

ENHANCING DATA ANALYSIS APTITUDE OF EMERGING ADMISSION PROFESSIONALS

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Executive Summary

Focus groups with college admission staff revealed, among other findings, a lack of capacity among emerging professionals to perform the increasingly common data analysis functions of their positions. NACAC conducted a set of four focus groups with different levels of admission staff – emerging professionals, mid-level professionals, supervisors, and directors – to learn more about current emerging professional data skills and use, the availability of data training for these staff, and the data needs of admission departments. ASA Research, LLC (ASA) analyzed focus group transcripts to identify common themes.

Focus group participants indicated a need for data training to benefit individual staff, admission departments, and institutions overall. An increased data analysis capacity would allow individual staff to improve their job performance and progress along the admission career path at their institutions. This finding agrees with a [recent NACAC report](#) showing that data analysis skills are essential for advancing in the admission field. Admission departments and institutions can make more strategic decisions about resources, adapt recruitment strategies, and automate tasks with a staff better equipped for data analysis.

Currently, several key aspects of the emerging admission professional positions involve data, from funnel analysis to territory management and application review, as well as identifying student trends and effective strategies. Admission professionals can perform current tasks better, and perform more sophisticated analyses, by learning and practicing the basics of software program functions and statistical concepts.

Ultimately, an admission professional trained in data analysis should have the ability to autonomously collect data, formulate questions, manage and strategically use data, and interpret and communicate data findings to internal and external stakeholders. Examples of specific aspirational data analyses include disaggregating student outcomes by demographic characteristics, identifying patterns in yield rates, and predicting rates of enrollment and academic performance. These more sophisticated analyses can also shed insights into today's primary concerns facing institutions such as the effects of the pandemic, and the challenges facing low-income, first-generation, and historically marginalized students of color. Visualizing and communicating data findings are also important aspirational skills for emerging admission professionals.

Barriers currently preventing staff from using data include lack of time to practice data skills due to competing job responsibilities, outdated programs, and lack of data access. These focus group findings also highlight considerations for developing data training curricula, including both content and logistical recommendations. It is clear that a deep need exists for professional development focusing on data analysis for emerging admission professionals, with the potential to positively impact the work of admission offices, institutions, and the field more broadly.

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Introduction

While admission staff often enter the profession to engage in student recruitment activities such as meeting with prospective students, attending events, and reviewing applications, data analysis is an increasingly important – and required – skill set for this role. Emerging professionals are often required to analyze the pipeline of prospective students and take action based on patterns found in past data. However, training for these positions rarely includes a data analysis component.

NACAC conducted four focus groups with a total of 39 admission staff across levels – emerging professionals, mid-level professionals, supervisors, and directors – representing both public and private four-year institutions. The purpose of these focus groups was to learn more about emerging professionals’ current data skills, training availability, and data use, and data needs of admission departments. ASA Research, LLC (ASA) analyzed focus group transcripts to identify common themes.

Focus group findings revealed that the average emerging professional admission staff often struggles with manipulating and “massaging” the data as needed to gain useful insights into the prospective student pipeline. As a director-level focus group participant shared, “There is a willingness to use the data, but [emerging professionals] don’t have the bandwidth to educate themselves...to use it on a day-to-day basis.” Increasing data capacity would improve not only individual performance but also departmental and institutional-level outcomes such as increased employee retention and strategic decision making.

Admission professionals shared the need for data training:

- “I don’t think many [emerging professionals] think about statistics as being a core skill set...[but] it’s quickly becoming one of the most important things that folks do.”
- “I’m going into my tenth year here and quite frankly I just need to better understand data...it’s always been somebody else’s job to analyze the data.”
- “I wish I could dive deeper...statistics is probably not one of my strongest suits.”
- Staff need “...that impetus or that drive to check out new areas that might create new potential opportunities...Giving them the confidence to look into those things as well... Making sure they feel successful and safe...as a contributor to the team. “
- “Reminding folks that there’s opportunities for professional development throughout your career is a great way for NACAC to be a strong partner for its member institutions.”
- “There is an assumption that [data training] is part of admission,” but it is not currently.

One question that stemmed from these discussions is the definition of “data” for admission purposes, and more specifically for front-line admission staff. The findings below examine various data functions in greater detail. It should be noted that in the focus groups, the term “data” elicited responses that reflected the importance of data, such as “yield,” “potential,” “essential,” and “insight.” However, “data” also elicited responses reflecting feelings of intimidation and discomfort (“confusion,” “avoidance,” “overwhelming”).

Benefits of Data Training

Respondents indicated a need for data training to benefit individual staff, admission departments, and institutions overall.

Individual

At the individual level, increasing data literacy can help staff perform their jobs more effectively. As a director-level participant explained:

“Extracting insight from the data is a whole skill into and of itself and that’s really the thing you want to help people do. Not just look at a report and say, oh, that’s interesting but ask a question of the data and drill down and find out what the patterns and trends are and where you’re headed.”

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Director-level admission staff who participated in these focus groups cited critical thinking and data analysis skills as necessary for career development, and essential functions of their own current jobs. Staff need to hone their critical thinking skills to become more intuitive and autonomous with data analysis. Advancing their data analysis skills can also help employees create ownership of their work by empowering them to make strategic, data-based decisions. Training staff on data analysis skills will not only improve job performance, but will also provide additional options for professional development along the admission career pathway at their institution. This is consistent with a [recent NACAC report](#) showing that data analysis skills are essential for advancing in the admission field.

Departmental

While staff without data training may be hesitant to use data, supervisors can enhance interest in and excitement around data analysis job functions through an increased understanding, familiarity, and comfort level with data. Data training can also benefit departments by training individuals to create common queries that staff across the department can use, which would likely lead to increased automation.

Data analysis skills can also allow employees to provide information that supervisors may use to make decisions about departmental resources such as staffing and budgets. In addition, instilling the confidence in employees’ data analysis skills can allow them to evaluate admission strategies, what is working and not working, and to identify potential new ways of reaching targets. Finally, having data analysis skills can lead to increased responsibilities and opportunities for promotion, which can also increase employee satisfaction and retention rates.

Institutional

Analyses of admission data can also aid in decision making that affects the institution, and are often used in determining institutional resources, benchmarks, and goal setting. Admission data use can also help contextualize institution-wide student outcomes.

Current Data Use

Job Tasks

Emerging admission professionals currently use data in a variety of ways:

- **Funnel analysis:** Developing prospects and tracking inquires, event attendance, communications, applications, offers, acceptance rates, document completion, commitment, and enrollments, or the yield rate.
- **Territory management:** Travel and event planning, personalizing visits, and scheduling interviews.
- **Historical analysis:** Reviewing past application data and enrollment statistics term-over-term, year-over-year to examine trends in direction and magnitude at specific points in the pipeline.
- **Market analysis:** Tracking regional demographic shifts and high school graduation rates.
- **Application review:** Tracking applicant factors to ‘build a class’ such as student demographic characteristics, location, academic programs, and likelihood of enrollment, and any missing or incomplete documentation.
- **Marketing strategies:** Identifying effective strategies including email campaigns, advertisements, website traffic, social media, and blogs based on click and open rates.

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- **Student analysis:** Understanding student patterns in application, enrollment, and success at the institution both overall and by differences in demographic groups.
- **Trend analysis:** Identifying trends such as academic programs of interest.
- **Diversity recruitment:** Tracking leads and yield rates by student demographic characteristics.

Data Programs

The most cited programs that admission professionals use for the tasks above include spreadsheets, data visualization software, and the institutions' customer relationship management (CRM) software. Additional programs cited include financial aid, e-commerce, marketing, statistical, and survey software, as well as Word Cloud generators and Artificial Intelligence texting.

Data Sets

The most cited datasets used are the institutional CRMs and Institutional Research (IR) data (including historical data), U.S. Census data, and qualitative data from surveys, focus groups, interviews, and program evaluations. Other datasets cited include consortia data shares, the National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS), National Student Clearinghouse (NSC), Enrollment Planning Service (EPS), third party market data services, and peer institution data used for benchmarking.

Data Needs

Focus group participants cited both data essentials for everyday job tasks, as well as aspirational skills to enable the completion of more in-depth analysis tasks.

Data Training Essentials

Focus group participants cited the following as essential skills to be included in a “Data 101” or introductory data course for admission professionals:

- **Programs:** Manipulating CRM data; running queries and building critical thinking skills to empower staff to run queries on their own; basic spreadsheet functions including pivot and lookup tables, sorting and filtering, formulas, and creating charts; data visualization.
- **Analysis skills:** Identifying patterns in student outcomes; disaggregating data by student demographic characteristics and location.
- **Data literacy:** A basic refresher course in statistics can help with knowing which data to use and which data not to use; understanding how to add context to numbers and derive implications; recognizing “good” data; accurately reflecting findings.

Data Skills Needed

Ideally, training will allow admission professionals to use data beginning with data collection and formulating questions, to analyzing, managing, strategically using, interpreting, and communicating data findings. Focus group participants shared the following specific aspirational data skills needed to perform more in-depth, advanced data analysis tasks.

Queries/questions

Data analysis begins with asking the right questions and formulating queries, which helps to identify the appropriate data needed for analysis. Data users can formulate new queries or refine existing queries to maximize the use of data sets.

“Providing a report to someone is really easy. Encouraging that curiosity and the ability to ask ‘what if’ is the hard part when you’re working with people who may not be data savvy.”

Obtaining data

Once the user establishes data fields needed to answer research questions, they will need to identify the best source of those data. This can involve comparing different aspects of datasets, such as the most recent year available, and the overall quality and accuracy of the data. Data users will also need to know how to pull data from a specific dataset, whether that is through a specific program or database, or using a statistical software package.

In many cases, admission departments partner with IR offices to obtain institutional data, and the data user will need to establish a relationship with IR and be familiar enough with data terminology to know which data to ask for and how to request it.

In some cases, admission departments may wish to collect original data through surveys, for example by surveying staff and faculty on campus about their recruiting practices, or by collecting event feedback from prospective students.

Data analysis

After the data are collected, a well-trained data user will have the ability to manipulate data to identify patterns and tell a story. Users must be, according to one focus group participant, “...confident in being able to analyze a dataset to see what we can take from it.” Through training and enhanced critical thinking skills, data users can “dive deeper” into reports that are pulled. As a director-level participant framed it, “Providing a report to someone is really easy. Encouraging that curiosity and the ability to ask ‘what if’ is the hard part when you’re working with people who may not be data savvy.”

The following examples were provided of specific analyses that admission professionals might perform:

- Disaggregating data by demographic characteristics
- Identifying patterns in event attendance and enrollment
- Translating email open rates to enrolled students
- Longitudinal analyses to identify changes in yield rates
- Predicting rates of enrollment and academic performance
- Analyzing the effects of test optional application evaluation on academic performance
- Understanding long-term effects of the pandemic on student enrollment
- Access for low-income, first-generation students
- Meeting the needs of historically marginalized students of color
- Understanding scholarship and tuition discount calculations based on data

Data management

Data users must know how to correctly store data once they receive it, and how to update data files after the analyses are performed. This includes knowledge of parameters typically found in a data user guide, such as naming conventions, file formats, and privacy measures.

Participants listed the following ethical concerns that data users need to be aware of: data integrity and privacy considerations including questions that can legally be asked and protecting personal information; guidelines for sharing data (e.g., at aggregate); exercising caution when drawing conclusions and making inferences; being aware of bias; reviewing processes for retrieving and storing data; performing quality checks for data accuracy; and limiting access for student workers.

Strategic data use

Following the analysis and synthesis of the data for reporting purposes, the findings can be used in a number of impactful ways. For example:

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- Applying data to make strategic decisions about resources
- Translating data into goals for specific departments
- Using data to identify successful strategies, new opportunities, and where to focus efforts
- Assessing data to realize inefficient or ineffective practices that may need to be adjusted or eliminated
- Conducting analyses to identify and work to correct practices that result in equity gaps in access
- Identifying ways to decrease summer melt (i.e. how many students are not signing up for courses, or not talking to advisors)

Interpreting external data

In addition to analyzing and interpreting internal data that a user has pulled from a CRM or other dataset, the user must also have the data literacy and basic statistics knowledge to interpret data provided from external sources, such as first-year experience surveys. For example, data users should know the difference between correlation and causation, be able to identify trends, and understand when it is appropriate to make inferences or generalizable statements. Data users should be familiar with statistical terms such as significance and probability, and be knowledgeable about the limitations of specific datasets and of quantitative data more generally. Participants emphasized the “human aspect” of decision making when it comes to admission, that there may be factors guiding a student’s decision of which college to attend that do not necessarily appear in the data collected, such as the influence of family or friends.

Communicating data findings

It is important to effectively communicate data both within the admission department and to other stakeholders across campus in a way that is easily digestible. Participants expressed interest in learning how to display data most effectively, for example which type of chart to use, and through the growing use of data visualization. Data visualization can be a valuable skill for admission staff to have for job performance and career progression.

Barriers to Data Use

Participants offered several factors that currently prevent admission professionals from advancing their data skills. For example:

- Staff may not have the time to practice data skills due to competing job responsibilities. Some admission offices have staff specifically focused on data acquisition and analysis, an advantage over smaller institutions and admission offices.
- Staff may feel intimidated by data due to a lack of basic statistics knowledge, as expressed in the comment, “I think there’s some hesitancy from some folks to actually looking at data or understanding it, you know they say ‘I’m not a numbers person’.”
- Some data programs and systems may be outdated or pose limitations, such as incompatibility or inability to map between datasets.
- The requirement of annual queries and sensitivity of data may restrict one’s ability to “play” with data as a way of learning and conducting deeper dives into data.
- Staff may feel a lack of data ownership or may not have access to datasets. One participant cited a “general pervasive attitude on campuses that data belongs to certain people” such as institutional research or enrollment management. Accessing data on the road can be a challenge for staff who are often traveling to admission events, due to remote access limitations or poor connections.
- Staff may be focused on event logistics rather than “who to invite based on data.”

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Training Design Considerations

Participants provided feedback about the design of a training program, including content and logistical considerations.

Content

- Focus on making data less intimidating and increasing data comfort and familiarity. “Cultivate a vocabulary to enable data-driven conversations.” Review nomenclature, i.e. prospect, inquiry, lead, conversion, yield, melt.
- Provide training not only for new staff but also for more seasoned employees who need a data refresher.
- Review ethical guidelines listed above (see Data Management), including data integrity and privacy, quality control, and data access.
- Keep training broad enough for any CRM.
- Use the CRM test environment or test function for data exploration.
- Provide use cases, or examples of who is using data and how.
- Consider time management, how to run reports or queries quickly.
- Provide instruction for generalizing data to different areas or groups.
- Share the strategy behind data queries; for example why are we asking these questions, what the numbers mean, “how we got to the numbers.”

Logistics

- Provide a series of multiple sessions.
- Keep in mind what data staff have access to.
- Consider the timing of training; one participant shared: “It can’t be during heavy recruitment or financial aid season.” Mid or late summer before fall recruitment is ideal; “right before or right after financial aid season.”

Future Implications/Conclusions

While these findings regarding current essential admission data tasks reflect today’s admission environment, one must also consider the future role of predictive analytics and artificial intelligence in admission decisions. One participant stated:

“I don’t think any of us is ready for the future yet...things like predictive analytics and artificial intelligence...take massive amounts of infrastructure, investment... colleges and universities just aren’t ready...And even if we did, I’m not sure there’s the appetite or the temperament...It’s a matter of resources. It’s a matter of technological availability. It’s a matter of culture and the willingness of the places to adapt those models and those approaches.”

There is also a “Conflict between front-line recruitment team and data management side about how we make admission decisions. There is some resentment among staff manually reviewing files when some of the data processes and algorithms inform us as to who we need to admit to meet our goals.” For better or worse, application review processes may change in the future, adjusting from manually intensive to more automated, depending on the type and selectivity of institution; it “could change dramatically” as data capacity increases. Ensuring automation does not come at the expense of opportunities for disadvantaged and underrepresented students will be a key challenge.

Conversations around diversity, equity, and inclusion (DEI) goals are increasingly important to admission, yet related data are largely historical and more suited to identifying existing inequities, rather than potential solutions.

Participants emphasized the role of data in changing approaches based on findings of what current practices are effective: “Models can become self-fulfilling prophecies if we only allocate resources based strictly on the outcomes of those models.” Rather than give



up on a strategy based on the outcomes of models, admission professionals must adapt strategies and try new approaches. It is critical to begin future planning by examining historical trends.

While the majority of training needs to be focused on quantitative data, admission professional should also know how to work with qualitative data collected through surveys, interviews, or focus groups: “Giving context to the data...to tell a story.” One participant shared, “I always think that words are a bit more impactful” than numbers on their own, specifically feedback from students that supports which recruitment strategies are effective.

Participants shared the importance of building staff from data competent to data experts, to enable them to train future staff. It is also important to build and maintain partnerships with the strategic enrollment management team to enhance data availability and capacity. It is also worthwhile to assess the institution’s overall culture of evidence, for example if leadership value, use, and act on data.

Finally, data may serve as a specific admission career path, for institutions with the resources to create data-focused positions within admission offices. The training parameters described here will serve current and incoming admission professionals in their current roles, but future professional development planning may wish to consider a more in-depth course to develop a dedicated data-focused admission track.