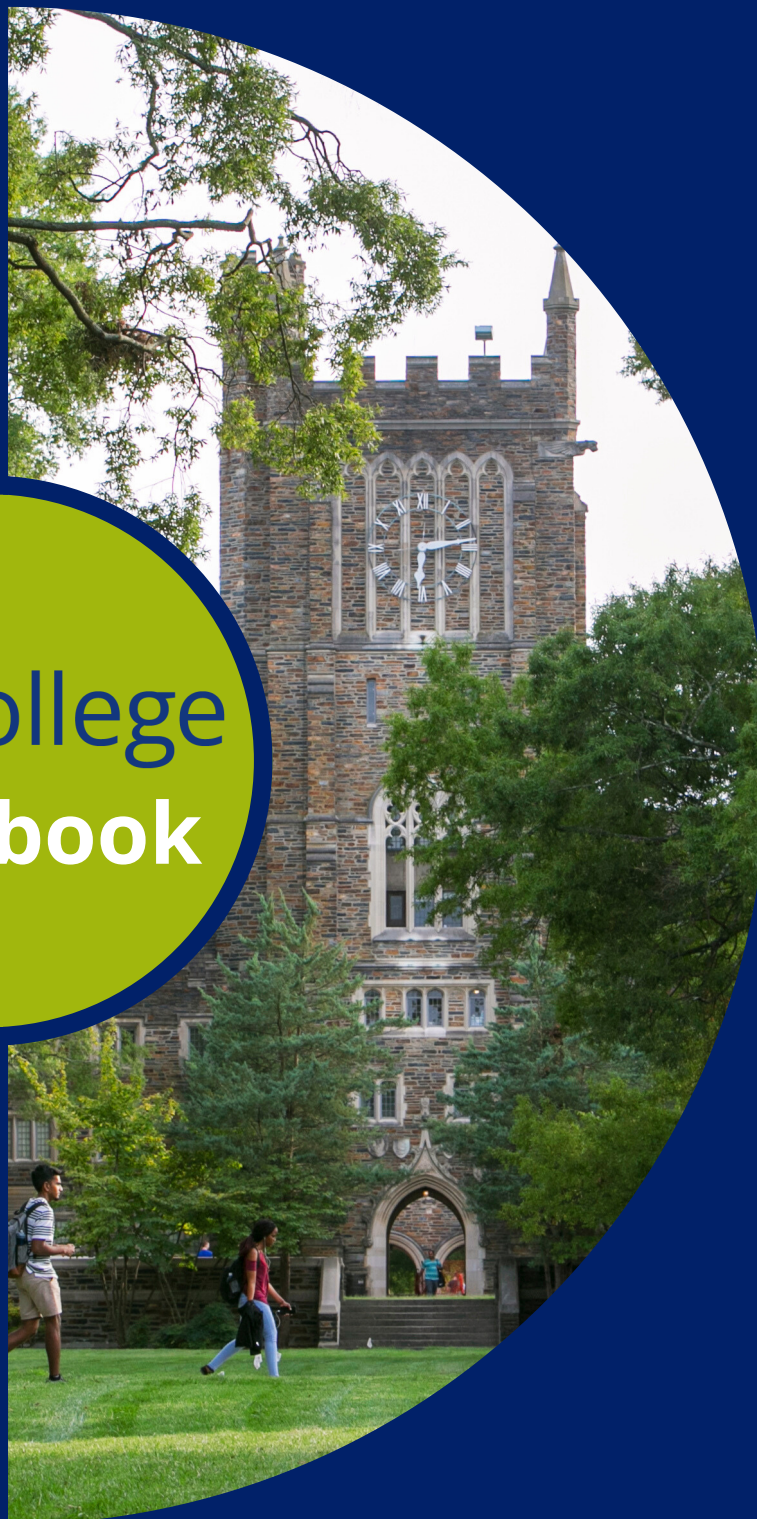
Stakeholder Name	Stakeholder Category	Influence	Interest or Perspective	Role in Evaluation
Leadership Administration - Dr. Molly Goldwasser (Associate Vice Provost for Academic Affairs)	Primary	High Influence - holds decision-making power	Very Relevant - The findings will allow Dr. Goldwasser to align to a long-term (3-5 year) strategic plan that will enhance diversity in the areas of affordability, programmatic structure, and recruitment.	Initiator/Decider
Students (middle and high school-aged participants)	Primary	High Influence - investment to apply	Very Relevant - With a strategic plan to enhance diversity, the goal would be a higher investment of students (and families) to apply no matter the demographic.	Buyer/User
Families of Students (middle and high school-aged participants)	Primary	High Influence - investment to apply	Very Relevant - With a strategic plan to enhance diversity, the goal would be a higher investment of students (and families) to apply no matter the demographic.	Buyer/User
Recruitment - One Recruiter (<i>name not yet mentioned</i>)	Primary	High Influence - owns decision-making on where to	Very Relevant - Increased qualitative data (observations, interviews, etc.) from the recruitment lens will allow for a more in-depth understanding of the decision-making process taken when recruiting and whether these	Influencer

		recruit and how	decisions positively or negatively influence diversity for the program.	
Pre-College Educators (faculty)	Secondary	Some Influence - day-to-day interactions with accepted students	Somewhat Relevant - Increased qualitative data (observations, interviews, etc.) would determine faculty investment in increased diversity and their role within it.	Influencer
MS/HS School Leaders of Student Applicants	Primary	High Influence - investment to influence student applicants in their school/district	Very Relevant - With a strategic plan to enhance diversity, it will be critical to gain a thorough understanding of what “marketability” looks like from a “buyer’s” lens - i.e. what is attractive about the program and what could increase diversity from the MS/HS buyer perspective.	Buyer/User
Pre-College Partnerships	Primary	High Influence - finances students who have been accepted	Very Relevant - To determine a long-term plan for diversity, there is a need to explore how much is financed by partnerships and what continues to influence donors to partner with Pre-College year after year.	Influencer

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Duke | Pre-College
Program Viewbook

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What is **Duke Pre-College?**

The [Duke Pre-College Program](#) provides unique academic opportunities and an introduction to the college experience to students currently in grades 6-11. Our courses are created to give students access to cutting-edge curriculum and technology beyond the average classroom while connecting them with transcendent peers from around the world and influential professionals in their future field. In addition to accessing university facilities and labs, our students interact and learn from renowned faculty and researchers. Participants gain valuable experiences that prepare them not only for their college curriculum and careers to follow, but also their futures as empowered, influential leaders.

[Take a virtual
tour of Duke](#)



[Sign up for 2024
Program Updates](#)



Applications open in December

Pre-College By the Numbers

1100+ Total enrollment for 2023 programs

- 52** Different **courses** for summer 2024
- 42** Different **states** students came from in 2023
- 23** Different **countries** students came from in 2023
- 20** **Maximum capacity enrollment** for Pre-College courses
- 6** **Subject areas for courses:** Engineering, humanities, mathematics, science, social sciences, technology
- 6** Average amount of **hours of instruction** per day
- 1** Opportunity to experience **Duke Pre-College** this summer.



Our
Summer Programs

Online



Residential



Commuter



Marine Lab



Pre-College Online



Enjoy the Duke experience from home through Duke Pre-College's Online Program. Study a topic of interest and connect with a global network of peers. Daily lessons include both synchronous and asynchronous sessions. Take part in active small and whole group activities while enjoying the flexibility of online learning.

Program Information

Grades: Rising 9-11

Dates: July 7-19

Tuition: \$795.00

“

I met so many amazing people I would have never met if it was not for the program. It was a good place to go outside my comfort zone and talk to people who have the same interests as me. I loved it so much.

- Aaliyah W.

”

Live and Learn at Duke

Residential Programs

During Pre-College's residential programs, students enjoy an unforgettable residential and academic experience. They live in campus residence halls, eat in world-class dining facilities, and visit significant locations throughout campus and the surrounding area. All while they build connections with peers from around the world and learn from Duke faculty and PhD students as well as industry experts.

Program Information

One-week programs

Grades: 6-11

Dates: June 30-July 5, July 21-26

Tuition: \$1,400.00

Room & Board: \$750.00

*5 nights of housing, 6 days of meals

Two-week programs

Grades: 6-11

Dates: June 16-28, July 7-19

Tuition: \$2,800.00

Room & Board: \$1,900.00

*12 nights of housing, 13 days of meals, linens

What's Included

Tuition: Classes 9 a.m.-4 p.m. each day with professional, seasoned instructors and teaching associates; all books and supplies; guest speakers; entrance charges and transportation to tours; College Connections seminars and other club activities; evening and weekend social events; guided visits to main campus and sporting facilities.

Room & Board: Housing in East Campus residential hall; 24-hour residential and medical staff; all meals; basic linens and towels; transportation to and from RDU.



More Information

Is financial aid available?

Yes! For more information on financial aid and/or payment options, visit our [website](#) or contact precollege@duke.edu.

Living at Duke: Pre-College residential students will reside on [East Campus](#). Students will cohabitate according to grade level and gender, with non-gender housing available by request for grades 9-11. Roommate assignment decisions are based on common interests and habits.

Learning at Duke: Classes are held on East and West campus, with students having a full day of planned classes and activities each day of the program. View a sample schedule [here](#).

Eating at Duke: Residential participants have three meals per day included in their program fees, and commuter participants have lunch each weekday. There are various [dining options](#) available including vegetarian, vegan, gluten free and allergic-specific items.

Commuter Program

Duke Pre-College allows local students to choose a commuter option. Commuter students must arrive to campus each morning and depart campus each afternoon. During their time on campus, commuter students will follow the same schedule as residential students.

One-week programs

Grades: 6-11

Dates: June 30-July 5,
July 21-26

Tuition: \$1,400.00

Meals: \$125.00

Two-week programs

Grades: 6-11

Dates: June 16-28, July 7-19

Tuition: \$2,800.00

Meals: \$250.00



Beaufort, N.C.

Duke University Marine Lab

Located on the coast of North Carolina, the [Duke Marine Lab](#) offers a unique interactive experience for Pre-College participants. Students live and learn on site, with classes taught by experienced instructors and industry professionals while access to labs, boats, and other Marine Lab resources. Courses will include sustainability, conservation, marine biology and more.

Program Information

One-week middle school program

Grades: 6-8

Dates: July 14-20

Tuition: \$2,250.00

Room & Board: \$850.00

*6 nights of housing, 7 days of meals

One-week high school program

Grades: 9-11

Dates: July 7-13

Tuition: \$2,250.00

Room & Board: \$850.00

*6 nights of housing, 7 days of meals

More information

Transportation: Parents/guardians are required to transport participants to and from Beaufort, N.C. in alignment with designated arrival and departure days.





For-Credit Duke Courses

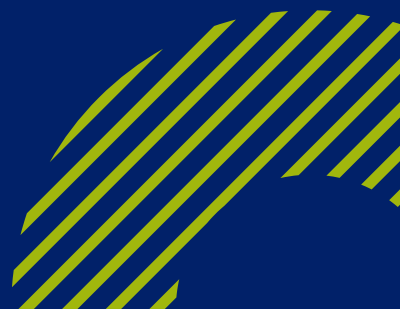
Are you a current 10th or 11th grade student interested in earning college credit this summer? Choose from Duke University courses from across the arts and sciences! A selection of six-week undergraduate courses in Duke Summer Session Term 2 (July 1–August 11) are available to academically qualified high school students.

More information

University policy: Participants must be 16-years-old by the first day of the term (July 1) to be eligible. There are no exceptions to this policy.

Credit options for high school students include courses at Duke University for local commuter students and online courses for non-commuters, including international high school students. There is no residential option for high school students taking Duke credit classes.

[Learn about Duke
Summer Session](#)



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Contact us



learnmore.duke.edu/precollege/all-programs



precollege@duke.edu



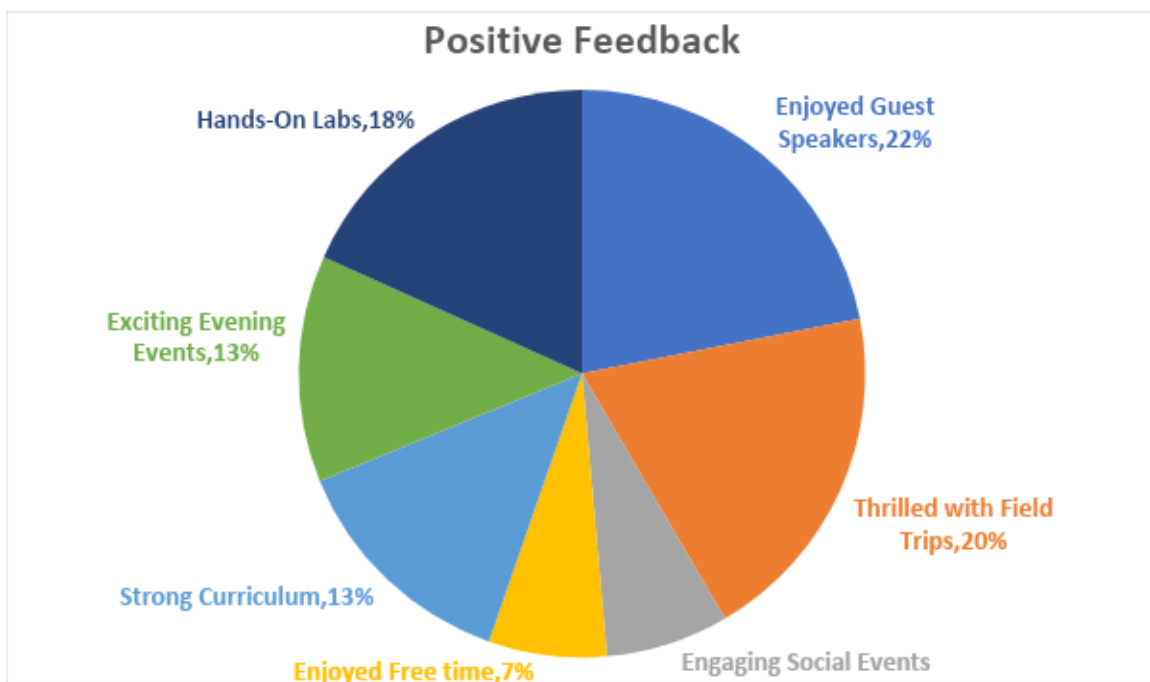
919.684.6259

Appendix H: Duke Pre-College Program Survey Analysis (2023)

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This year we used Qualtrics to survey our students. Surveys were given to students on their last day of class for each session so that we could gather the best real-time feedback possible. This summer we received **356** unique survey submissions.

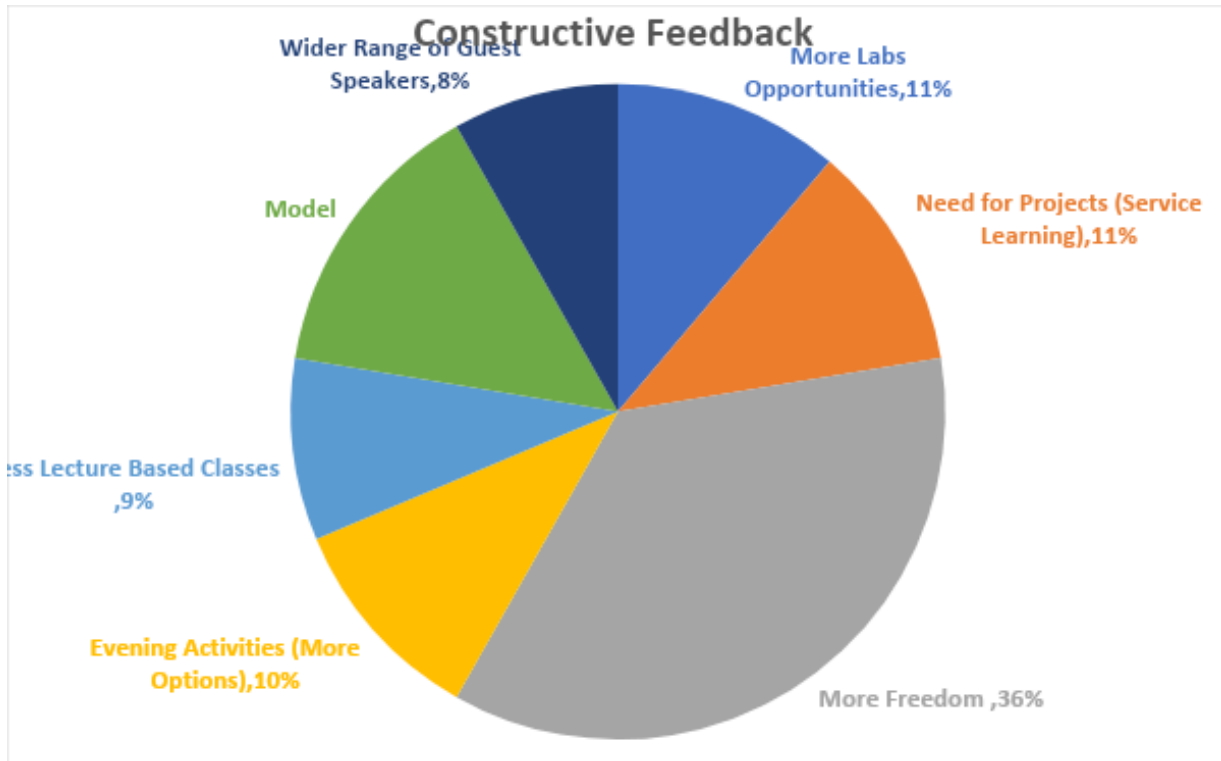
Students Feedback (Summary)



In the chart above we see the most mentioned responses from our student's perspective. These topics are what students enjoyed most about our programs and what students would like more of. Below further details the graph above:

- **Guest Speakers** – Enjoyed having knowledgeable guest speakers, would like more with different perspectives
- **Field Trips** – While not every group was able to experience a field trip the groups that did enjoyed the hands-on experience and voiced that more interactive field trips would be an attractive addition to the program
- **Evening Events** – Students enjoyed the evening activities including clubs, carnival night, casino night, etc. Students expressed interest in expanding the evening events time frame to give them more time with new friends
- **Social Aspects** – Students expressed a desire to have more social events such as the dance or evening ice breakers for the first few nights

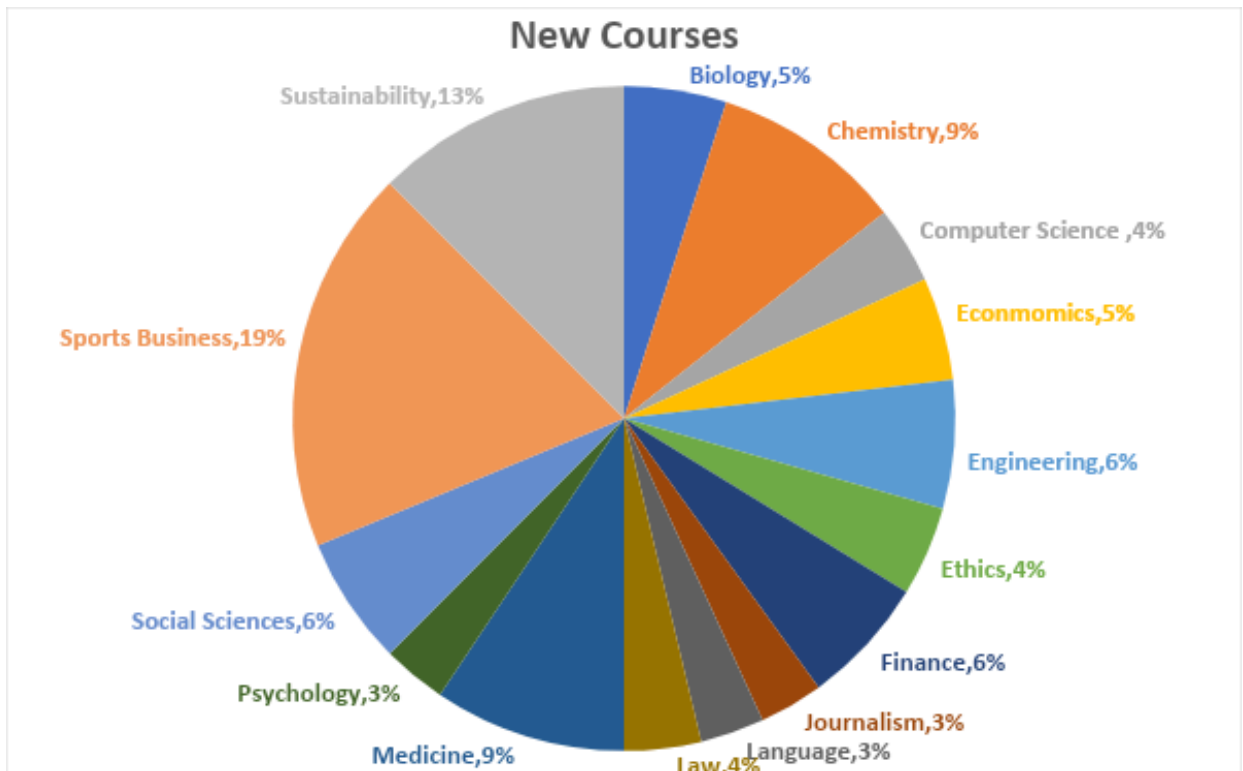
- **Free time** – after a long rigorous day of course works students enjoyed the free time they were given to choose which events they could attend or just relax
- **The Curriculum** – Overall students found the curriculum engaging, in depth, and all around reflective of what the Duke experience should be



In the chart above we see the most mentioned responses from our student’s perspective. These topics are what students found least attractive about our programs and what they would like to see changed in the future. Below further details the graph above:

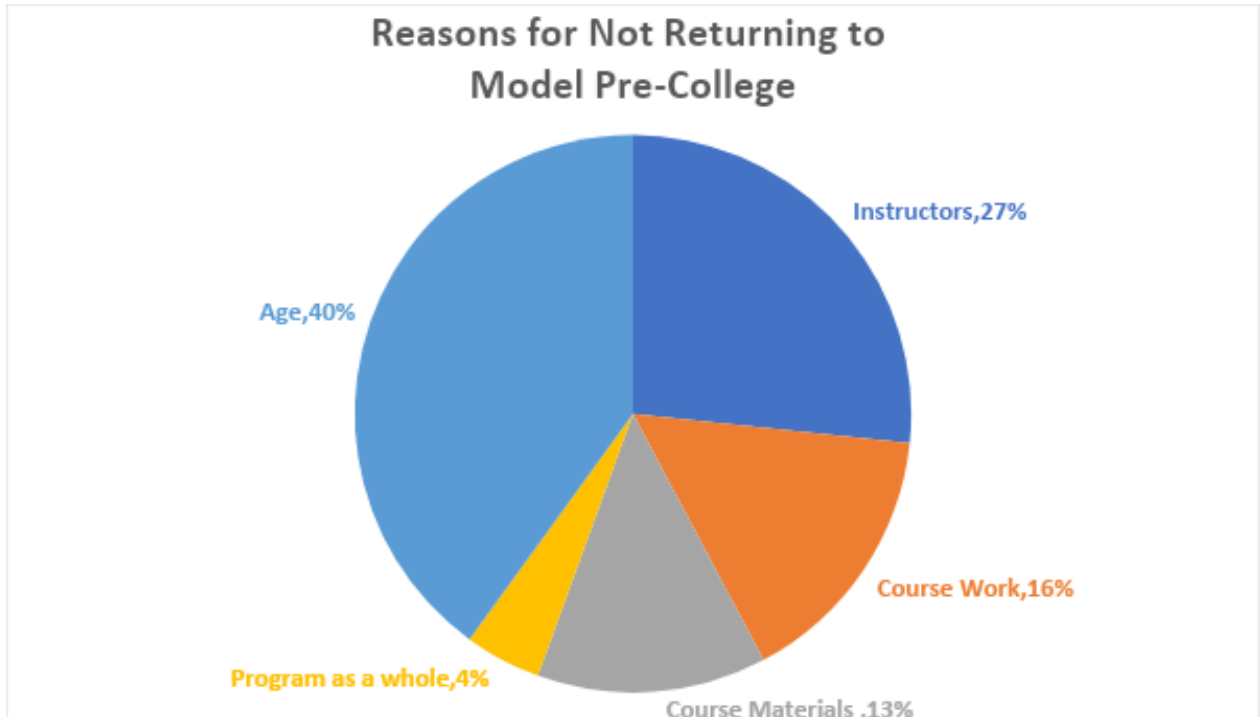
- **More Lab Opportunities** – While students in lab week enjoyed the lab experience, most of our other courses didn’t have any lab or hands-on experience. Our students would like to have more “lab” experiences during their daily course work that aids their classroom learning
- **The Need for Projects** – Our students voiced that service learning projects and community engagement opportunities would be a great addition to our program. Students would like to take what they are learning in the classroom and apply it to a project at Duke or outside of Duke to get a better understanding for the course and how it applies to their interest
- **Freedom** – Students expressed the BIGGEST need for more freedom. Not being walked to class or treat like elementary students was the biggest concern. Being able to free flow to the dining hall and classes would help with this concern
- **Evening Activities** – Our students expressed the need for more engaging and well-planned evening events, saying the events seemed rushed and not inclusive enough. Students also would like to use the recreational facilities and have more sporting events

- **Less Lecture based Classes** – While the students found the lectures to be informative, they also found them draining and less beneficial as the program went on. Students would like to see more hands-on learning opportunities to help them engage with the course materials and apply it to everyday experiences
- **Need for Duke Faculty** – Students expected that they would be more Duke Faculty as Course Instructors. Students are looking to obtain the Duke experience and expressed the desire to learning from Duke faculty members
- **Guest Speakers** – While this was also a positive, student would like to see more guest speakers that are experts in their field of study. Some students found that some of the guest speakers weren't knowledgeable in the field of study and was of no benefit.



In the chart above we see the most mentioned responses from our student's perspective. These topics are what students would like to see added as learning opportunities to better the Duke Pre-College program. There were only **280** responses to this question. Below further details the graph above:

- The ideas listed in the graph above are general topics and could and should be broken down into more specific subjects
- As the graph indicates there is a need to widen our teaching points and provide more learning opportunities for our future students
- While Duke may not offer a chance to host all of these courses it provides us with good information to what future are looking for when choosing a Pre-College program



In the chart above we see the most mentioned responses from our student's perspective. These topics are what students found least attractive about our programs and why they would attend our program in the future. There were only 45 responses to this question. All other students selected that they would attend our program again. There were only Below further details the graph above:

- **Instructors** – Our students stated that they expected to learn from Duke Faculty to obtain a real Duke experience. Students expressed the lack of experience saying that some of the instructors were still students themselves. Our students also stated that some of the faculty weren't welcoming or friendly during the duration for the program
- **Course Work** – Our students pointed out that some of the course weren't rigorous enough for what they believed to be the standard at Duke. Students wanted to take a deeper dive into the material which didn't happen
- **Course Materials** – While stated about that the courses weren't rigorous enough some students stated that the course materials seemed rushed and unorganized. Students also listed that they spent to much time in class watching documentaries
- **The Program** – Some students left their response generalized saying that the program wasn't engaging, interesting or fun enough for them to attend again
- **Age** – Our students indicated that they wouldn't attend sole because they have aged out and can no longer attend our programs



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