SEMQ

Strategic Enrollment Management Quarterly

Advancing Research in Enrollment and Student Success

As we prepare to come together at our 34th annual Strategic Enrollment Management Conference in Boston, we face serious enrollment challenges and accept the paramount role that enrollment management strategy, practice, and initiatives will play in meeting the challenges of today's higher education landscape. Students are shifting their focus from degrees to experiences. Concerns about learner mental health and wellness are taking central stage. The impact of geopolitics is impacting international student recruitment and success. The intersection of SEM and equity has become central to enrollment planning. We are seeing community college enrollments, which had been gradually sliding since 2011, take a small step upward this year. And the looming "enrollment cliff" has many of us concerned about the future of higher education. We certainly live in challenging times!

This special edition of *SEM Quarterly* pulls from the past year's articles to present conference participants a wide array of topics and issues, touching on research, equity, leadership, recruitment, internationalization, recruitment, retention, and graduate school issues. Many, if not all, of these will be covered in plenaries, workshops, and sessions. As you turn your attention from matters on campus to this opportunity to learn and reflect on the trends, opportunities, and challenges in enrollment, we hope that these articles will be thought-provoking for you, as well, and that you will find yourself starting #SEM2024 with some background and frames of reference to guide you through the conference experience.

It would be impossible to present this special issue of *SEMQ* without the talents and hard work of Managing Editor Heather Zimar. Many thanks, Heather, for your insights and dedication. Let me also acknowledge the hard work of our *SEMQ* Editorial Board members and our many authors whose research and writing skills you will witness in reading their works.

Best wishes for a successful SEM Conference in Boston!

Clayton Smith, Ed.D.
Editor-in-Chief
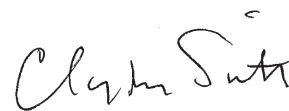
About the Editor

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THE RESEARCH AGENDA

Organizational Structure, Strategy, and Coupling of Enrollment Management Divisions

By Kelley Lips

Enrollment management has been adopted by many institutions not only as a strategy, but also as an administrative division responsible for managing enrollment. This study aims to understand how institutional goals and environmental factors contribute to the organizational structure of enrollment management divisions, as well as how the composition promotes integration between individual subunits to achieve institutional goals. A comparative case study, with semi-structured interview questions, was employed to understand factors that impact decisions pertaining to the structure and composition of the enrollment management divisions. The findings suggest that structure can be influenced by the experience of personnel, revenue, the culture, and the desire to enhance prestige.

Enrollment management has been adopted by institutions of higher education as a strategy for managing enrollment to meet institutional goals, and it increasingly manifests as an administrative division that supports students. While there is not a one-size-fits-all approach, the divisional model requires significant resources, investment, and cooperation among stakeholders, and it often leads to stronger enrollment outcomes due to a greater institutional commitment (Bontrager 2004; Henderson 2005). However, within enrollment management divisions, institutions have created varying organizational structures and compositions of administrative departments or functional units. Enrollment management provides a common purpose and strategy integrating individual units or departments that have significant impact on student enrollment—including student choice and the student experience. In a study conducted by Huddleston and Rumbough (1997), seven functional units were identified as the most prevalent under the enrollment management umbrella. Admissions, financial aid, and registrar were among the most common units, with the addition of institutional re-

search and planning, marketing, new student orientation, and retention and advising. The academic mission coupled with an emphasis on a student-centered approach should be paramount in determining which units connect within an enrollment management organization (Henderson 2005; Hossler and Bontrager 2015).

As institutional leaders approach issues related to rising tuition, a projected demographic cliff, and lingering disruptions from the pandemic, they are looking for creative solutions to enrollment challenges. Could a competitive advantage exist in how individual departments or units are combined to create synergy that has positive outcomes on enrollment? This study aimed to understand how institutional goals and environmental factors contribute to the organizational structure of enrollment management, as well as how the composition promotes integration between individual departments within the division. New managerialism and structural coupling provided the theoretical framework. New managerialism describes how colleges and universities have increasingly adopted business practices commonly associated with for-profit, corporate organizations to ensure access to resources. As an extension of new managerialism, the literature (Deem 1998; Meyer 2002; Weick 1976) reflects an emerging managerial philosophy within educational institutions moving away from organized anarchies (*i.e.*, loosely coupled units) to more predictable, responsive components that do not act independently (*i.e.*, tightly coupled units).

A comparative case study was employed to understand factors that impact decisions pertaining to the structure and composition of the enrollment management divisions at two mid-sized, private institutions. A total of sixteen semi-structured interviews with the chief enrollment officers as well as directors of the individual departments were conducted on institutional priorities, enrollment goals, and scope of operation to address the research question of what are the internal and external factors that shape how an enrollment management division is structured at an institution? To provide a visual, Figure 1 (on page 33) is an illustration of the organizational chart of the enrollment management division at Institution A. Figure 2 (on page 33) depicts the larger, more comprehensive organizational structure of the enrollment management division at Institution B.

Four themes emerged to answer the research question of which factors are most influential in determining how institutional leaders choose to organize their enrollment management division: (1) structure could be heavily influenced by individuals in leadership positions and their experience, rather than derived from a strategic vision; (2) institutional culture influenced the function of the organizational structure; (3) revenue was often central to decision-making and at times contradictory to other enrollment initiatives; and (4) the pursuit of prestige to enhance the perceived value of the institution in order to better compete for students.

The Influence of Individuals on Structure

One of the recurring findings was the degree of impact that individuals had on the organizational structure at all levels within the enrollment management divisions, including the person to whom the chief enrollment officer reports, the chief enrollment officer, and the leaders of the individual departments. The experience and backgrounds of the people at the table influence the structure. One participant specifically described their portfolio as "a reflection" of who they were and of their "experiences." Not only are the effects of individuals visible in the organizational structure and strategy, but they also determined where specific job functions lived within the structure.

Leaders' influence on structure often starts with the influence of the president and the president's interpretation of the mission and vision of the institution. The president's previous experiences can heavily shape their view and the centrality strategic enrollment management (SEM) plays in moving the institution toward their interpretation of the mission. For example, the president of Institution B had an unconventional background compared to many in academia, and his prior experience is from the corporate world. His experience in business likely influenced his approach to strategy and preference for more centralized authority, top-down management, and a focus on the student experience. Because of this,
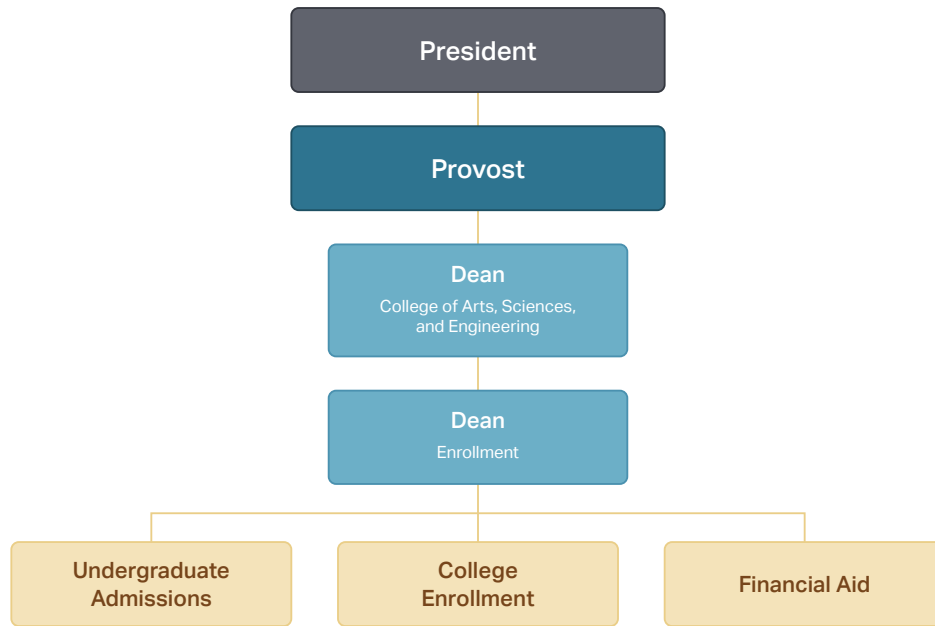
FIGURE 1 ➤ Organizational Chart for the Enrollment Management Division of Institution A
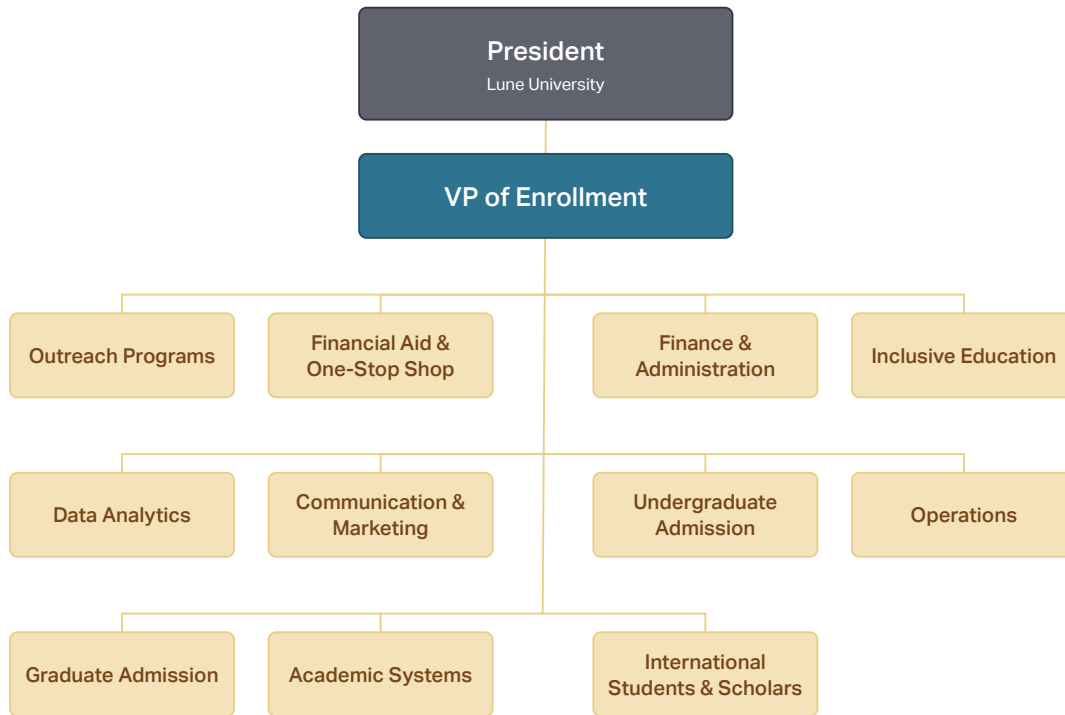

FIGURE 2 ➤ Organizational Chart for the Enrollment Management Division of Institution B

he not only made the decision to overhaul the Division of Enrollment Management, but he also positioned this newly created division to report directly to him. The VP of enrollment acknowledged that this reporting structure is not common at mid-sized universities and stated:

The president has just a couple more years under his tenure. It was his decision that enrollment management report directly to the president, but that might shift with a new president as we move forward.

Additionally, the experience, strengths, and philosophical approach of chief enrollment officers influences the structure as it pertains to their priorities and expertise in relation to the enrollment needs for the institution. Both institutions participating in the study had recent vacancies in the chief enrollment officer position, and the hiring of another provided a prime opportunity to shift strategic priorities. Within one of the institutions, in an effort to minimize disruption, the structure was modified to promote candidates internally and create a co-leader model based on each leader's strengths. Modifying the structure to accommodate a co-leader model versus a single leader kept the organizational structure intact and allowed strategic initiatives to continue moving forward with continuity.

Lastly, the individual department level is where the greatest fluidity was noted at both institutions in terms of the functional alignment and responsibilities. At this level, there was some shifting of the organizational structure based on individuals in each role, but it was more related to specific job functions and promotions into larger roles. The practice of filling vacant positions or shifting responsibilities depending on talent from within the division has an element of convenience, but it is also a way to create additional opportunities for those whom the organization wishes to retain.

At all levels of the organization, individuals have varying degrees of influence on the structure and the degree of coupling or interconnectedness within the division. The fluidity based on individual characteristics and strengths cannot be ignored and must work in tandem with both the structure and the strategy. As one interviewee stated:

You could step back and say this is the perfect structure for an institution and then struggle for decades hiring people to fill those roles... it's about moving the place forward today based on the financial resources and the talent available.

Two identical organizational structures are likely to interact differently and have varying results based on the individuals who fill the structures. Hossler, *et al.* (2015, 33) asserted that various organizational models exist, "but what matters is the particular institutional context and idiosyncratic character that dictate how such alignments function and evolve." While the structure helps to create the vision and strategy, the individuals within the roles determine the degree of coupling. The people matter.

Culture Embedded in Structure

While a singular definition of enrollment management or an ideal structure is absent from the literature, the complex interplay between strategy, structure, and culture has been observed (Bontrager 2004; Flannigan 2016; Penn 1999). Ultimately, the structure of enrollment management should reflect the strategy and take into consideration the institutional culture to create an effective enrollment management operation that supports the institution in achieving its academic and business goals as well as best supporting students. While the structure mirrored the strategy at both institutions, campus-wide culture within the structure influenced the overall functioning within the divisions. Interesting differences in relationships between the individual departments of each model emerged that reflect variances in institutional culture, and interviews revealed that combining administrative functions under a single structure did not necessarily result in integration.

At Institution A, decentralization puts the enrollment management division on the periphery and reflects the institutional philosophy of SEM as one that focuses on the point of entry with less emphasis on outcomes once the student enrolls. This strategic approach, combined with the historically-siloed culture, seems to have produced mixed results in terms of effective integration. Integration was most effective between

the dean of enrollment, the director of admissions, and the director of financial aid. However, when compared to the expansive enrollment management division at Institution B, there was not the same level of interdependence between the subunits at Institution A.

The integration of the various subunits under the enrollment management division was drastically different at each institution and reflected the way that individuals within the subunits tended to identify. Previous literature on loose versus tight coupling speaks to the potential of hierarchical controls to contribute to coordination and efficiency, but also the reality that individual and group self-interests that manifest themselves can undermine the top-down integration (Boyd and Crowson 2002). Hansen (1999) also discovered that strong inter-unit relationships and a high degree of communication lead to efficient sharing of "highly complex" knowledge. Improved communication, interdependence between subunits, and sharing of complex knowledge related to SEM was an outcome of Institution B. Those who had been at the institution prior to a significant reorganization that aligned more student services under enrollment management reported that culture today is stronger than prior to the creation of the larger division. Their perception of the changes in working relationships were dramatic, as one person described:

> I might say fifteen years ago, it was kind of like every person for themselves. And, I think, now there's a bit more unity in terms of trying to move Institution B forward.

This unity and cross-collaboration of administrative units has allowed for a more cohesive approach to resource management, as the VP of enrollment explained:

> For example, as a unit, we would very quickly identify times in the year where the response rate to students' inquiries was too slow. So the whole unit would come together and say, OK, how do we solve? Who has resources right now that we can apply to this, to this solution, et cetera?

Not only has the integrated structure allowed the enrollment management team to remove barriers for students, improve communication among the enrollment management division, and elevate the student experience, it has also allowed individuals to be better at their roles.

This elevated collaboration and interconnectedness has resulted in a shared vision for the enrollment management division, as well as the larger university. Additionally, it created a shared vernacular that serves to connect the subunits to the enrollment management division and has had positive effects on staff morale. The leaders of the individual subunits were more likely to identify with the larger enrollment management division than they did with their individual unit, which promoted communication. Lastly, multiple participants reported feeling supported by the institution, as well as valued for their input in the decision-making processes of the enrollment management division.

The Central Role of Revenue

In this study, the importance and priority for the enrollment management divisions to generate revenue to maintain, and ideally elevate, the fiscal health of the institution was critical to the overall institutional strategy as is relates to SEM. The emergence of enrollment management in the 1970s was in response to declining demographics, market competition, and the need to align enrollment goals more strategically with the financial needs of the institution (Bontrager 2004; Hossler and Bontrager 2015). These same factors are on the minds of many institutional leaders today, resulting in the evolution of enrollment management to encompass a broader perspective around resource management. Bontrager (2004, 13) wrote, "The overarching goal is not simply to increase total revenue, but at the same time to reduce institutional costs in order to improve net revenue."

One could consider the finding that revenue influences strategy and structure unremarkable, but the heightened degree to which decisions are made surrounding revenue and resource management was significant at both institutions. It should be noted that both institutions use responsibility center management (RCM) as the budgeting model, which tends to promote decentralization because revenue-generating units are responsible for managing their own revenues and expenditures. Despite different organizational

structures and enrollment strategies, yet both using an RCM approach, led to the assumption that the differences were not a product of the budgeting model. The organizational structures that the universities implemented leverage resources to eliminate some areas of duplication and create more efficiencies, specifically in the areas of marketing and communications, data analytics, and some HR-related functions. Ultimately, though, the strategy each institution executed to achieve revenue goals differs. While one institution has limited the reach of enrollment management to primarily new students at the front end of the enrollment funnel, the other institution has leveraged SEM to encompass the complete student life cycle. One justification for a more robust enrollment management division that spanned the majority of student services was the belief that providing a high-quality student experience would improve retention and graduation rates, create devoted alumni, and attract more students to the institution, but all of these connect back to generating additional revenue and improving market position. As the need to manage resources and to increase revenue plagues institutional leaders, studies show that more and more institutions are centralizing their enrollments to compete for resources, and the structures are shaped by revenue considerations (Schulz and Lucido 2011). Despite differences in the structural approaches, the main priority of the divisions at both institutions in the study is to leverage resources and secure revenue.

The Quest for Prestige

Kalsbeek and Zucker (2015, 90) stated, "In general, stronger position schools demonstrate a broader market range and greater geographic diversity, while lower-tiered schools almost invariable are tied to a more localized or regional territory." In addition, this emphasis on market position emphasizes tenets of new managerialism and the focus on performance indicators, competition, and student choice. In the 1970s, colleges and universities began utilizing marketing techniques to stand out from their competitors and to attract students. This was among the first dimensions of new managerialism when more traditional business

approaches, such as marketing to specific audiences, began to evolve within the industry of higher education. Hossler, *et al.* (2015, 34), noted that it is becoming more common, especially at private institutions, for the organizational structure to be one where the chief marketing officer reports to the chief enrollment officer. When this is not the case, there is potential for tension between the marketing division and the enrollment management division, or the admissions unit, as to strategy and prioritization of audiences. This tension reflects the marketing challenges that interview participants from Institution A, who did not have marketing within the enrollment management portfolio, disclosed. However, at Institution B the marketing function lived within the enrollment management division and seemed to be advantageous in creating consistent messaging and branding to key constituencies such as prospective students, parents of prospective students, high school counselors, and alumni.

Marketing is critical to most enrollment management operations, especially for the admissions office, but the right technology must be in place to allow for the dissemination of the institutional messages and then the ability to gather feedback in the form of data points that can help inform the overall communication strategy. Technology has become critical in an effective SEM operation (Kilgore and Gage 2015) and touches many aspects of enrollment management from communications to segmented populations, to providing predictive analytics, to creating efficiencies that enhance the student experience. Kilgore and Gage (2015, 432) underscored, "It is now the norm for multiple systems with high levels of functionality to be interwoven to meet the needs of SEM and student expectations." Both marketing and technology can be considered an asset or barrier for any enrollment operations, and it must be factored into the larger decisions on strategy.

Lastly, as this study has explored, strategy and structure are intertwined, and the structure must support the strategy. A similar symbiotic relationship can be seen between revenue and the quest for prestige. To move ahead in market position, large financial investments are typically essential; however, resources are

also a premium and finite. At Institution B, one of the perceived internal barriers for improving the market position or the prestige is the retention and graduation rates, which affect both revenue and enrollment. At Institution A, their strong retention and graduation rates are not of concern and, therefore, resulted in a more limited approach to SEM. This outcome suggests that the focus of the enrollment concern at a particular institution factors into the design of the structure and the strategy, which are derived from a desire to enhance institutional effectiveness and provide financial stability commonly associated with higher rankings and strong market position.

Implications

With more than 4,000 institutions of higher education, it is more critical today than ever that institutions be able to create sustainable enrollment models. The difference in structure of the enrollment management divisions at two institutions reflected the institutional strategy and the culture. In this study, one institution focused strategy on a frontend, input-focused approach with a less-integrated model once a student enrolled. The second institution has a more comprehensive approach to the student life cycle, beginning with prospective student through alumnus, that informed the strategy. Both institutions are tuition dependent and revenue-focused, so a logical question may be: if structure reflects strategy and each institution has revenue as their number one priority, then what determines strategy?

Institutional leaders and practitioners of enrollment management need to create a structure that aligns with strategy while also allowing for the flexibility to leverage talent available, create an open system of communication, and prioritize goals clearly in conjunction with a strategic approach for moving toward those goals when considering the organizational structure of an enrollment management division. According to Hossler, *et al*. (2015, 42), "The fact remains that structure should follow strategy, and the optimal approach is likely the organizational integration and alignment that best fits the institution's particular strategic situation and strategic intentions and its existing strengths, achieving the inte-

gration of core activities…". This statement connects to the findings in this study that support that the culture of an institution, the philosophical approach to enrollment, and the strategy must be in alignment with the organizational structure and composition of the enrollment management model.

Firm, but Flexible Structure

Based on the findings from this study, there are implications regarding how set an organizational structure should be and when compromises should be made to alter the structure based on an individual's strengths and past experience. Shifting the organizational structure frequently to accommodate the talent pool could result in a misalignment with the strategy and derail progress of initiatives. However, it could be equally problematic to create a structure without considering the current talent pool or the likelihood of being able to find and secure the ideal candidate from outside of the organization. Finding the right balance of creating a structure that aligns with strategy, but also allows for a degree of flexibility when new challenges or situations arise, seems to be the best approach. This is also supported by the existing literature, which reports that hybrid models of organizational structure can harness the benefits of coordination produced by centralization, and simultaneously allow the flexibility of decentralization (Meyer 2002).

As in any profession, enrollment management services must be equipped to adapt to changes in personnel. When turnover occurs, it is important to take inventory of the current status of the organizational structure and the progress of both current and future initiatives in relation to strategy to assess strengths and limitations of functions. In addition, in the event turnover is significant, either in terms of volume or key leaders within the structure, it is important for the culture—if it is a strength of the organization—to be intentionally reinforced. It is especially important for the chief enrollment officer to create a shared vision that people can understand and identify their role in moving the institution toward achieving its enrollment goals, which support the larger strategic plan.

Creating an Open System

This study supported findings in literature from the field of SEM that an open system is best to facilitate a shared vision, promote collaboration between subunits, and involve other constituencies in the challenges and efforts related to enrollment. Hossler, *et al.* (2015, 33) spoke to the importance of "open systems environments to encourage the broad sharing of information and decision-making and discourage the creation of organizational silos that operate independently of one another." In this study, the two enrollment management divisions differed in structure and composition, and interviews revealed the importance of culture as it relates to integration and communication. More knowledge sharing occurred in a culture of centralization with tighter coupling of subunits, promoting a deeper level of integration that could ultimately lead to a higher degree of effectiveness.

Open systems that promote communication between all levels of the organizational structure can identify problems and adjust more quickly. Clagett (1995, 18) purported, "Successful enrollment management depends on an information base that is comprehensive, targeted, and continuously updated to inform enrollment management policies and to monitor their effectiveness." It is incumbent upon the chief enrollment officer to create infrastructures that promote enrollment information sharing and data exchange at and between all levels of the division, as well as relevant constituencies outside of the division. Additional improvements to technology systems that combine information from various departments and provide pertinent data to all members can provide greater responsiveness and customer service.

Prioritization of Goals

As a growing number of institutions, both public and private, adopt models of enrollment management to align enrollment and fiscal priorities, it should not be seen as the solution to all problems. Bontrager (2004, 13) found that "institutions often lack specific enrollment goals, or, if such goals do exist, they represent more of a wish list than objective goals derived from careful data-gathering and analysis." Institutional leaders must be realistic in their expectations and concrete in their prioritization of goals. It is the role of the chief enrollment officer to educate leadership about the complex, often diametrically opposing forces of pursuing any enrollment outcome. For example, if promoting access to under-served populations by enrolling more minoritized students is a goal, then institutional leaders should be aware of potential unintended consequences such as increases to the financial aid budget or decreases in tuition revenue. If multiple goals exist, then prioritizing these goals is essential to manage expectations and create shared vision.

SEM is based on performance, so outcomes should be tracked and measurable. Data-informed decisions are critical to any model of SEM, and it is important that institutional leaders invest in the infrastructure that allow for tracking and retrieving of data. It is the role of the chief enrollment officer to set realistic expectations prioritizing which outcomes are most important based on the institution's mission, the vision of the president, and how to achieve goals, as it relates to both institutional outcomes and student outcomes.

Limitations and Future Research

This study examined different structures and compositions of enrollment management divisions at two mid-sized, private institutions to shed light on the question of how institutions organize, the relationship of subunits, and how external factors can influence structure. Limitations should be acknowledged, such as time constraints that limited the amount of interview participants. Additionally, generalizability may be limited based on the qualitative approach and the focus of the site selection (Stake 1995). Each institution was selected because of some broad similarities in an attempt to reduce variables and strengthen validity; however, generalizability to institutions that do not fit into the category of private, mid-sized, and focused on undergraduate education may find the outcomes are not applicable to their challenges or environment. Before broader generalizations can be applied, additional research with a larger and more diverse set of institutions is needed. In this study, differences in the integration of the subunits

were observed, as well as differences in the degrees of centralization and structural coupling that raise questions of correlation or causation in the outcomes.

To extend the research further, interviewing mid-level and frontline staff could help further the understanding of the impact of structure, as well as talking to faculty about their perceptions of the efforts of the enrollment management division. As enrollment management continues to evolve in scope and greater attention is placed on the student life cycle, measurable performance indicators should be defined to determine if a more centralized approach to the structure of administrative units results in a greater degree of student satisfaction and the effect on retention and graduation rates. Also connected to the topic of centralization, studying the relationship between structural coupling and staff morale could generate beneficial findings. More specifically, does tighter coupling of administrative units result in more connection around a common vision that integrate units to encourage a team approach? Hautala, *et al.* (2018) point to findings of Vuori (2015), which suggest that if higher educational organizations stay loosely coupled, then organizations will be further away from the ideals of modern and efficient educational organization.

Conclusion

As higher education faces significant challenges related to its funding model, then it is expected that the pressure to identify new revenue streams will increase. Meyer (2002, 516) wrote, "More conventional control-and command-oriented managerial thinking (frequently originating in the world of private enterprise) seems to be back, welcomed under labels such as 'new managerialism'. We notice a stronger emphasis on organizational effectiveness, accountability, capacity building, and standardization...." The findings from this study support the literature that structure, composition, institutional type, and philosophical alignment are important considerations when establishing an enrollment management division, but the results contribute to the existing literature by suggesting that the degree of coupling between subunits within the division is also an important consideration. Structural alignment, as well as an infrastructure that supports an open system by removing silos can help institutional leaders to think creatively and leverage resources to best support enrollment and student success.

References

Bontrager, B. 2004. Enrollment management: An introduction to concepts and structures. *College and University.* 79(3): 11–16.

Boyd, W. L and R. L. Crowson. 2002. The quest for a new hierarchy in education: From loose coupling back to tight? *Journal of Education Administration.* 40(13): 521–533.

Clagett, C. A. 1995. *Implementing Successful Enrollment Management: A Conceptual Framework and Two Examples* (paper presentation). Annual Summer Institute on Institutional Effectiveness and Student Success, Tacoma, WA, June 19–21.

Deem, R. 1998. 'New managerialism' and higher education: The management of performances and cultures in universities in the United Kingdom.

International Studies in Sociology of Education. 8(1): 47–70.

Flanigan, M. S. 2016. Diagnosing and changing organizational culture in strategic enrollment management. *Strategic Enrollment Management Quarterly.* 4(3): 117–129.

Hansen, M. T. 1999. The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly.* 44(1): 82–111.

Hatutala, T, J. Helander, and V. Korhonen. 2017. Loose and tight coupling in education organizations—An integrative literature review. *Journal of Educational Administration.* 56(2).

Henderson, S. E. 2005. Refocusing enrollment management: Losing structure and finding

the academic context. *College and University.* 80(3): 3–8.

Hossler, D. R., and B. Bontrager. 2015. *Handbook of Strategic Enrollment Management.* San Francisco: Jossey-Bass.

Hossler, D. R., D. H. Kalsbeek, and B. Bontrager, B. 2015. Successful strategic enrollment management. In *Handbook of Strategic Enrollment Management*, edited by D. Hossler and B. Bontrager. San Francisco: Jossey-Bass.

Huddleston, T., Jr., and L. P. Rumbough. 1997. Evaluating the enrollment management organization. *College and University.* 72(4): 2–5.

Kalsbeek, D. H. 2006. Some reflections on SEM structures and strategies: Part one. *College and University.* 81(3): 3–10.

Kalsbeek, D. H., and B. Zucker. 2015. Markets and market niches. In *Handbook of Strategic Enrollment Management*, edited by D. Hossler and B. Bontrager. San Francisco: Jossey-Bass.

Kilgore, W., and B. Cage. 2015. The role of technology in supporting SEM. In *Handbook of Strategic Enrollment Management*, edited by D. Hossler and B. Bontrager. San Francisco: Jossey-Bass.

Meyer, H. D. 2002. From "loose coupling" to "tight management"? Making sense of changing landscape in management and organization theory. *Journal of Educational Administration*. 40(6): 515–520.

Penn, G. 1999. Enrollment management for the 21st century: Institutional goals, accountability, and fiscal responsibility. *ASHE-ERIC Higher Education Report*. 26(7). Retrieved from: <files.eric. ed.gov/fulltext/ED430445.pdf>.

Schultz, S. A., and J. A. Lucido. 2011. What enrollment management structures reveal about institutional priorities. *Student Access, Finance, and Success in Higher Education*. 12: 12–44.

Stake, R. E. 1995. *The Art of Case Study Research.* Thousand Oaks, CA: Sage Publications.

Weick, K. E. 1976. Educational organizations as loosely coupled systems. *Administrative Science Quarterly*. 21: 1–19.

About the Author

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Kelley Lips, Ed.D., serves Emory University as the Assistant Vice Provost & Dean of Enrollment Services at Oxford College. An alumna of Oxford and Emory Colleges, Lips earned her bachelor's degree in psychology and educational studies. She then completed a M.S. in mental health counseling from Mercer University in Atlanta, GA, and then continued her education to receive her doctoral degree in higher education management from the University of Georgia's Institute of Higher Education. In her current role, Lips serves as a member of the university's enrollment leadership team and is responsible for admissions, financial aid, and the registrar at Oxford College. As a first-generation college student, Lips believes in the power of education to change lives and generate opportunity.

Leveraging Data to Promote Student Success: A Case Study

By Lisa Azure, Sheridan McNeil, Leah Woodke, and Monte Schaff

Indigenous Students in Postsecondary Education

Kateri grew up on a Native American reservation located in a rural, remote area of the United States. She and her brother were raised by her grandmother, and she spent most of her time with her cousins and other extended family. She feels a sense of security in her community but is also aware of the challenges that result from high poverty, addiction, and limited economic opportunities. Kateri wants to make a difference in her community and knows that a college education would help her do that. Kateri is a Native American, first generation (neither of her parents have earned a college degree), low income, single, and female. She represents a composite of the "typical" student who attends United Tribes Technical College (UTTC). And she is like many other American Indian and Alaska Native (AI/AN) students across the country who want to make things better in their communities and for their families.

Enrollment of American Indian and Alaska Native (AI/AN) students in postsecondary education in the United States has been increasing over the past three decades (Chee, Shorty, and Robinson Kurpius 2019). However, AI/AN students have historically performed below other ethnic groups in postsecondary education in the United States with persistence and retention rates lower than all other ethnic groups (Atwell, Manspile, and Bridgeland 2021; Fish, Livingston, VanZile-Tamsen, and Patterson Silver Wolf (Adelv unegv Waya) 2017). Several factors contribute to lower persistence and retention rates for AI/AN students. Federal policies of forced assimilation and boarding schools have created historical mistrust of educational systems (Fish, *et al.* 2017, Martinez 2014). First-generation students are often unaware of how to navigate the systems associated with college, including admissions and financial aid. Schools in reservation communities often are not able to provide advanced academics designed to prepare students to be academically ready for college. Native students from rural and close-knit communities can struggle with being away from home and in an environment where few of their peers look like them or understand their culture. For AI/AN students, cultural identity within the

context of postsecondary education has been identified as a critical component to having a positive experience within their campus community (Dabdoub, Snyder, and Cross 2023). It is important for AI/AN students to have both academic and cultural support in higher education. Typical mainstream institutions do not provide the cultural or academic supports needed to foster a sense of belongingness and promote a college-staying culture for AI/AN students (Bryan 2019; Harrington and Harrington 2011; Martinez 2014).

The lack of culturally-relevant education opportunities and academic supports within mainstream postsecondary institutions was an impetus for the development of tribal colleges and universities. The Tribal College Movement began more than 40 years ago with the establishment of the first tribally-controlled community college in 1968. UTTC was established in 1969. Today, there are 37 tribal colleges and universities (TCUs), many of which are located on Native American Indian reservations. TCUs, including UTTC, are specifically designed to support the cultural and educational needs of AI/AN students, many of whom come to college with several factors that put them at risk to college success.

About UTTC

Located just outside the city limits of Bismarck, ND, UTTC was founded as a workforce development training center. The purpose of this workforce development training center was to provide a community in which American Indian people can acquire an education and obtain employment. UTTC is operated by the five tribes in North Dakota, which include the Three Affiliated Tribes of Fort Berthold, the Spirit Lake Tribe, the Sisseton-Wahpeton Oyate, the Standing Rock Sioux Tribe, and the Turtle Mountain Band of Chippewa Indians. UTTC was regionally accredited in 1982 and designated as a 1994 Land Grant institution. Today, UTTC offers three certificate/diploma programs, fourteen associate degree programs, and four bachelor's degree programs. UTTC is currently accredited through 2031.

The institution has served students from more than 75 federally-recognized Indian tribes. Serving about 650 students annually, the student body is typically 90 percent or more AI/AN with more than 70 percent low income and about 65 percent first generation. First-generation students generally need higher support to understand and navigate higher education systems. The college provides a wide range of wraparound services including childcare, an elementary school, food pantry, personal and career counseling, housing, and student health services. UTTC's location offers students the amenities of city life and the supports and sense of community of a small campus.

Using Technology to Address Challenges to Student Persistence

UTTC uses the Jenzabar enterprise data management system. The college has been refining its data collection processes as well as its use of data to drive decisions. A priority was to use data to better promote student success. As a result, the college recognized that too many students were leaving the college before completing a degree. Persistence and retention rates are indicators of student success and serve as metrics that lead to graduation. Persistence is measured by the percentage of full-time students who start at the college in a fall semester and either graduate or continue in the following spring semester. Retention is measured by the percentage of full-time students who start at the college in a fall semester and either graduate or continue to the following fall semester. The persistence rate for students who entered in Fall 2015 was 45 percent, and the retention rate was just 19 percent, which was below the retention rates of other TCUs. It was important to develop a systematic way to identify students at-risk for attrition and to assess the impact of retention processes that were implemented.

A decision was made to purchase the Jenzabar Retention Management System (RMS), which integrates seamlessly with the college's Jenzabar data management system. The RMS includes an early alert system as well as modeling to identify risk factors unique to UTTC's student population. The RMS supports the college's focus on improving persistence and retention rates, which are precursors to improving student completion or degree attainment.

RMS Implementation included a wide range of stakeholders, comprising staff from enrollment management, wellness, academics, student services, housing, safety and security, and IT departments. Jenzabar worked with UTTC to develop a retention model specifically for the student population. A regression analysis conducted on the previous five years of student data identified seventeen factors that contributed either positively or negatively to a student's persistence at UTTC. These factors included having unmet financial need, state residency, marital status, being first generation, having dependents, and how early they applied to college, among others. The model was applied to entering new and transfer students who were full time and had not previously enrolled at UTTC. The RMS modeled students as safe, at risk, or high risk depending on their individual risk factors.

In addition to development of the retention model, UTTC configured the companion early alert system (EAS). UTTC worked with stakeholders to first identify what constituted an early alert and to define the workflow and communication flow for alerts as well as how these would be managed. This included who would receive the EAS messages, how the alerts would be initiated, what actions would be taken and by whom, when alerts would be closed, and who would be responsible for closing alerts. Initially, the college developed six alert types. Three alert types were related to academic performance (grades, attendance, general concerns); two alerts were related to financial aid (overdue bill, general concern); and one was "other," which could encompass concerns that did not fit into the other five alert types.

UTTC launched the RMS in the fall of 2016. Entering students were modeled based on their risk factors, and faculty and staff began using the EAS. The EAS allowed faculty and staff to access the RMS and submit an alert on a student simply by logging into the college's information system web portal (My.UTTC). Training on the early alert submission processes was provided at the beginning of the fall 2016 semester, and included faculty, advisors, wellness counselors, and other relevant staff. The alert process started with faculty (or other staff)

submitting an alert. The student's advisor and wellness counselor would be notified by email and see a notification in the RMS dashboard. The student who was the subject of the alert would receive an email that was sent from the system on behalf of the personnel who submitted the alert (*see* Figure 1, on page 42).

Faculty were the earliest adopters, and by the end of that academic year, 169 alerts had been submitted on students. The two largest categories of alerts, all submitted by faculty, were related to attendance and grades. Using the RMS appeared to be making a difference. The persistence rate for students who entered in Fall 2016 increased to 52 percent (up from 45%) and retention increased to 26 percent (up from 19%) the previous year. More progress was made the following year. The persistence rate for full-time students who entered as new or transfers in Fall 2017 increased to 68 percent, and the retention rate increased to 49 percent.

But then the persistence and retention rates began to decrease. The college needed to take a closer look at potential reasons for these dips. The student population at UTTC was changing. Students coming to the college were less likely to be married; they were younger and closer to the typical college age; and fewer students had dependents. Institutional changes designed to address student risk factors identified in the RMS model had also been made. UTTC had established a tuition waiver program, which helped to address unmet financial need and promote earlier completion of admissions applications. To be eligible for the tuition waiver, students were required to complete admissions requirements at least four months before the semester started. The college's retention team suspected that because of these new supports and interventions, the retention model would need to be revised. The early alert messaging and workflows would likely need to be updated as well.

Refining the System and the Process

In 2019, a new regression analysis was completed. UTTC had made several changes to support services provided, policies that impacted students, and other systems designed to address the risk factors identified in the previ-
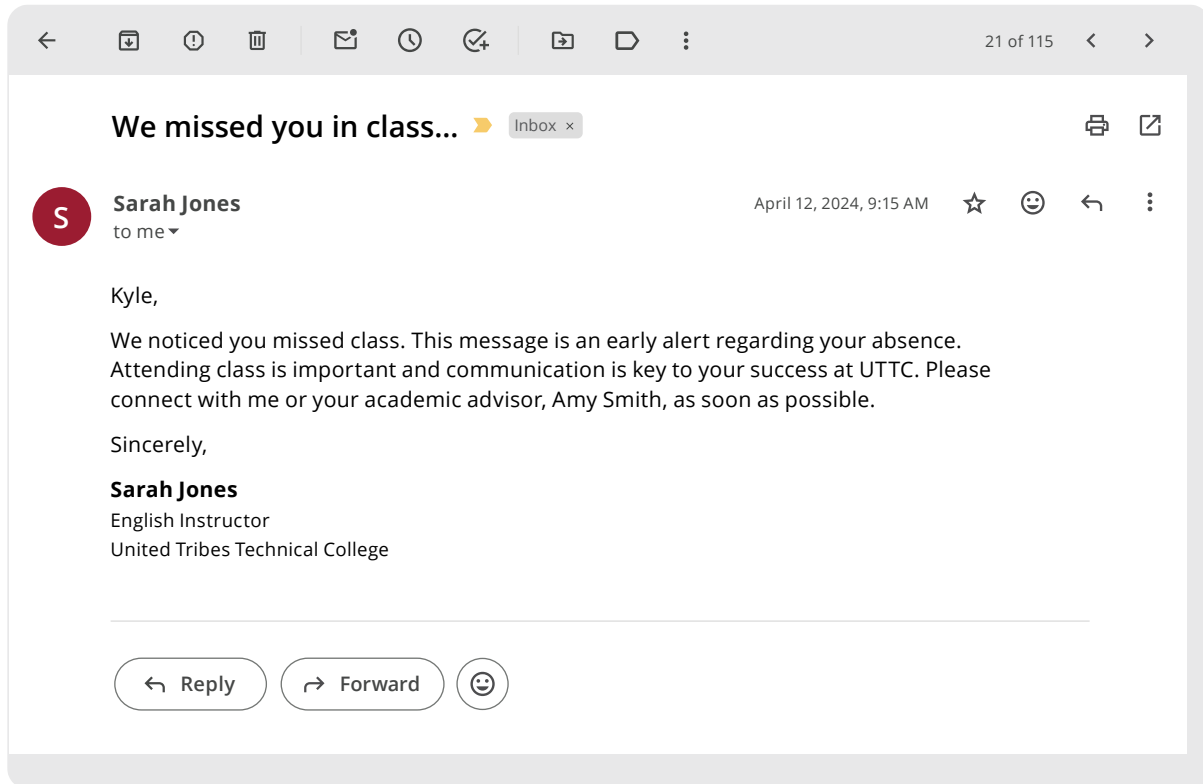
FIGURE 1 ➤ Original System Generated Level 1 Alert Email to Student

ous modeling. Data from the students who entered from 2015 to 2018 were used to develop a new model. This updated cohort of students more closely represented the characteristics of current students because they had experienced some of the systems changes. As suspected, the new model identified just three factors that impacted student retention compared to the seventeen in the previous model. These factors include state residency (from in or out of North Dakota), the number of college credits the student transferred in, and whether the student transferred into the institution on probation because of previous experience in higher education.

The college now regularly engages stakeholders to update the configuration of the EAS and to refine processes and use of early alerts to better support students. These stakeholders include faculty, the institutional research office, student support staff, and students. Discussions with faculty yield information about their

experiences with the EAS as well as their suggestions for improvement. Data walks and discussions with students yield information about the student experience with early alerts as well as their ideas about how the system could better support them. For example, students shared that early alert emails often generated feelings of anxiety and fear, especially when they would receive multiple alerts in a day. Discussions with counselors provide information about how to best connect students to support systems as well as how counselors can best support faculty advisors. These data engagement strategies reveal areas where the early alerts, communications, and workflows can be enhanced. Some of the refinements made to the EAS include:

■ Alert types have been revised to emphasize non-cognitive factors that are designed to support student success. The revised alerts relate to work habits regarding assignments, attendance, classroom conduct,
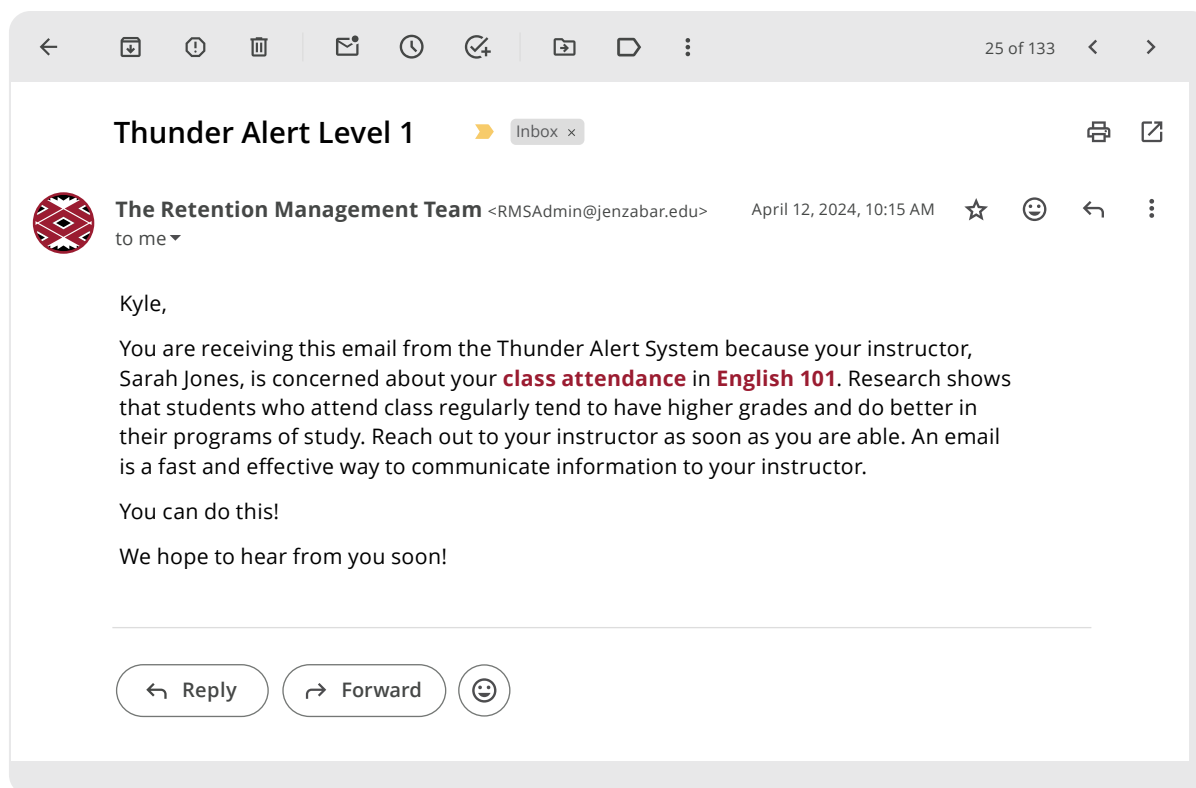
FIGURE 2 ➤ Revised System Generated Level 1 Alert Email to Student

and communication as well as mental health and wellness concerns and a general category that can be used for other general concerns.

- Levels of alerts have been created to triage concerns. Level 1 is handled by the course instructor if it is an academic concern. Level 2 is initiated when the Level 1 concern is not resolved or if the student does not respond to the Level 1 alert. Level 2 concerns are handled by advisors, who may bring in counselors or other supports as appropriate. Level 3 is initiated when the Level 2 concern is not resolved or if the student continues to be unresponsive to the early alert concern. Level 3 alerts are used when the student will be withdrawn from a course or the institution.

- Thunder Alert guidance has been clarified to help faculty, advisors, and counselors better understand when to submit each type of alert as well as the

communication and workflows for each level of alerts. The guidance is included in the faculty handbook, and helpful hints are provided within the RMS for convenient reference.

- Alert messaging to students has been revised to be more student friendly, reflect that they are system-generated rather than from faculty, and provide helpful information. In addition, the alerts have been rebranded as "Thunder Alerts" and now include the college's mascot, Thunder. An example of a revised alert that a student may receive through email is shown in Figure 2.

Leveraging Data for Continuous Improvement

A wealth of data is collected in the RMS about alerts, actions, and outcomes. The data collected from the RMS can be tied directly to the college's information
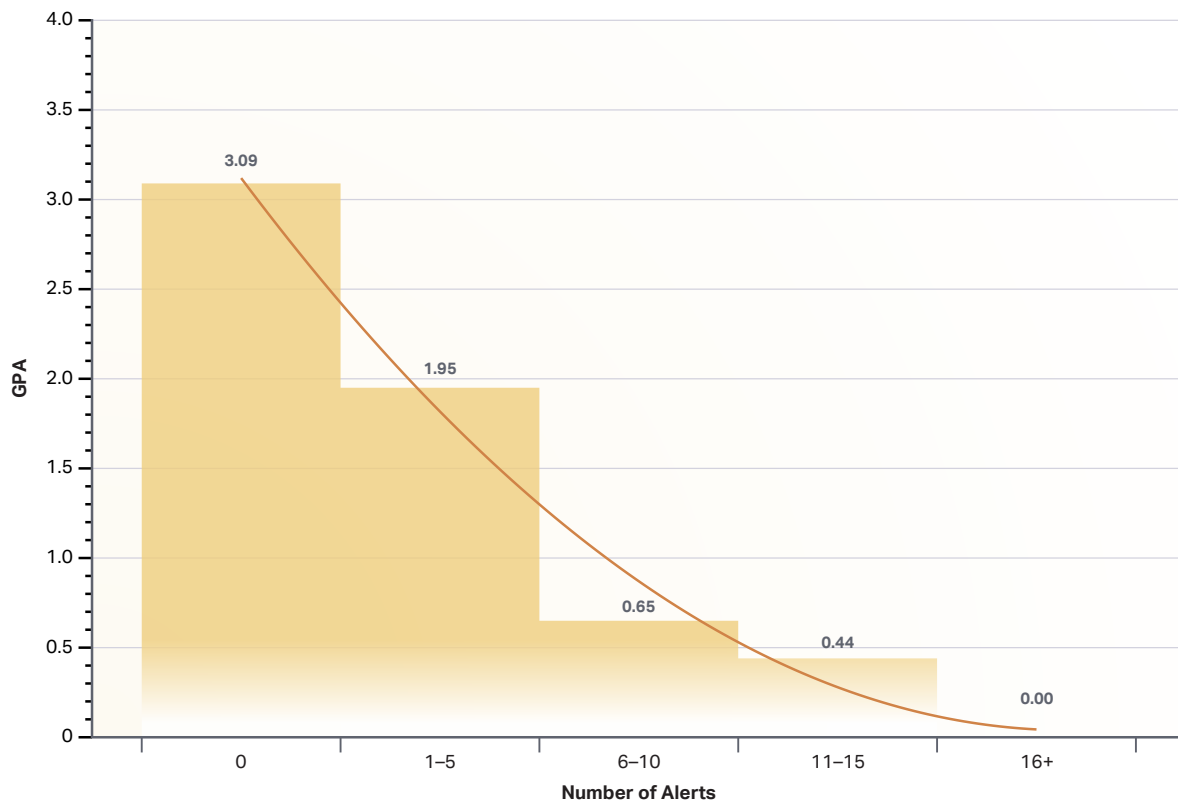
FIGURE 3 ➤ Correlation Between Alert Frequency to GPA

management system because of the integration with the college's student management system. The RMS data is combined with student grade and attendance data and then disaggregated by student characteristics to identify equity gaps. These data are analyzed to help the college better understand patterns of behaviors and the effectiveness of the retention processes. Retention managers, faculty, and other stakeholders get a clear picture of what kinds of issues students struggle with, which student groups struggle the most, what types of courses students struggle with most, and other patterns that help inform decisions about how to best support students. The data also helps students see how their own actions contribute to their success. An example of a visualization that shows the relationship between the number of alerts and grade point average developed for a student data walk is provided in Figure 3.

The college continues to refine and expand its capacity for institutional storytelling through data visualization. A retention dashboard has been developed in Power BI, which allows retention managers to see all the Thunder Alerts data in a snapshot. The dashboard includes information about who is submitting the alerts, how long the alerts are open, types and levels of alerts, and patterns over time. This interactive dashboard allows the user to drill down into the data to learn more about who is submitting the alerts when they are being submitted, and why. Retention managers use the data to support faculty and advisors and to coordinate resources to support student retention efforts when appropriate. A sample of the dashboard is provided in Figure 4 (on page 45).

The result of these efforts has been encouraging. Sharing data, garnering input from a wide variety of

| Last Updated 12/9/2022 11:06:24 AM | Enrolled 506 | Students with Alerts 297 | Total Actions 2,376 | Type All ▼ |

Actions by Type

Follow Up Assignment, 22

Intervention, 786

Early Alert, 1,568

Alert Concern Type

Level 1: Assignments	597
Level 2 Alert	419
Level 1: Attendance	377
Level 2 Entering on Probation	64
Level 3 Alert: Advisor Use	62
Level 3: Not Following Through with...	27
Other	15
Level 1: Classroom Conduct	6
Wellness Counselor: General Concern	1

Alerts by Month

- August: 483
- September: 590
- October: 327
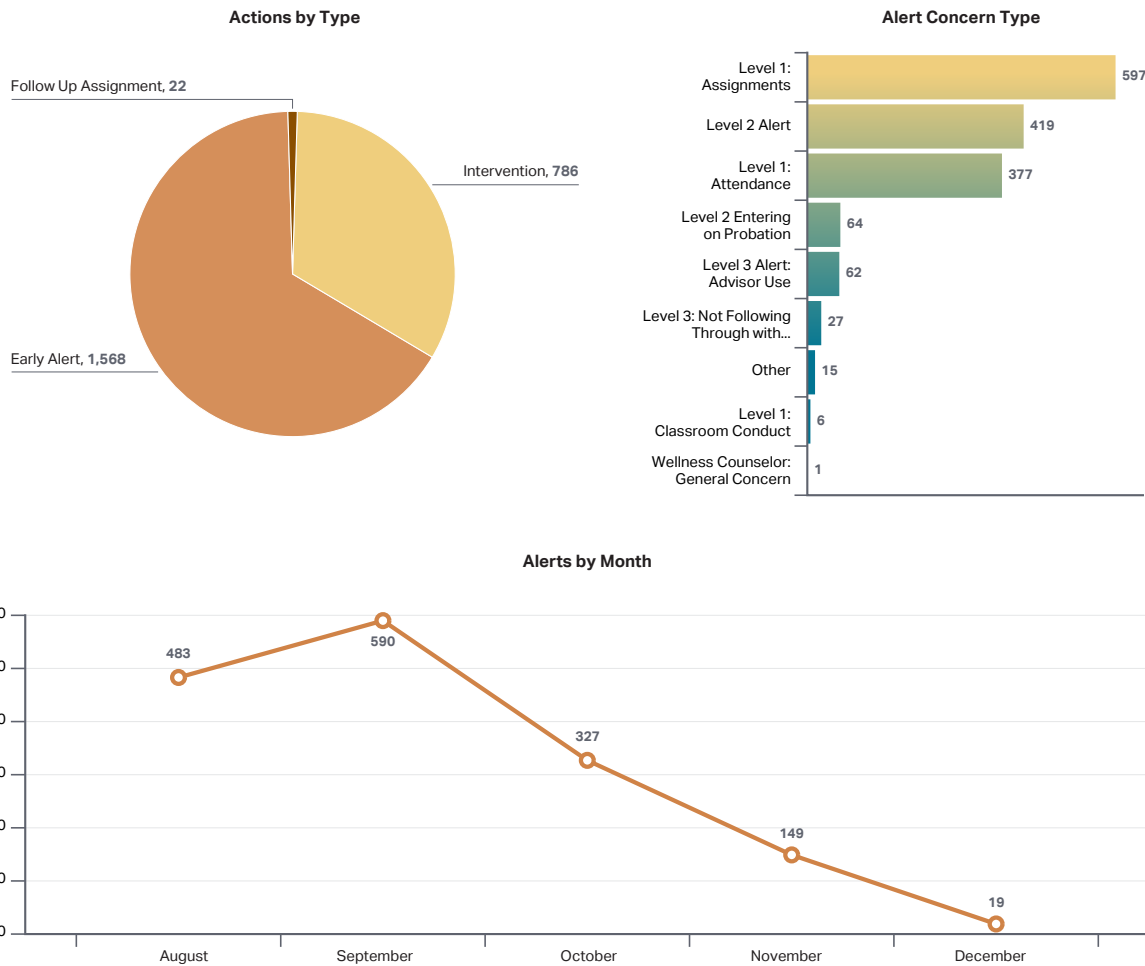- November: 149
- December: 19

FIGURE 4 ➤ Sample Dashboard Report

stakeholders, and clear guidance has created substantial engagement with the RMS. There were 1,570 Thunder Alerts submitted in Fall 2022 compared to 169 in the first year of implementation. Students said they know and appreciate that UTTC cares about them. The impacts from this engagement are also evident in the institution's persistence and retention numbers. The fall-to-spring persistence rate for full-time, new students has exceeded the institutional goal of 70 percent two years in a row. The fall-to-fall retention rate more than doubled from 19 percent in Fall 2015 to 56 percent in 2020 and 50 percent in 2021.

Next Steps

While the college is pleased with the improvements in student persistence and retention, the Thunder Alert and RMS usage is continually evolving. The college is working on providing a dashboard for faculty advisors similar to one used by retention managers. The advisors' dashboard will provide a convenient snapshot for advisors to see alert data on their advisees in one real-time report. In addition, the college will continue to disaggregate the data across a variety of characteristics such

as age, gender, and locale to identify potential equity gaps that can be addressed.

The college also plans to continue to enhance professional development for using Thunder Alerts. Professional development on culturally-responsive support and teaching strategies are regularly offered to help support decisions about communications and workflow strategies. In the future, the college plans to leverage the Thunder Alert data as part of the institution's co-curricular assessment. The data will be used to establish benchmarks for Thunder Alerts associated with work habits. The college plans to share data associated with student work habits (attendance, assignments, and communication) with students so they can contribute to the process of meaning-making. In this way, students will play a meaningful role in determining next steps and have agency in their own success.

References

Atwell, M. N., E. Manspile, and J. M. Bridgeland. 2021. *Boosting Postsecondary Attainment for American Indian and Alaska Native Students*. Washington, D.C.: Civic.

Bryan, R. 2019. The influence of tribal colleges and universities on Native American student persistence. *New Directions for Student Services*. 2019(167): 49–62. Available at: <doi.org/10.1002/ss.20320>.

Chee, C. L., G. Shorty, and S. E. Robinson Kurpius. 2019. Academic stress of Native American undergraduates: The role of ethnic identity, cultural congruity, and self-beliefs. *Journal of Diversity in Higher Education*. 12(1): 65–73. Available at: <doi.org/10.1037/dhe0000094>.

Dabdoub, A., L. A. Snyder, S. R. Cross. 2023. How ethnic identity affects campus experience and academic outcomes for Native American undergraduates. *Journal of Diversity in Higher Education*. Available at: <doi.org/10.1037/dhe0000494>.

Fish, J., J. A. Livingston, C. VanZile-Tamsen, and D. A. Patterson Silver Wolf (Adelv unegv Waya). 2017. Victimization and substance use among Native American college students. *Journal of College Student Development*. 58(3): 413–431. Available at: <doi.org/10.1353/csd.2017.0031>.

Harrington, C. F., and B. G. Harrington. 2011. Fighting a different battle: Challenges facing American Indians in higher education. *Journal of Indigenous Research*. 1(4).

Martinez, D. 2014. School culture and American Indian educational outcomes. *Procedia—Social and Behavioral Sciences*. 116: 199–205. Available at: <doi.org/10.1016/j.sbspro.2014.01.194>.

About the Authors

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Lisa Azure, Ph.D., is the Vice President of Academic Affairs at UTTC. She is in her 30th year of employment at UTTC, starting as a Kindergarten teacher at the campus elementary school, serving as Teacher Education Chair/faculty from 2000–2022 and Vice President of Academic Affairs from 2015 to the present. One of the dominant themes in Dr. Azure's dissertation, *Actualizing the Seventh Genera-tion Prophecy in Teacher Education: A Case Study of Preparing Teachers at a Tribal College*, was student success as defined by the case study participants, who were all students at a tribal college.

Sheridan McNeil

Sheridan McNeil, Oyate Ohowicada Win (Respects the People Woman), is the former Dean of Instruction at UTTC. Ms. McNeil graduated from Sitting Bull College with her master's degree in curriculum and instruction and is a strong advocate for Indigenous people's rights on the local and national level. She has been employed at UTTC for almost seven years. Ms. McNeil is originally from the Cannon Ball community at Standing Rock.

Leah Woodke

Leah Woodke, Ph.D., has nearly 40 years of experience in education ranging from early childhood to higher education; with more than 20 of those years in work related to Tribal higher education. She has extensive experience as a program evaluator and has worked with organizations in the private, public, and tribal sectors. Dr. Woodke currently serves as the Institutional Research Director at United Tribes Technical College. Her responsibilities include supporting institutional planning and goal setting by collecting and analyzing data related to student success and momentum. She believes the key to improving student outcomes is to involve the right stakeholders, including students and faculty, in the data meaning-making process.

Monte Schaff

Monte Schaff serves as the Dean of Enrollment Management. His responsibilities include overall leadership for the enrollment services staff, including admissions, registrar, financial aid, transfer and career services, and retention. Prior to his current role, Schaff most recently served as institutional research analyst in the Office of Institutional Research. He began his career at UTTC in 2010 and has worked in a variety of departments including academic affairs, IT, educational outreach, as well as serving as an adjunct instructor. Schaff holds a master's degree in educational technology from the University of British Columbia and a bachelor's in business administration from the University of North Dakota.

Higher Education Has a Problem: Holistic Disability Inclusion and Belonging

By Whitney N. West and Iman Riddick

Health impacts individuals from birth and throughout life. When health is compromised, shame, fear, and denial often arise. The hidden majority of chronically ill individuals face challenges in higher education and career progression, including disclosure, resource availability, and navigating career expectations. Current disability efforts in higher education primarily focus on students, leaving a gap in inclusion for faculty and staff. Failure to consider these individuals hinders disability inclusion and belonging in universities. The importance of including faculty and staff in disability-related processes cannot be understated. Disability must be a part of diversity to keep true to the goals of higher education.

Health is one of the few things that is cared about from before one is born, and those implications carry on throughout life. It is often said that many do not care about their child's gender as long as they are healthy. So, what happens when they are not? It becomes a point of shame, fear, denial, and rejection. This sentiment stems from a natural concern for the well-being of their offspring. However, this preoccupation can have unintended consequences when children are born with health conditions or disabilities. Simultaneously, if one does not look ill, they are often disregarded, and their truth denied. The chronically ill are the hidden majority in that more than half of the population deals with at least one illness defined as chronic. But few people disclose or discuss having these illnesses for a variety of reasons that are rooted in ableism. This decision is influenced by several factors, including the fear of being stigmatized, the desire to avoid special treatment or pity, and concerns about how others will perceive them. This hidden nature of chronic illnesses can contribute to a lack of awareness and understanding about the challenges faced by those who live with these conditions. It can also perpetuate the stereotype that only visible or severe disabilities are worthy of attention and support. In addition, about 27 percent of Americans have a disability and 16 percent of the global population is disabled (Center for Disease Control and Prevention 2023). For someone who has a chronic illness that is intermit-

tent or progressive in nature, there are many challenges to attending an institution, working in higher education, and growing in that career. Challenges can include whether and to whom to disclose their condition and how much about the condition to disclose, how to find resources, whether resources are available for staff and faculty, whether resources are for physical illnesses, and how to navigate career expectations.

The focus in disability is often student centric, as students are often listed as the key stakeholder in strategic enrollment management (SEM) efforts. As Gotthiel (2018) mentions, higher education SEM goals have not always included and fully integrated diversity while current court rulings even put current efforts in jeopardy. However, faculty and staff are often excluded from this focus, and it is usually perceived as an individual issue as opposed to an integrated part of higher education diversity (Cory 2011). If faculty and staff are left out of the conversation, a huge gap is created in the disability inclusion and belonging of a university. Faculty and staff members who have disabilities should have access to the same level of support, resources, and advocacy as students. This includes ensuring that physical spaces, communication methods, and workplace policies are accessible and accommodating to a diverse range of abilities. The faculty and staff cannot advocate for, encourage, or benefit from processes that do not consider them in the population of importance. By recognizing and addressing the challenges faced by faculty and staff with chronic illnesses or disabilities, universities can foster a more equitable and welcoming environment for all members of their community. This inclusive approach not only benefits individuals but also enriches the educational and professional experience for everyone involved. It aligns with the broader goals of diversity, equity, and inclusion in higher education.

Literature Review

The Americans with Disabilities Act (ADA) was passed by Congress in 1990 to remedy the social problem of able-bodied Americans' discrimination against disabled Americans (Abram 2003). The lesser-known Rehabilitation Act of 1973, which focused on the government, was

the ADA's predecessor that protected the rights of the handicapped. However, it was rare for the Rehabilitation Act of 1973 to be used litigiously until the ADA was enacted in 1990 (Abram 2003; Rothstein 2015). Current research on the Americans with Disabilities Act (ADA) and disability in higher education primarily focuses on student issues, although some shared concerns, such as architectural, technological, and food-related issues, affect both faculty and staff (Rothstein 2015). Previous studies that did not center on students primarily examined faculty, neglecting the unique issues and needs of staff (Finesilver, *et al.* 2020). Despite this, Abram (2003) points out that "few college faculty members are disabled," which contradicts national data indicating that 60 percent of Americans have a chronic condition, and 26 percent have a disability (Center for Disease Control and Prevention 2022; Center for Disease Control and Prevention 2023; Grigely 2017).

Research on the experiences of students with disabilities in higher education has gained increased prominence in recent decades, with a particularly heightened focus brought about by the global pandemic. This body of scholarly work has delved into various dimensions of their academic journeys, aiming to unravel the complexities of their experiences, challenges, and the support systems available to them within the academic milieu. While the focus was not on faculty and staff, these critical investigations also applied to this population in some manners. One critical facet of this research has centered on the accessibility of physical spaces within educational institutions. This inquiry encompasses the identification of architectural barriers that hinder mobility and independence for individuals with disabilities. Moreover, scholars have scrutinized the availability and efficacy of assistive technologies, which play a pivotal role in bridging the accessibility gap (Hutcheon and Wolbring 2012). These studies have yielded invaluable insights into the tangible hurdles that students with disabilities encounter, highlighting the pressing need for structural changes in the higher education landscape.

Recent evidence suggests that the underrepresentation of faculty and staff with disabilities may be attributed to issues of disclosure, influenced by indi-

viduals' comfort with their diagnosis, willingness to identify as disabled, and concerns about its impact on their abilities and career progression (Brown 2020; Finesilver, *et al*. 2020). Faculty and staff often rely on their respective universities' civil rights and diversity efforts to determine whether to disclose their disabilities. Dolmage (2017) argues that the initiatives developed in the name of diversity and inclusion fail to effectively address the ableism inherent in higher education, which contributes to the invisibility of faculty and staff with disabilities. Research has found that faculty and staff with disabilities experience job discrimination and harassment, which leads to underreporting and low requests for accommodation (Shigaki, *et al*. 2012; Gierdowski 2020). Current research on students has cast a spotlight on the effectiveness of accommodations and support services provided by universities. However, this research is not sufficient for faculty and staff as their processes are different and are more akin to employment issues. It is through such rigorous examination that institutions can refine their support mechanisms to ensure that they meet the diverse and evolving needs of faculty and staff with disabilities (Gierdowski 2020, Franke, *et al*. 2012). These efforts, rooted in empirical analysis, are indispensable for fostering an inclusive academic environment.

The implications of disclosure and the lack of inclusion for faculty and staff in higher education are still not fully understood. Although Abram (2003) acknowledges that faculty with disabilities are in small numbers, she also recognizes that "those who are may face significant difficulties in preserving their jobs." Faculty and staff often perceive disclosure as potentially detrimental to their current employment and future opportunities (Brown 2020). The potential for disparate treatment makes the benefits of disclosure less appealing compared to passing as able-bodied (Brown 2020).

This issue is particularly salient for disabled faculty and staff of color, as disability in higher education has predominantly been approached from a white-centric perspective, with limited consideration given to the intersection of disability and race (Ramirez-Stapleton, *et al*. 2020; Peters 2011). Disability shares similarities with

other marginalized identities, such as sexual orientation, race, and low socioeconomic status, although it is the only identity that can be acquired in an instant (Bell 2011; Ehlinger and Ropers 2020). The study of both race and disability has existed independently, but the conflation of both identities creates tension, stemming from historical denial of rights between the two groups (Pickens 2017). Existing accounts fail to adequately address the multiple intersections of race, disability, and gender, which are often experienced by individuals within the higher education academy (West 2023). Research on faculty and staff of color with disabilities in higher education is limited, but it is important to address the intersectionality of race and disability in academia. Faculty and staff of color often face challenges related to diversity and inclusion in their work environments, which can create a sense of isolation and frustration (King 2020; West 2023) When disability is added to the equation, these individuals may face additional barriers and challenges.

Ableism in the Academy

Efforts to counter ableism are efforts that benefit all who enter the campuses of higher education institutions. These efforts and lack thereof can determine whether a student attends or a faculty or staff member accepts an offer from the moment they enter campus for a tour or interview. Talia Lewis defines ableism as:

> *A system that places value on people's bodies and minds based on societally constructed ideas of normalcy, intelligence, excellence, and productivity These constructed ideas are deeply rooted in anti-Blackness, eugenics, colonialism, and capitalism. This form of systemic oppression leads to people and society determining who is valuable and worthy based on a person's appearance and/or their ability to satisfactory [re]produce, excel and 'behave.' You do not have to be disabled to experience ableism* (Lewis 2021).

Ableism is woven into the fabric of higher education just as intricately as racism and sexism. Early disability activists like Ed Roberts had to fight for entry into the academy as administrators claimed to have "tried cripples" before. The disqualifier was only his disability

and what the university was unprepared or unwilling to offer as an accommodation. Roberts spent his time in college living in an infirmary, initially alone then joined by other disabled students. However, the students had to continuously fight to stay enrolled as rules allowed for their dismissal due to the cost of their accommodations. These undue and unnecessary barriers are persistent in higher education today as the requirements of the ADA have become the bar instead of the ground floor for accessibility for students, faculty, and staff.

Disability in higher education is often researched as a measure of compliance and not from a qualitative lens that would allow for the humanizing of disability. Shallish (2015) notes that unlike race and gender diversity, which have become known to benefit a white-centric academy, disability is seen as something to overcome as opposed to a held identity by a group of students, faculty, and staff. The findings of recent research into intersectional disability identity revealed that the practices and resources related to ADA accommodations are inadequate not only for the participants in this study but also for the broader disabled community (West 2023). The participants who served as ADA officers reported significant understaffing in their offices, which hampers effective communication and outreach to faculty and staff. Additionally, respondents noted a lack of racial diversity within their offices, which could directly impact the trust required for addressing such a sensitive topic (West 2023).

It is common for universities to prioritize ADA compliance by relying heavily on legal professionals, a field that historically lacks diversity. However, to truly advance disability and accommodation efforts within the framework of diversity, equity, inclusion, and belonging (DEIB), there is a need to consider intersectional identities and recognize how these identities can hinder individuals with disabilities from engaging with ADA offices. The experiences and visible identities of Black women respondents directly influenced their comfort levels in seeking assistance. This points to a lack of success in overall inclusion and belonging activities in higher education, which reveals a need for a realistic in-depth study into what is happening and how it can be improved.

Barriers to Equitable Treatment

In higher education, the pursuit of equitable treatment for individuals grappling with disabilities or chronic illnesses stands as a cornerstone of efforts to cultivate a truly inclusive and accessible academic environment. While legal protections have been established and awareness surrounding these issues has grown, it is imperative to acknowledge that a multitude of formidable barriers still stubbornly persist. These barriers cast shadows over the prospects of individuals with disabilities or chronic illnesses, obstructing their path to full participation and equitable opportunities within the educational landscape. As institutions of higher learning, it is incumbent upon us to take a proactive stance in addressing these multifaceted challenges faced by faculty and staff who contend with disabilities or chronic illnesses in the pursuit of their academic and professional aspirations. By doing so, institutions not only honor the principles of fairness and inclusivity but also harness the potential for a more diverse, enriched, and harmonious academic community that thrives on the contributions of all its members.

Physical and Architectural Barriers

One significant barrier to equitable treatment is the presence of physical and architectural barriers on campuses. Inadequate accessibility features, such as inaccessible buildings, lack of ramps or elevators, and insufficient restroom facilities, hinder mobility and independent navigation for individuals with disabilities. Such barriers limit their access to classrooms, labs, offices, and other campus facilities, thereby hindering their full participation in academic and professional activities. A significant barrier that has been seen often is stairs within classrooms as well as limited clearance for mobility aids within the space. Faculty and staff who must use these facilities are greatly limited. Many universities also have buildings that have not been renovated and therefore do not have elevators and have not been required to input them. This can prohibit faculty from lecturing in these spaces, and faculty nor staff are able to use these facilities for events and meetings.

Limited Access to Accommodations and Support Services

Another significant challenge lies in the limited access to accommodations and support services. Although legislation like the Americans with Disabilities Act (ADA) mandates the provision of reasonable accommodations, the process for obtaining these accommodations can be complex and burdensome. Faculty and staff may encounter bureaucratic hurdles, long waiting periods, or inadequate resources, impeding their timely access to essential accommodations such as accessible workspaces, assistive technology, and flexible work arrangements (Grigley 2017; Shigaki, *et al*. 2012). This limited access undermines their ability to fully engage in the academic environment and perform to their full potential without fear of losing their job or not being granted tenure (West 2023).

The lack of adequate support for faculty and staff with disabilities or chronic illnesses is another substantial barrier in higher education. Despite efforts to address accommodations and support services for students, less attention has been given to the needs and experiences of faculty and staff. Limited resources, inadequate training, and a lack of institutional policies or practices tailored to their specific requirements exacerbate the challenges faced by these individuals (Grigley 2017). Consequently, faculty and staff may encounter difficulties in performing their duties, participating in professional development opportunities, or advancing in their careers due to systemic barriers and a lack of appropriate support mechanisms.

Stigma, Discrimination, and Lack of Awareness

Stigma and discrimination remain persistent barriers that affect individuals with disabilities or chronic illnesses in higher education, especially faculty and staff. Negative attitudes, stereotypes, and misconceptions surrounding disabilities can lead to marginalization, isolation, and unequal treatment. For faculty and staff, the consequences of these insidious biases are felt acutely. Prejudice, bias, or unconscious discrimination can silently infiltrate daily interactions, casting doubts over the competence and contributions of individuals

with disabilities or chronic illnesses. This insidious discrimination can corrode opportunities for career progression, restricting the ambitions and aspirations of talented academics. Furthermore, it fosters a disheartening climate in which the innate sense of belonging within the academic community is eroded, replaced by a disconcerting awareness of difference and otherness. Adding to the complexity of this issue is the extensive lack of awareness and understanding among peers and colleagues. This knowledge deficit further perpetuates the cycle of stigmatization, consigning individuals with disabilities or chronic illnesses to the margins of academic discourse and engagement. The consequences ripple beyond the affected individuals themselves, affecting the broader academic community by robbing it of diverse perspectives and unique talents.

Intersectionality and Multiple Marginalized Identities

The intersectionality of disabilities or chronic illnesses with other marginalized identities poses additional barriers to equitable treatment. Individuals who belong to multiple marginalized groups, such as women, racial or ethnic minorities, or those from low socioeconomic backgrounds, may face compounded challenges. They experience the intersectional effects of discrimination, bias, and systemic barriers, which can further limit their access to resources, opportunities, and support in higher education (West 2023). This highlights the importance of adopting an intersectional lens to address the unique needs and experiences of individuals with multiple marginalized identities.

Promoting equitable treatment for faculty and staff with disabilities or chronic illnesses in higher education necessitates a comprehensive approach that addresses the multifaceted barriers they encounter. Faculty and staff are integral in achieving the goals of the university especially as it pertains to retention and reimagining strategic enrollment management as the disabled population of students are more likely to not be retained if these barriers persist (Harvey-Smith 2022). Overcoming physical and architectural barriers, ensuring accessible accommodations and support services, combating

stigma and discrimination, and acknowledging intersectional identities are crucial steps toward achieving greater inclusivity and equity. Higher education institutions must adopt proactive measures, develop inclusive policies, and foster a culture that embraces diversity to create an environment where individuals with disabilities or chronic illnesses can thrive academically and professionally. By dismantling these barriers, higher education can truly become a space where everyone has an equal opportunity to learn, work, and succeed.

Beginnings of Problem Solving

Implementing operational improvements in higher education to enhance the experience of students, staff, and faculty with disabilities and chronic illnesses requires a multifaceted approach. Firstly, it is crucial to go beyond simply mentioning the existence of an ADA accommodation process within the human resources department. Instead, institutions should strive to normalize and educate individuals about the conditions that may qualify for accommodations. Many prevalent conditions, such as heart disease, cancer, chronic lung disease, stroke, Alzheimer's, diabetes, and chronic kidney disease, are leading causes of death and disability in the United States, yet individuals living with these conditions often lack awareness of available resources and support. Following the examples set by no-smoking, mental health, and obesity campaigns, offices can proactively inform and educate the campus community about these conditions and the resources available for success in academic and daily activities.

Furthermore, fostering collaboration and partnership between departments is crucial to meeting the needs of individuals with disabilities and chronic illnesses. While utilizing the traditional ADA/disability access office structure is a necessary starting point, institutions should strive to create safe spaces that allow open lines of communication between staff, faculty and administration. Such spaces may not be as formal as an FMLA request using U.S. Department of Labor forms,

as they aim to address barriers to success that may not be solely medical in nature. One-on-one sessions with leadership or other staff can provide opportunities for meaningful discussions and holistic approaches to resolving barriers that individuals may face. Policies and practices should promote equal opportunities for all, and these ideals should be effectively communicated to all community members, eliminating the need for individuals to explicitly ask for accommodations.

Flexible schedules can play a crucial role in supporting employees with disabilities and chronic illnesses. For instance, individuals experiencing neurologic fatigue may benefit from the ability to adjust their work schedule to align with periods of increased attentiveness. This flexibility allows employees to optimize their productivity and incorporate mental rest periods to refocus and reorient themselves. The COVID-19 pandemic demonstrated the effectiveness of teleworking and flexible schedules in accommodating the needs of employees with chronic illnesses and disabilities, and it is recommended that institutions continue to allow this flexibility based on departmental needs and the overall mission of the institution.

Moreover, providing private spaces is essential to support individuals who are easily distracted by noise or movement in their environment. In situations where private spaces are not feasible, employees should be encouraged to use noise-canceling headphones or close their office doors for a reasonable period that does not disrupt the office's operations.

By implementing these initiatives with minimal cost and effort, higher education institutions can effectively enhance the sense of belonging and inclusivity for all students, staff, and faculty on campus. Furthermore, these investments in accessibility and inclusivity not only align with ethical imperatives but also yield long-term dividends by fostering a more vibrant, innovative, and harmonious academic community that thrives on the diverse strengths and contributions of its members instead of homogeneity.

References

Abram, S. 2003. The Americans with Disabilities Act in higher education: The plight of disabled faculty. *Journal of Law & Education*. 32(1): 1

Bell, C. M. 2011. *Blackness and Disability: Critical Examinations and Cultural Interventions.* Münster, Germany: LIT Verlag. Available at: <books.google.com/books?id=2N8uMz6g02gC>.

Brown, N. 2020. Disclosure in Academia a sensitive issue. In *Ableism in Academia: Theorising Experiences of Disabilities and Chronic Illnesses in Higher Education*, edited by N. Brown and J. Leigh. London, England: UCL Press.

Cory, R. C. 2011. Disability services offices for students with disabilities: A campus resource. *New Directions for Higher* Education. 154: 27–36. Available at: <doi.org/10.1002/he.431>.

Dolmage, J. T. 2017. *Academic Ableism: Disability and Higher Education*. Ann Arbor: University of Michigan Press.

Ehlinger, E., and R. Ropers. 2020. "It's all about learning as a community": Facilitating the learning of students with disabilities in higher education classrooms. *Journal of College Student Development*. 61(3): 333–349.

Finesilver, C., J. Leigh, and N. Brown. 2020. Invisible disability, unacknowledged diversity. In *Ableism in Academia: Theorising Experiences of Disabilities and Chronic Illnesses in Higher Education*, edited by N. Brown and J. Leigh. London, England: UCL.

Franke, A., M. Berube, R. O'Neil, and J. Kurland. 2012. *Accommodating Faculty Members who have Disabilities*. Washington, D.C.: American Association of University Professors. Available at: <aaup.org/sites/default/files/disabilities.pdf>.

Gierdowski, D. C. 2020. Accessible technology support for faculty with disabilities: Challenges and barriers to inclusivity. *EDUCAUSE Review*. March 30. Available at: <er.educause.edu/articles/2020/3/accessible-technology-support-for-faculty-with-disabilities-challenges-and-barriers-to-inclusivity>.

Gotthiel, S. 2018. Reflections on achievement, hitting the glass ceiling and breaking the mold. *Strategic Enrollment Management Quarterly.* 6(1): 1–4.

Grigely, J. 2017. The neglected demographic: Faculty members with disabilities. *The Chronicle of Higher Education*. June 27. Available at: <chronicle.com/article/the-neglected-demographic-faculty-members-with-disabilities/>.

Harvey-Smith, A. B. 2022. *Higher Education on the Brink: Reimagining Strategic Enrollment Management in Colleges and Universities*. Lanham, MD: Rowman & Littlefield Publishers

Hutcheon, E. J., and G. Wolbring. 2012. Voices of "disabled" post secondary students: Examining higher education "disability" policy using an ableism lens. *Journal of Diversity in Higher Education*. 5(1): 39–49

King, C. 2020. Building an inclusive community for faculty and staff. *Rutgers University Division of Diversity, Inclusion, and Community Engagement* (News). October 1. Available at: <nbdiversity.rutgers.edu/news/building-inclusive-community-faculty-staff>.

Lewis, T. 2021. January 2021 working definition of ableism. *(Personal Blog)*. January 1. Author. Retrieved from: <talilalewis.com/blog/january-2021-working-definition-of-ableism>.

Peters, A. L. 2011. Black women faculty in educational leadership: Unpacking their silence in research. In *Women of Color in Higher Education:*

Turbulent Past, Promising Future (Diversity in Higher Education Volume 9), edited by G. Jean-Marie and B. Lloyd-Jones. Leeds, England U.K.: Emerald Publishing Limited

Pickens, T. A. 2017. Blue blackness, black blueness: Making sense of blackness and disability. *African American Review*. 50(2): 93–103. Available at: <doi.org/10.1353/afa.2017.0015>.

Ramirez-Stapleton, L. D., L. E. Torres, A. Acha, and A. McHenry. 2020. Disability justice, race, and education. *Journal Committed to Social Change on Race and Ethnicity (JCSCORE)*. 6(1): 29–39. Available at: <journals.shareok.org/jcscore/article/view/128>.

Rothstein, L. 2015 The Americans with Disabilities Act and higher education 25 years later: An update on the history and current disability discrimination issues for higher education. *Journal of College and University Law*. 41(3): 531.

Shallish, L. 2015. Just how much diversity will the law permit? The Americans with Disabilities Act, diversity and disability in higher education. *Disability Studies Quarterly*. 35(3). Available at: <doi.org/10.18061/dsq.v35i3.4942>.

Shigaki, C. L., K. M. Anderson, C. L. Howald, L. Henson, and B. E. Gregg. 2012. Disability on campus: A perspective from faculty and staff. *Work*. 42(4): 559–571. Available at: <doi.org/10.3233/WOR-2012-1409>.

West, W. N. 2023. *Ready Player One: The Impacts of Segmenting Identity for Black Women with Chronic Illnesses in Higher Education* (doctoral project). University of Southern Mississippi, Hattiesburg, MS.

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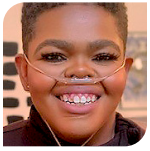
Whitney N. West

Whitney N. West, Ed.D., has been in higher education for more than fifteen years and is currently Director of Student Records at LSU Law. She has worked at universities in D.C., Maryland, and Louisiana. Whitney is a two-time graduate of The George Washington University and has a graduate certificate from University of Maryland Baltimore County. In July 2023, she completed her doctorate of education from the University of Southern Mississippi. Her doctoral studies focus on the intersection of race, gender, and disability. In addition, she currently serves as Co-Chair for the American Association of Collegiate Registrars and Admissions Officers (AACRAO) Accessibility Task Force.

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The Future of Data Governance: Bridging Institutional Silos

By Jenay Robert, Kathe Pelletier and Betsy Tippens Reinitz

In today's digital world, higher education institutions collect and use more data than ever. However, institutional silos create barriers for stakeholders who need data for daily operations and strategy. This article presents a vision of a unified, collaborative future for data governance and actionable steps stakeholders can take.

As higher education institutions are evolving to operate in a digital world, institutional leaders are tasked with managing more data than ever before to foster decision-making with data analytics. Our data-rich environments necessitate a renewed focus on enterprise-wide approaches to managing institutional data in order to create equitable and inclusive institutions and support success for all students. This intentional design of effective data governance is critical to the success of higher education. Data governance of the future will be well-positioned to support strategic goals in higher education through institutional data culture, a data-empowered workforce, and integrated, institution-wide data processes.

The Relevance of Data Governance

Data analytics is an important contributor to institutional strategy and operations, but not when silos stand in the way. Effective data governance is the key to eliminating data silos. Analytics leaders need to establish a team approach with an unrelenting expectation for collaboration across institutional areas (*e.g.*, admission, registration, student services), and with the inclusion of broadly diverse stakeholder voices (*e.g.*, faculty, students, staff, administrators). As described by Robert and Reinitz (2023, 1),

> *Data governance [is] the processes, policies, and goals for managing institutional data, typically including policies and standards for data access, data quality, security and privacy compliance, and retention and archiving. Data governance fosters collaboration, transparency, and communication throughout the institution. It defines roles and responsibilities for managing data and assigns accountability to specific groups or individuals within the institution.*

Today, the data ecosystem of a higher education institution is larger and more complex than ever before (Raffaghelli and Sangrà 2023), including systems across a spectrum of purposes and vendors, some on premise

and some in the cloud. Remote and hybrid learning and work, AI-powered tools, and computer-automated processes are all driving increases in both supply and demand for data. As data systems proliferate, end users are finding more uses for data: student recruitment and retention, student support services, teaching and learning tools, and more. With more uses for data, the amount and diversity of end users is growing too. Data and data systems are increasingly in the hands of front-line staff and faculty who may not have formal training in data governance and analytics. Further, these stakeholders are expected to make data-informed decisions at every level, from strategic planning to daily operations (Webber and Zheng 2019). However, data analytics as a field has not reached the maturity required for insights to be consistently reliable, valid, or equitable.

In large part, barriers to effectively and equitably utilizing data insights to inform practice stem from shortfalls in data governance capabilities. As more people collect more data for more purposes, the potential for data to be misunderstood or misused is growing. Effective data governance provides careful oversight and guidelines for the data ecosystem—guardrails to ensure that data conforms to standards, is of high quality, is appropriately available to stakeholders, and is managed properly. But what will it take for higher education institutions to wield this powerful capability? Beginning with current trends in higher education and beyond, we can craft a picture of our desired future state and map the actions necessary to get there.

Current Trends in Higher Education

Preparing for the future begins with understanding the present. Current social, technological, economic, environmental, and political trends all drive change in higher education. For example, the COVID-19 pandemic triggered increased interest in remote work, learning, and even social interaction (Pelletier, *et al.* 2022). This rise in digital activity has been generating more data-rich environments, leading to increased interest in leveraging big data, improving data literacy, and enhancing cybersecurity (Reinitz, *et al.* 2022). The "fake news" era, the proliferation of pseudoscience, and

the mainstreaming of credible propaganda demonstrate the risks involved when opinions are formed or actions are taken without the use of high quality data and data insights. Concerns about such trends are provoking stakeholders to double down on calls for data-informed decision-making. Meanwhile, the Forbes Technology Council (Emini 2022) referred to the emerging field of decision intelligence as "the next digital transformation," and technology consulting firm Gartner identified decision intelligence as one of the top strategic technology trends of 2022.

Given these global trends, it is no surprise that higher education experts have identified increasing demands for data-supported decision-making as a trend that is poised to make a significant impact on the future of higher education (Caron and Muscanell 2022, Reinitz, *et al.* 2022). These demands are exacerbating a long list of challenges data governance professionals have been grappling with for some time. There are foundational issues with the ways we collect, store, and analyze data. Existing data infrastructures are outdated and disorganized, and data governance professionals are struggling to implement data governance systems. Oftentimes, data ownership and stewardship is spread across an institution, impeding efforts to integrate data insights across long-standing silos (Caron and Smith 2023). All of these issues impact an institutions' capacity for fostering a culture of data-informed decision-making.

Further, even when data governance systems are appropriately positioned and resourced, institutional stakeholders' data literacy and analytics skills lag behind the rapid adoption of new data analytics techniques and processes. This need for upskilling and reskilling has become central to discussions of data governance (Reinitz, *et al.* 2022). In recent years, the gaps between what we know and what we need to know about using "big data" tools (*e.g.*, machine learning and artificial intelligence) have been illuminated by our intensified focus on creating equitable and inclusive institutions. Many big data methods reinforce social inequities, so it is essential to turn a critical eye toward processes such as training algorithms and interpreting results. However, this type of analysis takes expertise—not only in

data analytics but in educational equity and other social sciences. In a survey of higher education technology professionals (Robert 2022), more than half (53%) of respondents identified diversity, equity, and inclusion expertise across the institution as one of the key elements needed to pursue the use of analytics to advance equity goals. Again, institutional silos act as a barrier to effective institutional operations. As we look to the future, data governance emerges as a potentially unifying element of institutional operations and strategy that can help to break down those silos.

The Future of Data Governance

How will current trends, opportunities, and challenges shape the future of data governance in higher education? At EDUCAUSE, we asked a panel of data and analytics experts to sketch out their *ideal* future, one in which the higher education community works together to leverage our collective strengths and overcome our weaknesses (Robert and Reinitz 2023). Focusing on a ten-year time horizon, panelists engaged in strategic foresight exercises (Forchheimer 2022) to generate goals for the future state of data governance and the actions we can all invest in to make our ideal future a reality.

- **Culture.** For our panelists, data governance of the future is built on institutional culture. Unifying people is paramount to any other unification efforts. Stakeholders across the institution will be collaborative, bridging institutional silos that have impeded progress for so long (Mizuta 2022). Individual members of institutions at all levels will be empowered to engage in data governance by adopting mutually-agreed-upon tools and processes. Transparency will promote trust and accountability in these collaborations (Cook 2023). As the entire higher education community takes responsibility for data, data governance will play a central role in institutional processes, from enterprise-level strategic planning and policy-making, to frontline operations.
- **Workforce.** Panelists also described ways in which this culture might support the higher education workforce of the future. They envisioned a future in which data governance responsibilities no longer fall to only a few individuals. Instead, data governance will be integrated into all job roles at the institution, and this integration will be codified in job descriptions, roles and responsibilities, and performance evaluations. Beyond these accountability measures, individuals will be supported with the appropriate resources, such as onboarding processes and ongoing professional development, to carry out their data governance responsibilities.
- **Processes.** Finally, panelists described how institutions of the future will take a unified approach to creating and carrying out data governance processes. Frontline processes will be aligned with higher-level institutional strategy, and this alignment will necessitate integration across individual job roles and institutional units. The landscape of third-party tools will be simplified, with national standards guiding vendor policies, institutional processes for procurement, and collaboration between vendors and institutional stakeholders.

Certainly, this vision of the future is characterized by collaboration across institutional silos, but the reality of those silos in the present is undeniable. So, how can the higher education community move past current barriers in place by fractured institutional structures? In the following sections, we explore recommendations from the Data Governance Action Plan (Robert and Reintitz 2023) and advice for creating your own action items.

Taking Action

Strategic foresight is an excellent tool for considering potential and preferred versions of the future (Wayland 2015), but the real power in such work lies in taking informed action. As data initiatives grow and mature, college and university leaders will need to choose how they allocate resources to sustain and grow analytics. Having the appropriate stakeholders participate in that conversation through a governance process is necessary for allocating resources in ways that ensure analytics initiatives address institutional needs. Not everything can be done, and determining what to do and what not to do can be difficult. For these reasons, we asked the

Data Governance Action Plan panelists to create a set of recommended actions stakeholders can take to have a positive impact on the future of data governance at their institutions. There is a range of action items listed in the *EDUCAUSE Horizon Action Plan: Data Governance* (Robert and Reinitz 2023); no matter what your role is at your institution, you can find a way to contribute to the future of data governance today.

🔖 **Culture.** Unsurprisingly, foundational action items are all related to shoring up institutional culture. Higher education leaders can do this by maintaining transparency about how new policies and processes align with the mission of the institution. For example, staff at Ashland University have published a website detailing the data-informed development of their strategic plan (2023). Teams working on the plan were developed from an open call for participants, providing an opportunity for the entire institutional community to participate.

Regularly tracking and communicating about the progress of data governance initiatives will create buy-in across the institution. Early and ongoing efforts will need to be situated at both the unit and enterprise level, creating cohesion in the ways individuals contribute to the bigger picture. At National Louis University, a centralized data lake is used to unify disparate data sources and university-wide strategic metrics and to provide institutional stakeholders with a single source for trusted data (2023).

Perhaps most importantly, leaders need to invest resources—time, money, and personnel—in data governance work so that faculty and staff are not expected to add more responsibilities to their existing workloads. The Data, Analytics, and Institutional Research office at the University of North Texas supports users across the institution by training them to use more than 25 analytics products (2023). The university reports that more than 1,000 users have been trained to use their tools.

🔖 **Workforce.** Supporting the workforce is another foundational element in strengthening data governance capabilities. All institutional lines of business and functional areas need personnel who are trained in data stewardship, rights and responsibilities, and collaboration across units. Even though stakeholder data literacy is essential to data-informed decision-making, it is still a widely understudied construct (Yang and Li 2020). As a starting point, leaders can codify data governance responsibilities into job descriptions for any new job roles that are developed. Ideally, all job roles will eventually be reviewed and revised to include such responsibilities, and ongoing training and professional development will help personnel stay up to date on the most current data governance and data analytics practices. At the University of Queensland, staff can access online training and resources related to topics such as data governance, data ethics, working with data, cybersecurity, and more (2023).

🔖 **Processes.** Front line staff can make an immediate impact by reviewing the policies and processes involved in their daily work and identifying areas in which data is collected, stored, shared, or analyzed. Staff who work with data on a regular basis have the most knowledge about opportunities that can be leveraged and challenges that need to be overcome. As leaders work to revise existing policies and create new ones, they should work with staff to ensure that ground-level operations are not oversimplified or disregarded. Kent State University is currently undergoing a multiyear initiative to transform their data pipeline (2023). With a model built on data flowing bidirectionally between data sources and data users, the initiative is designed to support unified governance processes, including self-service reporting, analytics, and documenting.

Building an Action Roadmap

Strategic foresight is not meant to predict the future, nor is it meant to dictate our actions. Instead, we can leverage strategic foresight to consider potential futures informed by current data, craft a preferred future based on our own communities' needs and goals, and design an action plan to achieve our goals. Action plans and roadmaps comprise a key element of the EDUCAUSE Horizon reports. Data about current trends, technolo-

TABLE 1 ➤ EDUCAUSE Data Governance Resources

Resource	Co-Publishers/Supporters	Description
Change with Analytics	▶ Association for Institutional Research (AIR) ▶ National Association of College and University Business Officers (NACUBO)	Provides support for ▶ making an institutional commitment to analytics, ▶ building analytics teams, ▶ supporting flexibility and agility, ▶ investing in essential resources, ▶ mitigating risk, and ▶ taking immediate action.
Understanding and Developing a Data-Informed Culture	▶ Advising Success Network (ASN)	An action-oriented guide that addresses ▶ creating a data-informed culture, ▶ leveraging leadership to support data governance, ▶ establishing data governance as an organizing framework, ▶ understanding institutional data architecture, and ▶ selecting the right analytical strategies.
Analytics Institutional Self Assessment	n/a	Designed to help you understand your institution's current data governance and analytics capabilities. The self assessment addresses ▶ workforce, ▶ data governance, ▶ data management, ▶ leadership, and ▶ data-informed culture.
EDUCAUSE Connect	n/a	A professional networking platform for communities to collaborate. There, you will find community groups for topics such as ▶ data governance, ▶ IT governance, ▶ data strategy, ▶ cybersecurity, and more.
Data Governance Essentials	n/a	A four-part Learning Lab that introduces methods for creating and updating an institutional data governance structure.
Data Literacy Institute	n/a	Designed to empower higher education professionals at all levels to use data confidently. This institute provides foundational knowledge needed to facilitate effective data-informed decision-making.

gies, and practices are only useful if we translate those data into action.

To create an action roadmap for data governance at your own institution, begin by considering your stakeholders' unique needs. Connect with key stakeholders at your institution, taking care to consider the wide range of functional units and job roles responsible for data governance. Include stakeholders who are already close collaborators—people you trust to hit the ground running—but also include those who might be more cautious or skeptical. You'll need a robust team to effect meaningful change. As you and your colleagues discuss the current and future state of data governance at your institution, note ways in which your goals align with those outlined here and ways in which your unique community requires a more tailored approach. Leverage as much as you can from existing recommendations, but don't hesitate to craft your own personalized vision of the future. At EDUCAUSE, we find that working on a ten-year time horizon allows for the right balance of data-informed foresight and personal creativity.

Finally, work backwards from your preferred future to identify actions needed to achieve your goals. What are some immediate steps you can take to gain momen-

tum and stakeholder buy-in? What longer term actions will require more planning and coordination?

You're not in this alone. You can find more support and opportunities to connect with the larger data governance community in the resources shown in Table 1, on page 7.

Summary

The current state of data governance is one of the foundational barriers institutions face when building a culture of data-informed decision-making. Weil, Kendall, and Snyder (2023) note that data for institutional analytics should be timely, consistent, trusted, relevant, interactive, connected, accessible, and actionable. However, institutional silos commonly inhibit such practices. In the future, data governance will be key to unifying data analytics efforts across the institution. To be successful, such efforts must begin with culture. Culture shifts that make student success the responsibility of *every* stakeholder (Miller 2022) will promote meaningful data-informed decision-making and pave the way for unified and collaborative data governance practices. When members of the higher education workforce are empowered to contribute to a unified data governance strategy, they will be able to carry out data governance processes at every level.

References

Advising Success Network and EDUCAUSE. 2022. *Understanding and Developing a Data-Informed Culture*. Washington, D.C., and Boulder, CO: Author. Retrieved from: <library. educause.edu/resources/2022/5/ understanding-and-developing-a-data-informed-culture>.

Ashland University. 2023. *Strategic Plan 2020–2025*. Ashland, OH. Retrieved from: <ashland.edu/ strategic-plan-2020-2025>.

Association for Institutional Research, EDUCAUSE, and National Association of College and University Business Officers. 2023. *Change with Analytics*. Tallahassee, FL, Boulder, CO, and Washington, D.C.: Author. Retrieved from: <changewithanalytics.com>.

Caron, A., and N. Muscanell. 2022, Oct 31. *2023 Higher Education Trend Watch*. Boulder, CO: EDUCAUSE. Retrieved from: <educause.edu/ ecar/research-publications/higher-education-trend-watch/2023>.

Caron, A., and J. Smith. 2023. EDUCAUSE QuickPoll results: (Re)organizing data functions for today's analytics. *EDUCAUSE Review*. February 27. Retrieved from: <er.educause. edu/articles/2023/2/educause-quickpoll-results-reorganizing-data-functions-for-todays-analytics>.

Cook, E. 2023. The importance of trust and authenticity among stakeholders involved in higher education data infrastructure redevelopments: An Australian critical discourse study. *CHERE@LU Working Paper Series*. Working Paper No. 4.

EDUCAUSE. 2023. *EDUCAUSE Connect*. Boulder, CO. Author. Retrieved from: <connect.educause.edu/home>.

———. 2023. *EDUCAUSE Institutes*. Boulder, CO. Author. Retrieved from: <events.educause.edu/ educause-institute>.

———. 2021. *Analytics Institutional Self Assessment*. Boulder, CO: Author. Retrieved from: <library.educause. edu/resources/2021/8/analytics-institutional-self-assessment>.

Emini, M. 2022. Why decision intelligence is the next digital transformation. *Forbes Technology Council* (blog). September 16. Retrieved from: <forbes.com/ sites/forbestechcouncil/2022/09/16/ why-decision-intelligence-is-the-next-digital-transformation>.

Forchheimer, S. 2022. What exactly is futures thinking? *Institute for the Future* (blog). June 28. Retrieved from: <iftf.org/insights/what-exactly-is-futures-thinking/>.

Gartner. 2023. *Decision Intelligence.* Stamford, CT: Author. Retrieved from: <gartner.com/en/ information-technology/glossary/ decision-intelligence>.

Kent State University. 2023. *Data Pipeline Project*. Keny, OH: Author. Retrieved from: <kent.edu/it/ sdi/data-pipeline-project>.

Miller, T. E. 2022. A case study of an institution continuing to advance student success, the University of South Florida. *Strategic Enrollment Management Quarterly*. 10(2): 49–58.

Mizuta, M. S. 2022. *Silos in Higher Education Institutions: Shifting from Organizational Phenomena to a Practical Framework for Equitable Decision-making* (doctoral dissertation). Portland, OR: Portland State University.

National Louis University. 2023. *NLU Business Intelligence Infrastructure*. Tampa, FL: Author. Retrieved from: <drive.google.com/file/d/1SeqvQr8xe7u_ vSrZoEtqc7zNdUXmfNqz/view>.

Pelletier, K., M. McCormack, J. Reeves, J. Robert, and N. Arbino, 2022. *EDUCAUSE Horizon Report, Teaching and Learning Edition*. Boulder, CO: EDUCAUSE. Retrieved from: <library. educause.edu/resources/2022/4/2022-educause-horizon-report-teaching-and-learning-edition>.

Raffaghelli, J. E., and A. Sangrà. 2023. Data cultures in higher education:

Acknowledging complexity. In *Data Cultures in Higher Education: Emergent Practices and the Challenge Ahead*, edited by J. E. Raffaghelli and A. Sangrà. Cham, Switzerland: Springer International Publishing.

Reinitz, B. T., M. McCormack, J. Reeves, J., Robert, and N. Arbino, N. 2022. *EDUCAUSE Horizon Report, Data and Analytics Edition.* Boulder, CO: EDUCAUSE. Retrieved from: <library.educause.edu/resources/2022/7/2022-educause-horizon-report-data-and-analytics-edition>.

Robert, J. 2022. EDUCAUSE QuickPoll results: Using analytics to advance equity goals. *EDUCAUSE Review.* February 4. Retrieved from: <er.educause.edu/articles/2022/2/educause-quickpoll-results-using-analytics-to-advance-equity-goals>.

Robert, J., and B. T. Reinitz. 2023. *2023 Horizon Action Plan: Data Governance.* Boulder, CO: EDUCAUSE. Retrieved from: <library.educause.edu/resources/2023/3/2023-educause-horizon-action-plan-data-governance>.

University of North Texas. 2023. *Insights 2.0 Analytic Products.* Denton, TX: Author. Retrieved from: <data.unt.edu>.

University of Queensland. 2023. *Online Training and Resources.* Brisbane, Queensland: Author. Retrieved from: <data.uq.edu.au/training-and-resources>.

Wayland, R. 2015. Strategic foresight in a changing world. *Foresight.* 17(5): 444–459.

Webber, K. L., and H. Zheng. 2019. *Data Analytics and the Imperatives for DataInformed Decision-Making in Higher Education.* Athens, GA: Institute of Higher Education, University of Georgia. Retrieved from: <ihe.uga.edu/sites/default/files/inline-files/Webber_2019004_paper_2.pdf>.

Weil, D., C. Kendall, and R. Snyder. A modern framework for institutional analytics. *EDUCAUSE Review.* February 14. Retrieved from: <er.educause.edu/articles/2023/2/a-modern-framework-for-institutional-analytics>.

Yang, N. and T. Li. 2020. How stakeholders' data literacy contributes to student success in higher education: A goal-oriented analysis. *International Journal of Educational Technology in Higher Education.* 17(1): 41.

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THE GLOBAL CONTEXT

Internationalizing Higher Education: From Students' Journey to Strategy

By Shaimaa Nabil Hassanein

Internationalization is fundamental for all higher education institutions, nevertheless with its evolving and altering nature it was considered, until this moment, an uncharted territory. The impact of internationalization on higher education institutions is evident. To attain this impact, it is essential that higher education institutions chart the path and pave the way for effective internationalization strategies, policies, and actions. To foster an internationalized campus, stakeholders are to be upskilled, and internationalization elements to be modified and adjusted according to the institution's community and culture. These adjustments will allow institutions to compose the appropriate internationalization strategy, meet institution's goals and objectives, find best approaches to reflect on their own rationales, and adopt the most apt practices for implementation.

There is no one-size-fits-all framework for internationalization. It depends on numerous factors that change from one institution to another. These factors range from demographical, geographical, and cultural dimensions all through degrees and programs offered, student journeys, and cost-revenue models.

This article provides an outlook on internationalizing higher education institutions' concept definitions, rationales, approaches, activities, and applications. It also proposes a framework for the institutions' internationalization through students' journey. Finally, it discusses the potential enrollment management practices that contribute to the institutions' internationalization.

Literature Review

Definition

Various institutions use the term internationalization narrowly to refer to the number of international students and staff. However, the term is broad and entails other aspects that demand effort and attention from institutional leaders as it affects the institutions tremendously. As early as 1995, Knight and de Wit wrote that "there is no simple, unique or all-encompassing definition of internationalization of the university" and that it is not "helpful for internationalization to become a 'catch-all' phrase for everything and anything international." These statements emphasized clearly that higher education leaders are required to modify their own institution's internationalization processes and widen their views to perceive internationalization categories other than international students, faculty, and staff.

The definition of internationalization kept evolving; adjustments were added; and new rationales, approaches, and strategies were included to the internationalization concept itself to suit its broad nature. At this phase, international, intercultural, and global dimensions were included in internationalization definitions and the purpose of internationalization was also clearly articulated.

A definition proffered by Knight in 2003 states that internationalization is "the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education." De Wit, *et al*. in 2015 added to Knight's definition "…in order to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society." Later in 2018, Knight and de Wit wrote "that notion is probably even truer now" and "internationalization has become a very broad and varied concept, including new rationales,

> **It can thus be said that such internationalization is not merely an aim itself, but an important resource in the development of higher education towards, first of all, a system in line with international standards; secondly, one open and responsive to its global environment.**
>
> QIANG 2003

approaches, and strategies in different and constantly changing contexts." Also, Hunter, *et al*. (2022) analyzed the higher education internationalization concepts and definitions and offered a critical overview stating that "the concept of internationalization continues to be refined and revised, and theories and definitions adjusted to match new and evolving understandings."

Nowadays, internationalization of higher education is a highly strategic practice in universities across the world, driven by different rationales and purposes. Higher education internationalization is concerned with integrating an international, intercultural, or global dimension to the institution, to enhance not only the quality of education and the lifelong learning objective but also leveraging the mindset of the higher education community to be trans disciplinary and interculturally competent. These dimensions influence all areas of the institution, as internationalization is meant to be integrated into the institution's policies, "teaching, research and service functions" (Knight 1994). By focusing on the curriculum and learning outcomes, internationalization in higher education becomes less predominantly focused on mobility. This would ensure internationalization for all and not for the mobile minority. By doing so, higher education institutions would contribute to bridging the gap between rhetoric and reality by providing an overarching purpose to internationalization. This would also encourage institutions to reflect more on their own rationales (Hunter, *et al*. 2022).

Rationale

It is a requisite for higher education institutions "to go beyond the rhetoric of internationalization and purposefully to reconnect it to academic values; to consider internationalization in the widest context of the institutional mission and indeed the very purpose of higher

education—and to pursue these aims through clear strategies and strong (international) alliances" (Hunter and Sparnon 2016).

Universities across the world are interested in internationalization as a strategy to meet the demand for better quality of education; however, internationalization arrangements vary greatly depending on institutions' context. As mentioned by Qiang in 2003, internationalization has several rationales and roles to increase institutional competitiveness, change organizational culture, and reform higher education systems (Shin and Harman 2009). Scott (1992) identifies seven imperatives for global education: economic competitiveness, environmental interdependence, increasing ethnic and religious diversity of local communities, the reality that many citizens work for foreign-owned firms, the influence of international trade on small business, the fact that college graduates will supervise or be supervised by people of different racial and ethnic groups from their own, and national security and peaceful relations between nations. Warner (1992) proposes three different models: competitive model, liberal model, and social transformation model. The rationales adopted in this article are Knight (1997), followed by Qiang (2003) rationales, which were clustered into four groups: political, economic, academic, and cultural/social.[1] They detailed them as follows (Condette and de Wit 2023):

▐ **Academic:** The academic rationale is principally linked to the goal of achieving international academic standards for both teaching and research. The underlying principle is enriching the quality of education and enhancing academics through encouraging greater internationalization across teaching, research, and service activities and by centralizing it to the mission. As internationalization, if central to the mission and not a marginalized endeavor, is con-

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[1] It should be noted, albeit briefly, that while academic, cultural, and political rationales are based on an ethos of cooperation, the economic one is based on an ethos of competition. Apparently, there is a gradual, yet visible, shift since the second half of the 1990s toward what is called by Van der Wende (2001) "a shift in paradigm from cooperation to competition." Still, this "did not exclude the continuation of cooperative elements." It is necessary that institutions observe both these overarching rationales—cooperation and competition—to internationalize higher education whilst ensuring that no one rationale dominates the other.

templated as a tool that adds value to the quality of education and helps learners exchange knowledge and acquire attributes to succeed in today's world.

▐ **Cultural and Social:** There is a dire need for improved intercultural understanding and communication. This understanding will reason:

→ The internationalization of a nation's education system through the acknowledgement of cultural and ethnic diversity within and between countries.

→ Internationalizing the teaching and learning experience of students in undergraduate and graduate programs through enhancing intercultural relations and communications and equipping them with cross-cultural knowledge and skills (Knight 1997).

Accordingly, higher education's role is eminently valuable in integrating intercultural learning. Intercultural learning is defined by Harvey 2018 as the process of developing one's intercultural competence, which involves increasing the complexity with which one experiences cultural difference. This is very much a developmental process. It requires not just learning about another culture or cultures, but developing understanding and skills that can be applied in a wide variety of intercultural experiences (Haug and Jacobs 2023).

▐ **Economic:** The economic rationale, by many, is a direct response to the market forces associated with the economic dimension of globalization. On one hand, the economic rationale underlies efforts aimed at developing the human resources/capital necessary for the nation to stay internationally competitive; on the other hand, it tackles efforts geared toward increasing the institution's income by providing education abroad or attracting more foreign students.

Knight (2004) stated that higher education is considered an export product and a way to develop the necessary human capital for the local workforce. Student mobility is hence recognized as a way to gain profits from international students' tuition

fees and related expenses. While there are numerous higher education institutions functioning as non-profit organizations, finances are essential in keeping the institution running. However, it is immensely important to be alert that, as Jones (2020) states, "Mobility needs to be seen as adding value to an internationalized curriculum, not as the focal point of internationalization efforts." This reemphasizes that internationalization is not a goal in itself, but a means to enhance quality, and that it should not focus solely on economic grounds.

- **Political:** According to Knight (1997), "Internationalization contributes to enhancing the reputation and prestige of a country on the global and regional stage. Higher education is used as a soft power tool, or 'knowledge diplomacy'. Student mobility and faculty collaborations create stronger bonds between countries." He also added: "Education, especially higher education, is often considered as a form of diplomatic investment for future political and economic relations. For example, scholarships for foreign students who are seen as promising future leaders are considered to be an effective way of developing an understanding of and perhaps affinity for the sponsoring country. This affinity may prove to be beneficial in future years in terms of diplomatic or business relations. (Knight 1997, 9)" (CHEI 2023, ch. 22; Qiang 2003).

According to de Wit, Hunter, Howard, and Egon-Polak (2015), it is essential for internationalization to evolve into a more comprehensive, more intentional, and less elitist (for all students and staff) process, less focused on mobility and less economically driven, with the goal to enhance the quality of education and research and make a meaningful contribution to society.

Approaches to Internationalization

To implement the internationalization rationales briefed in the previous section in a higher education institution, approaches to internationalization were developed. The term "approaches" in literature was used by several authors (Aigner, *et al*. 1992; Arum and Van de Water 1992;

TABLE 1 ➤ Approaches to Internationalization

Activity	Promotion of activities such as: ▸ Curriculum ▸ Student/staff exchange ▸ Technical assistance ▸ International students
Competency	Development of students, faculty, and staff's international and intercultural: ▸ Skills ▸ Knowledge ▸ Attitudes ▸ Values
Ethos	Developing the international dimension of the institution by creating a culture that values and supports: ▸ International and intercultural perspectives and initiatives ▸ Institutions principles and goals
Process	Integration of an international/intercultural dimension into: ▸ Teaching, research, and service ▸ Organizational policies and procedures.

De Wit 1995; Knight 1994, 1996, 1997) and was used in reference to the promotion and implementation of internationalization programs adopted by higher education leaders. There are four different approaches used to describe the concept of internationalization (Qiang 2003). Table 1 summarizes the categories and the elements of each approach as mentioned by Qiang.

Activities and Applications

Efforts must be exerted to engage stakeholders in entrenching internationalization in the institutions' policies, planning, and processes. By doing so, the institution can be both successful and sustainable. The community members are expected to be reluctant to engage in the internationalization procedures, as studies show that administrators and faculty at colleges and universities are apathetically responding to the calls to further their internationalization efforts (Schoorinan 1999). To engage stakeholders, higher education leaders are required to lead by example and take the first step. They should follow that by advocating for policy change, articulating the benefit, and emphasizing the
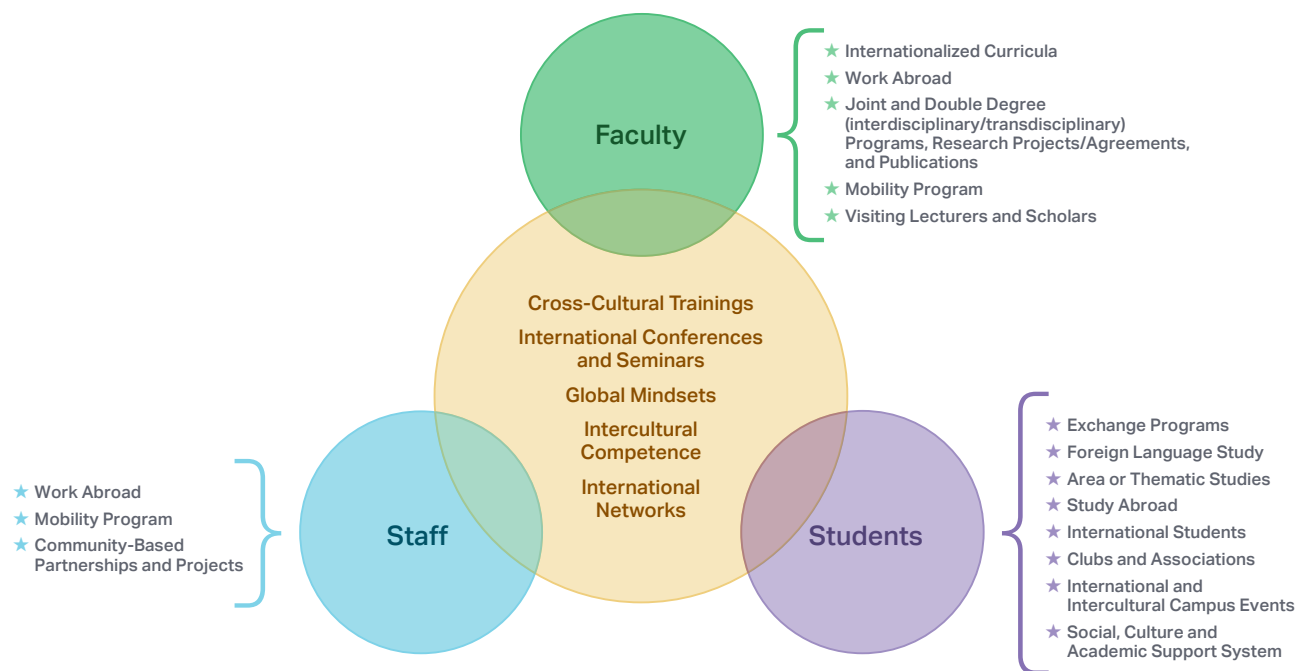
Faculty

- ★ Internationalized Curricula
- ★ Work Abroad
- ★ Joint and Double Degree (interdisciplinary/transdisciplinary) Programs, Research Projects/Agreements, and Publications
- ★ Mobility Program
- ★ Visiting Lecturers and Scholars

Cross-Cultural Trainings

International Conferences and Seminars

Global Mindsets

Intercultural Competence

International Networks

- ★ Work Abroad
- ★ Mobility Program
- ★ Community-Based Partnerships and Projects

Staff

Students

- ★ Exchange Programs
- ★ Foreign Language Study
- ★ Area or Thematic Studies
- ★ Study Abroad
- ★ International Students
- ★ Clubs and Associations
- ★ International and Intercultural Campus Events
- ★ Social, Culture and Academic Support System

FIGURE 1 ➤ Internationalization Activities

strategies "with empathy, clarity, and reason" and to equip the stakeholders "mentally, psychologically, and physically" to involve the community in the internationalization processes (Hassanein 2022).

Prior to implementation, it is important for leaders to take the initiative by implementing some of Qiang's (2003) "Organizational Elements of Internationalization:

- Express their commitment to internationalization.
- Involve faculty, staff and students in the discussions and decision-making process.
- Clearly articulate rationale and goals for internationalization.
- Recognize international dimension in mission statements and other policy documents.
- Allocate budget for supporting internationalization.
- Integrate internationalization into institution-wide and departmental planning, budgeting, and quality review systems."

Subsequently, faculty, staff, and students will be encouraged to take part in the institution's internationalization process, strategy development, and implementation.

According to Vught and colleagues, internationalization in higher education is seen to include several activities and processes such as: The transnational mobility of students and staff, internationalization of curricula and quality assurance, interinstitutional cooperation in education and research, and the establishment of international university consortia. Furthermore, there has been strong growth in the cross-border delivery of education, leading to a substantial market in export and import of higher education products and services (Van Vught, *et al.* 2002; Kreber 2009).

To engage in the internationalization process and apply the approaches to internationalization faculty, staff, and students will get involved in diverse and common activities. The following section summons the Van Vught, *et al.* 2002 internationalization activities (shown in Figure 1) after categorizing them according to the higher education key player.
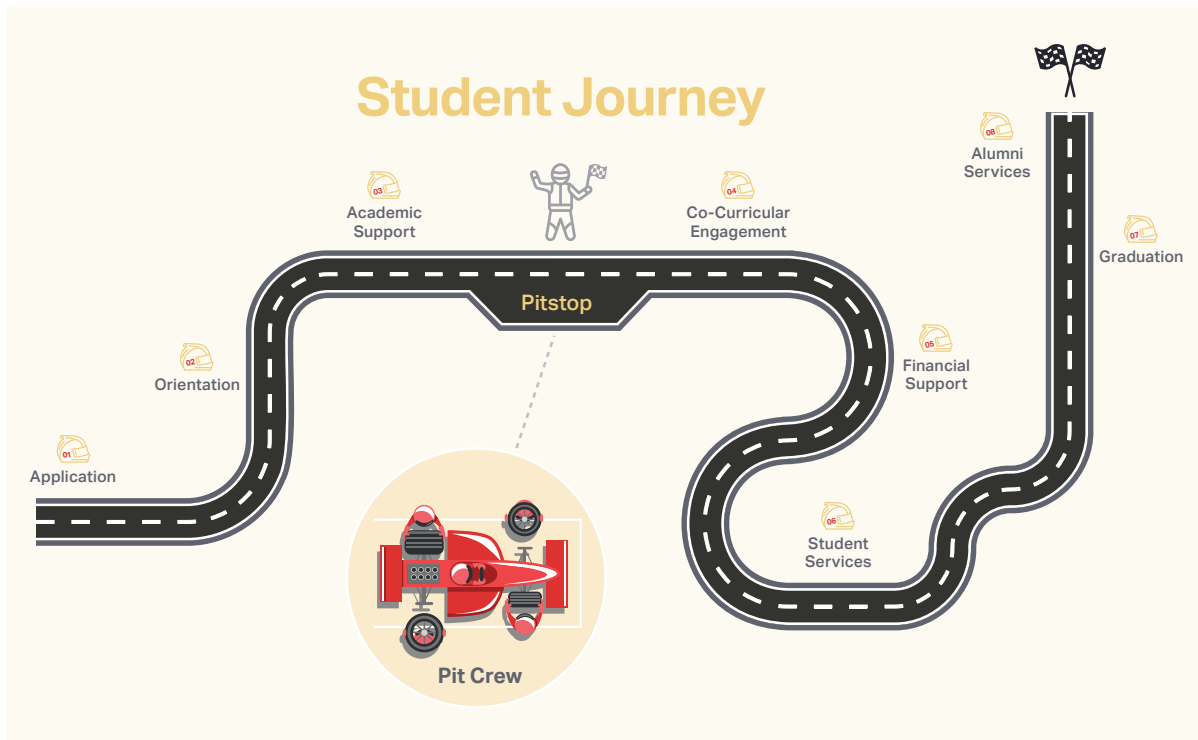
FIGURE 2 ➤ Students' Journey—Raceway

TABLE 2 ➤ Internationalization Framework throughout the Students' Journey

Step	Activity	Pit Crew Key Player	Strategy and Approach	Targeted Objective(s)	Rationale	Key Performance Indicator (KPI)
Application	▸ Recruitment	▸ Faculty ▸ Staff	Pursue: ▸ International students ▸ Different demographics ▸ Composition of international students ▸ Diversity in institutions of higher education where prior degrees were earned.	▸ Expanding and improving international student enrollment	▸ Academic ▸ Economic	▸ % of national vs. ▸ international students ▸ % of students with different demographics ▸ % composition of international students by nationality ▸ Presented institutions diversity
Orientation	▸ International student orientation ▸ General student orientation	▸ Faculty ▸ Staff	Conduct themed orientations: ▸ **International:** With knowledge about the culture, what to expect and how to deal with it ▸ **General:** To encourage (local and international) students to engage and interact with each other in a multicultural setup	▸ Expanding and improving international student enrollment	▸ Academic ▸ Cultural and Social	▸ Number of international students attending orientation ▸ Number of students attending orientation

TABLE 2 ➤ Internationalization Framework throughout the Students' Journey

Step	Activity	Pit Crew Key Player	Strategy and Approach	Targeted Objective(s)	Rationale	Key Performance Indicator (KPI)
Academic Support	▸ Cultural components	▸ Faculty	▸ Internationalizing curriculum ▸ Maintaining international standards for quality of education ▸ Proposing new joint programs and Interdisciplinary degrees ▸ Creating liberal arts education	▸ Internationalizing the institution in general	▸ Academic	▸ Number of internationalized curricula/courses ▸ % of international standards maintained in the programs ▸ % of curricula internationalized ▸ Number of joint programs formed. ▸ Number of interdisciplinary degrees in the institution ▸ Number of policies, decisions, and actions taken towards liberal arts notion implementation and its effectiveness.
Co-Curricular Engagement	▸ Interculturality	▸ Faculty	▸ Conduct (for students, staff, faculty and the whole community) interculturality: ▸ Awareness campaigns ▸ Engagement and implementation events ▸ Training and workshops to build an interculturally sensitive campus and interculturally competent members. ▸ Creating Global mindsets	▸ Internationalizing the institution in general	▸ Cultural and Social	▸ % attendance of these events ▸ Surveys to measure the Implementation of intercultural sensitivity attitudes on campus. ▸ Questionnaires and campus monitored engagement events to evaluate the global mindsets
Financial Support	▸ Fellowships	▸ Faculty ▸ Staff	▸ Merit and need based fellowships for international students. ▸ Discipline specific fellowships (especially interdisciplinary degrees) for all students.	▸ Growing and improving student mobility ▸ Internationalizing the institution in general	▸ Academic	▸ % of students benefiting from the fellowships
Student Services	Student Grants: ▸ Study abroad ▸ Conferences ▸ Research Faculty Grants: ▸ Research ▸ Joint publications	▸ Faculty ▸ Staff	▸ Exposing local students and faculty to international setups. ▸ International experience abroad ▸ Joint research and programs ▸ International collaboration ▸ Promotion for co-supervision with local and international faculty in partner universities	▸ Growing and improving student mobility ▸ Expanding and improving research	▸ Academic ▸ Cultural and Social ▸ Political	▸ Number of faculty and students benefiting from the grants ▸ Number of published research ▸ Number of citations ▸ Number of joint research conducted. ▸ Number of awards/promotions received

TABLE 2 ➤ Internationalization Framework throughout the Students' Journey

Step	Activity	Pit Crew Key Player	Strategy and Approach	Targeted Objective(s)	Rationale	Key Performance Indicator (KPI)
Graduation	▸ Degree completion ▸ Successful experience to be shared	▸ Faculty	▸ Maintain the graduation balance within the set study period. ▸ Graduates from different: ▸ Cultures ▸ Disciplines ▸ Joint programs ▸ Demographics	▸ Expanding and improving international student enrollment	▸ Economic	▸ Completion time ▸ Completion rate ▸ Exit survey to measure their satisfaction with internationalization aspects in their journey and intercultural awareness ▸ The advantages/benefit of joint/interdisciplinary programs
Alumni Services	▸ Diversified alumna body	▸ Staff	▸ International Partnerships ▸ Interdisciplinary market	▸ Growing and improving international partnerships	▸ Economic ▸ Political	▸ Number of international partnerships ▸ Number of partnerships with diverse marketplaces

Internationalizing Students' Journey

The internationalization strategy elements vary from one institution to the other. Nevertheless, most strategies are focused on mobility, short-term and/or long-term economic gains, recruitment and/or training of talented students and scholars, and international reputation and visibility (CHEI 2023, chapter 1). For each of these strategies there are objectives. And by examining professionals within the international offices from the United States and Canada, QS (2019) revealed in its report "How North American Universities are Approaching Internationalization" that the top five key objectives of those surveyed who do have an internationalization strategy are as shown in Figure 3A (on page 57).

Evidently to reach these objectives, internationalization approaches and tactics have to be implemented in each step of the students' journey. Hassanein (2022) illustrated "…. the students' success journey as a raceway, where the team's collective effort in offering support to students, in every step of the journey, is like the pit crew (faculty and staff) who offers car maintenance and the racer reassurance promptly, efficiently, and effectively throughout the race, to ensure a successful and safe finale." The journey shown in Figure 2 includes eight steps. In Table 2, the internationalization strategy demonstrated includes activities, pit crew team in

charge, approach, targeted objective, rationale, and key performance indicator (KPI) for each of the students' journey steps. The KPIs are used as a measurement tool for value and effectiveness. It is noteworthy to mention that measurement of value and effectiveness was identified as the biggest challenge of the five challenges stated by QS (2019) in the report (*see* Figure 3B, on page 57).

The Framework: Internationalizing the Institution through the Student Journey

Higher education institutions may find internationalization implementation overwhelming; to assist with that, the next section details the four indispensable activities to start with: internationalization of curriculum; intercultural competence; global mindsets; and joint programs, partnerships, and collaborative research and publications.

Internationalization of Curriculum

As previously mentioned, internationalization is "…the purposeful integration of international and intercultural dimensions into the formal and informal curriculum for all students within domestic learning environments" (Beelen and Jones 2015). Curriculum refers to "…all the activities, experiences, and learning opportunities (that is, the entire teaching and learning environment) that
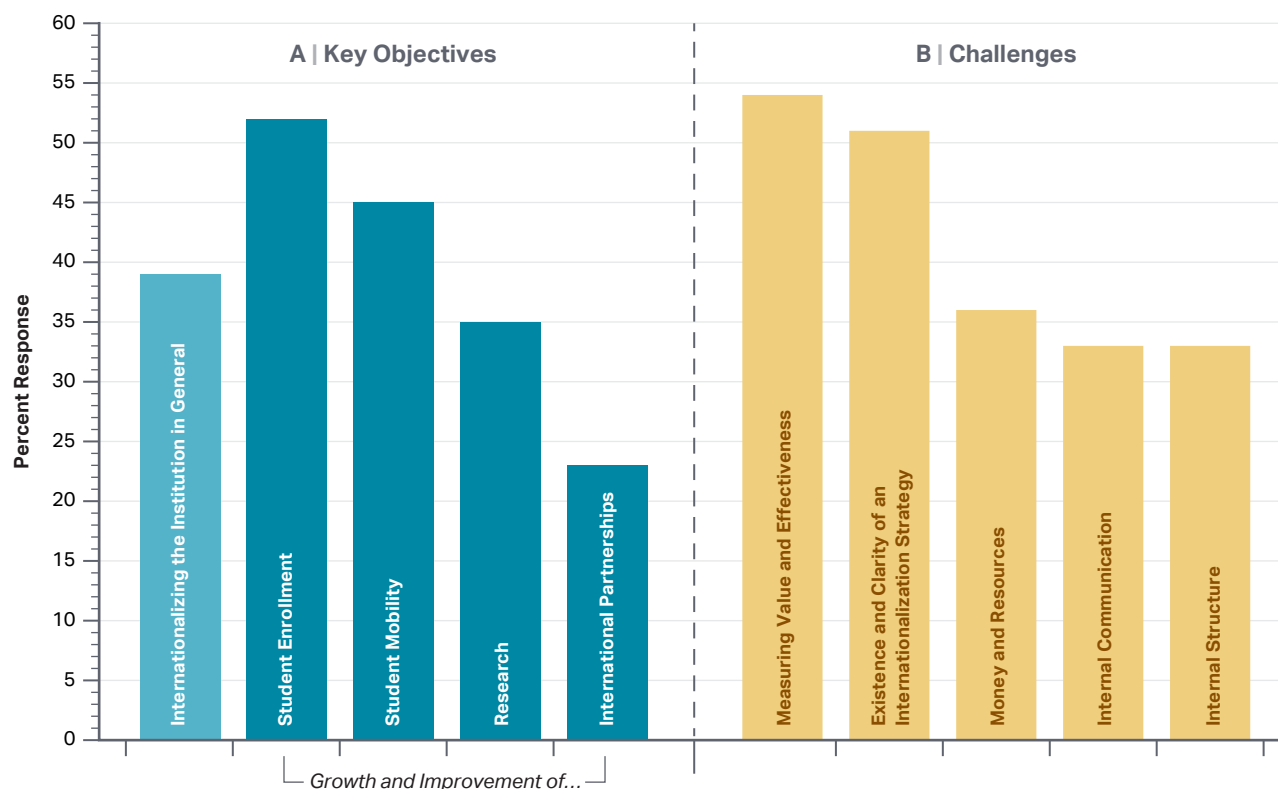
FIGURE 3 ➤ Top Five Internationalization Objectives and Challenges

students, academics, administrators, and support staff are part of. The curriculum involves the entire institution and all the intended (and unintended) messages conveyed to students while they are studying in our programs and on our campuses" (Kreber 2009). Accordingly, internationalizing the curriculum involves, as mentioned by Leask's (2015), the "incorporation of international, intercultural, and/or global dimensions into the content of the curriculum as well as the learning outcomes, assessment tasks, teaching methods, and support service of a program of study," extracurricular activities and on campus events.

Development

To internationalize the curriculum and make it internationally relevant and sensitive to intercultural issues, faculty and staff skills should be leveraged. The following are examples of the developmental practices and skills needed for higher education leaders to offer and develop:

- Engage faculty in the institution's internationalization discussions.
- Identify the messages the institution aims to convey to students, and the means of conveying it.
- Develop transparent policies and visions, with both short-term and long-term plans.
- Assist in designing and remodeling courses.
- Raise awareness of internationalization and interculturalism to fully integrate it into the curriculum.
- Select appropriate intercultural contents and pedagogies.
- Create new internationalized/intercultural courses.
- Integrate intercultural aspects in current courses despite the field of study, such as game design, writing, and entrepreneurship.
- Add internationalization objectives to the courses.

- Develop new assessment techniques to evaluate the internationalization outcomes
- Guide educators to visualize their educational purposes and pedagogies from an international point of view.

Alerts

Educators are demanded to be aware not to internationalize curricula in a superficial way just to make it appealing to international students or to only go with the internationalization flow.

Intercultural Competence

Student diversity enriches graduate students' experiences and leverages their intercultural sensitivity levels

HASSANEIN 2020

Cultures are considered "networks of knowledge consisting of learned routines of thinking, feeling, and interacting with other people…shared…among a collection of interconnected individuals who are often demarcated by race, ethnicity, or nationality; used to form the common ground for communication among members; transmitted from one generation to the next…"(Hong 2009). Internationalization facilitates a closer connection between cultures, thereby increasing mutual understanding and developing the next generation of global citizens. However, to be able to develop the connection between cultures, intercultural sensitivity, "the ability to discriminate and experience relevant cultural differences" (Hammer, *et al*. 2003), levels must be leveraged to pave the way to intercultural competence, "the ability to think and act in interculturally appropriate ways" (Hammer, *et al*. 2003), community.

Development

To incorporate the intercultural awareness into the community and adopt a multicultural attitude sensitive

to and appreciative of cultural diversity, the following practices and skills development are necessary:

- Allow international and local faculty, students, and staff from different cultures and backgrounds, and/or with different abilities, to speak out about the cultural aspects of their own personal experiences and share the similarities and differences.
- Offer workshops to discuss cultural diversity, how to be sensitive to it, and how it enriches personalities.
- Follow up with the stakeholders on how they develop their intercultural competence.
- Conduct self-reflection and self-development seminars. These seminars are to be adapted to match different personalities and help them connect more deeply with their own humanity, express themselves easily, and develop their intercultural sensitivity. Example: writing seminars, meditation and free talk, design thinking, and game designing.
- Raise awareness among all faculty, students, and staff of diversity and intercultural sensitivity issues.
- Conduct campus-wide discussions, events, and training for all faculty, students, staff, and the whole community.
- Review institutional strategic and enrollment planning to integrate intercultural components into the university's general strategy.

Alerts

Leaders have to maintain the balance as some members will voice against, resist, and deny interculturality while others will take it extremely and may forget to preserve their own cultures.

Global Mindset

By implementing the above-mentioned internationalization strategy, and integrating it in different processes, all higher education constituents, faculty, staff, and students will be upskilled to contribute to the internationalization process, be interculturally competent,

and support others to be competent as well. They will also transform into world citizens with global mindsets who accept, adapt, and integrate other cultures while respecting their own. Global mindset doesn't only refer to individual mindset but also to organizational mindset. Lane, *et al.* 2009, defined global mindset as "the capacity to develop and interpret criteria for personal and business performance that is independent of the assumptions of a single context and to implement those criteria appropriately in different contexts." To develop and utilize a global mindset in an institution, clear goals are to be set, and all stakeholders are to collaborate using concrete, systematized problem-solving techniques to reach these goals and find solutions to work jointly, with other partners, on the greater picture. (Rickmann and Dennis 2023)

Development

To reach the individual and institutional global mindset, numerous activities are necessary to be conducted. These include:

- Communicate internationalization goals clearly, and specify the role of the community members.
- Offer design thinking workshops to work on the internationalization implementation strategies and to reach solutions collaboratively.
- Assist the members (especially those with different cultures/abilities) to overcome alienation from their internal worlds and foster a more globalized sense of responsibility.
- Conduct training and events to encourage members to overcome any barriers to empathy, create a genuine commitment, and develop the global mindset.
- Develop staff technological skills to advance in enhancing the institution with a global mindset.

Alerts

While developing the global mindset, it is key that leaders be cautious not to overwhelm the community and affect their mental and psychological health.

Joint Programs, Partnerships and Collaborative Research and Publications

As the interdisciplinary mindset is key to navigate the new era, it would be effective to build collaboration between faculty from different disciplines. Getting faculty engaged in multidisciplinary projects would enhance their experience, allowing them to feel the empowerment of multicultural backgrounds and diverse skills and how all disciplines complement one another. Accordingly, they will be conscious of the positive impact of interdisciplinary mindset and guide and inspire their students to dive into the transdisciplinary world

HASSANEIN 2022

Internationalization of higher education has been traditionally seen as a conduit for sharing knowledge across borders, becoming open to different perspectives, and ensuring that students and staff (academic and administrative) learn through international collaboration. Faculty's interdisciplinary mindset and the collaboration between faculty members in the same institution has to be maintained. Furthermore, partnerships and international collaborations are necessary to internationalize teaching and research; build international curriculum; and enhance students' learning journey to assist them in developing a global mindset and acquaint them with the knowledge and skills needed in this era.

Development

To build partnerships and joint programs, efforts must be exerted to encourage faculty and staff and keep them engaged. Below are some of these efforts:

- Conduct international partnerships.
- Offer staff, faculty, and students exchange programs.
- Offer cross-departmental training.
- Create new interdisciplinary programs.

TABLE 3 ➤ Internationalization Strategies and Practices across the Enrollment Management Assessment Phases

Assessment Phase	Strategy
Enrollment Projections and Recruitment	Conduct multicultural events to show the interculturally accepting environment to attract: ▸ international students with different cultural, educational, and ethnic backgrounds; ▸ national students from different demographic areas, sectors, and social backgrounds; and ▸ students with different abilities.
Admission	Follow up with accepted applicants to encourage them to join the institution through showing success stories for international students and their enriching journeys at a multicultural friendly inviting environment.
Financial Support and Funding Opportunities	Allocate budget for: ▸ integrating internationalization into the institution's policies and strategic plan; ▸ internationalizing the institution; ▸ funding students who contribute to the internationalization process; ▸ conducting international partnerships; ▸ offering students support grants to allow them to conduct research, attend conferences or study a semester abroad; ▸ offering faculty support grants to conduct international research and publications with international faculty from peer institutions; and ▸ funding the evaluation and the implementation of new internationalized and interdisciplinary programs, curricula, and research projects.
Students' Journey	Welcome interculturally competent environment to encourage students to complete their degrees through: ▸ making international students, scholars, staff, and faculty feel at home and integrate new cultures as they wish for; and ▸ allowing local students, scholars, staff, and faculty to be interculturally competent and respect diversity while preserving their own cultures.
Retention	Retain international students through: ▸ personalizing their journeys according to their cultural backgrounds and intercultural sensitivity levels; ▸ offering mental and psychological support during the internationalization integration process; and ▸ developing intercultural competence skills and knowledge. This will: ▸ boost the quality of education and academic success rates; ▸ improve international students' academic experience; ▸ strengthen the image of the institution and the country worldwide; and ▸ improve the labor market in the top sectors.

▪ Encourage students to study courses from different disciplines that count toward their degree completion.

▪ Encourage faculty to conduct transdisciplinary research and publications.

▪ Collaborate with other faculty from local and international institutions.

▪ Host international conferences

▪ Reward co-supervision with local and international faculty from partner institutions.

Alerts

Educators are obliged to be careful not to get overwhelmed with joint programs and partnerships to the extent that they undermine the in-depth discipline program components.

Enrollment Management Internationalization Strategies and Practices

The following segment illustrates the potential enrollment management strategies to contribute to internationalizing higher education institutions. Table 3 illustrates these strategies in regard to "the enrollment management assessment phases enrollment projections and recruitment, admissions, students' journey, retention, and financial support and funding opportunities" (Hassanein 2022).

Conclusion

Higher education institutions are increasingly called upon to internationalize. Internationalization with its true essence has to be visualized by each and every member of the community. By doing so, buy-ins will be assembled, and their contribution will be guaranteed. Consequently, building an internationalized campus and implementing the internationalization strategy will be ensured.

The intertwined goals of internationalization must be considered. Leaders should not to ignore any of these goals at the expense of another. They have to be alert that while embracing internationalization with its multifaceted and ever-evolving characteristics, it is important to maintain the balance between the different rationales. This balance will allow internationalization to impact the institutions not only economically and politically but also academically/intellectually and socially. Meanwhile, administrators need to embrace the valuable effect of internationalization on upgrading the community's mindsets and upskilling them with lifelong learning techniques, as this will create trans disciplined intercultural competent citizens with global mindsets.

It is a requisite that higher education internationalization be designed as a component of the university's strategies with a systematic/planned approach. It is the institution's responsibility to prioritize internationalization goals and identify needs, rationales, and activities to build an internationalized social cultural immersive environment. Although goals of internationalization vary from one institution to another, they must include broad objectives such as: knowledge and skills of staff and students, knowledge production and dissemination, and cultural integration.

Within this dynamic era, leaders must be flexible and agile, as practices need to be revisited and adjusted regularly with a fresh critical eye, where needed. Partnerships to identify internationalization priorities, strategies, action plans, practices, and models are fundamental. It will allow universities to gain insights to revisit their own strategies and gain ideas from local and international institutions' models and best practices.

To ensure a smooth transition to an institution's internationalization, there is a need to persuade the stakeholders of the benefit of delving into new realms. This would also decrease their resistance and reduce the burdens on their wellbeing and mental health. Education leaders ought to take care of themselves and their community's wellbeing, and offer regular support to assist faculty, staff, and students to endure these changes and be sentient and satisfied with its benefit.

References

Beelen, J., and E. Jones. 2015. Redefining internationalization at home. In *The European Higher Education Area: Between Critical Reflections and Future Policies*, edited by A. Curai, L. Matei, R. Pricopie, J. Salmi, and P. Scott. New York: Springer.

Centre for Higher Education Internationalization. 2023. *Publications Linked to CHEI*. Milan, Italy: Author. Retrieved from: <organismi. unicatt.it/chei-publications-publications-linked-to-chei>.

CHEI. *See* Centre for Higher Education Internationalization.

Condette, M., and H. de Wit. 2023. *Shifting Models and Rationales of Higher education Internationalization: The Case of the Netherlands*. Milan, Italy: EDUCatt.

de Wit, H., F. Hunter, L. Howard, and E. Egron-Polak. 2015. *Internationalization of Higher Education*. Strasbourg, France: European Parliament. Retrieved from: <media.obvsg.at/AC15505020-2001>.

Kreber, C. 2009. Different perspectives on internationalization in higher education. *Internationalizing the Curriculum in Higher Education*. 2009(118): 1–14. Retrieved from: <onlinelibrary. wiley.com/doi/10.1002/tl.348>.

Hammera, M. R., M. J. Bennett, R. Wiseman. 2003. Measuring intercultural sensitivity: The intercultural development inventory. *International Journal of Intercultural Relations*. 27(4): 421–443.

Harvey, T. 2018. *An Educator's Guide to Intercultural Learning: Ten Ways to Inspire Learning Across Cultures*. Minneapolis, MN: True North Intercultural, LLC. Retrieved from: <academics.lmu. edu/media/lmuacademics/global-localinitiatives/documents/An%20 Educators%20Guide%20to%20 Intercultural%20Learning.pdf>.

Hassanein, S. 2020. A practical framework for a data-driven graduate enrollment management plan. *Strategic Enrollment Management Quarterly*. 8(2): 19.

———. 2022. Reimagining higher-ed in the new era: upskilling competencies toward enhancing enrollment management. *Strategic Enrollment Management Quarterly*. 9(4): 17.

Haug, E., and L. Jacobs. 2023. *The Design of Collaborative Online Internationalized Learning (COIL)*. Milan, Italy: EDUCatt.

Hunter, F., and N. Sparnon. 2016. Learning international strategy: Time to get real. *EAIE Blog*. Retrieved from: <eaie.org/blog/learning-internationalisation-strategy-time-getreal.html>.

Hunter, F., B. McAllister-Grande, D. Proctor, and H. de Wit. 2022. The evolving definitions of internationalisation. A question of values. In *Handbook on International Higher Education* (2nd ed.), edited by D. Deardorff, H. de Wit, B. Leask, and H. Charles. Sterling, VA: Stylus.

de Wit, H., F. Hunter, E. Egron-Polak, L. Howard, and R. Coelen. 2023. *Internationalization of Higher Education Shifts in Response to New Opportunities and Challenges*. Milan, Italy: EDUCatt.

Knight, J. 1997. Internationalization of higher education: A conceptual framework. In *Internationalization of Higher Education in Asia Pacific Countries*, edited by J. Knight and H. De Wit. Amsterdam: European Association for International Education.

———. 2003. Updating the definition of internationalization. *International Higher Education*. 33: 2–3.

———. 2004. Internationalization remodeled: Definition, approaches, and rationales. *Journal of Studies in International Education*. 8(1): 5–31.

Knight, J., and H. de Wit. 1995. Strategies for internationalization of higher education: Historical and conceptual perspectives. In *Strategies for Internationalization of Higher Education. A Comparative Study of Australia, Canada, Europe, and the United States of America*, edited by H. de Wit. Amsterdam: European Association for International Education.

———. 1997. *Internationalization of Higher Education in Asia Pacific Countries*. Amsterdam: European Association for International Education.

———. 2018. Internationalization of higher education: Where have we come from and where are we going? In *The Future Agenda for Internationalization in Higher Education: Next Generation Perspectives into Research, Policy, and Practice*, edited by D. Proctor and L. E. Rumbley. Abingdon, Oxforshire: Routledge.

Lane, H.W., M. L. Maznevski, and J. Deetz. 2009. *International Management Behavior: Leading with a Global Mindset* (6th ed.). San Francisco: Wiley.

Rickmann, J., and J. l. Dennis. 2023. *Openness in Higher Education: A Path Beyond Tribalism and Towards Global Mindsets*. Milano, Italy: EDUCatt.

Qiang, Z. 2003. Internationalization of higher education: Towards a conceptual framework. *Policy Futures in Education*.1(2), 248–270.

QS. *See* Quacquarelli Symonds.

Quacquarelli Symonds. 2019. *How North American Universities are Approaching Internationalization*. London, UK: Author. Available at: <qs.com/north-american-universities-approaching-internationalization/>.

Schoorinan, D. 1999. The pedagogical implications of diverse conceptualizations of internationalization: A U.S. based case study. *Journal of Studies in International Education*. 3(2): 19–46.

Scott, R. A. 1992. Campus Developments in Response to the Challenges of Internationalization: The case of Ramapo College of New Jersey (speech).

Van der Wende, M.C. 2001. Internationalization policies: About new trends and contrasting paradigms. *Higher Education Policy*. 14(3): 249–259.

Van Vught, F., M. Van der Wende, and D. Westerheijden. 2002. Globalization and internationalization: Policy agendas compared. In *Higher Education in a Globalizing World. International Trends and Mutual Observations. A Festschrift in Honor of Ulrich Teichler*, edited by J. Enders and O. Fulton. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Warner, G. 1992. Internationalization models and the role of the university. *International Education Magazine*.

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Shaimaa Hassanein is a Graduate Enrollment Management and Assessment Senior Manager at the American University in Cairo. Hassanein is responsible for developing assessment models, metrics, and strategic enrollment management plans and implementation procedures. She also identifies and communicates assessment measures for graduate pro-grams performance and creates data visualizations, mapping, and stories. Moreover, she consults graduate program directors on the best practices to manage students' enrollment, retention, and satisfaction. In addition, she develops models for the successful graduate students' study journeys and initiates the integration of new skills and principles such as lifelong learning, design thinking, AI, and data literacy. Furthermore, Hassa-nein generates the AUC graduate crisis management plan and strategic enrollment management plan and oversees and follows up on its implementation.

Hassanein has published articles, presented at conferences, and delivered workshops and consultancy services that offer assessment frameworks, digital readiness, and enrollment management strategies and implementation techniques to reimagine higher-ed.

LEADING STRATEGIES

Delivering the Right Message for Maximum Impact in the Student Enrollment Journey

By Ashley Miller

Meeting today's prospective college students where they are is key to staying ahead of current enrollment challenges. Understanding which messages resonate with which students and at certain parts of the enrollment funnel helps to ensure institutions are getting the right message, to the right student, at the right time in their journey. By utilizing a MaxDiff approach, one can better understand the impact a particular message has compared to others and which combination of messages will ultimately drive action. The maximum difference scaling (MaxDiff) method provides useful guidance on how enrollment professionals can better segment their communication strategies to their multiple constituents. While affordability messages are most impactful, especially to parents, prestige and employability were well received by already-admitted students. Further differences between key segments emerged from the data, creating a better understanding of how to inform strategic initiatives. The messaging preferences of additional groups, however, remain to be explored, such as graduate students, adult learners, international students, alumni, and other segments that are important for institutions that are building and refining their strategic enrollment plans. This article provides a framework on how institutions can better optimize their messaging to maximize impact in the student enrollment journey.

Imagine being in the shoes of today's prospective college student. How many universities does the average student consider today? Who is influencing the student's decision? What messages does a university give this student that makes them believe it is the right choice for them? These questions, plus many others, are critical in understanding the why behind the reasons prospective students apply to, consider, and ultimately enroll in a particular institution.

With more than 4,000 higher education institutions in the United States (Bouchrika 2022) and an undergraduate market continuing to experience declines (Sedmak 2022), the need for a differentiated and effective messaging strategy in higher education is more important than ever. When a prospective student is trying to decide which college or university may be right for them, there are many factors that go into their decision-making process, including but not limited to: affordability, prestige, balance, safety, and supportive transformation. While the student is weighing multiple enrollment options, their parents/guardians are critical influencers and decision-makers as well (Reid 2023).

The role of an enrollment management professional is wide-ranging. Many roles include everything from knowing how to best recruit and retain students, to creating partnership in the community, and using data to inform decision-making in order to meet enrollment and revenue goals. Today's enrollment management offices are also having to do more with fewer resources than ever before. To better optimize the use of time, money, and resources, having data to understand what resonates with an institution's audience helps everyone on campus be more strategic in the story they tell about their particular campus.

At Purdue University, a land-grant institution in Indiana of nearly 40,000 undergraduate students, there is an ongoing desire to understand the audiences the institution serves through research and insight. Many in higher education can point to 'reasons to believe' (RTBs) as key claims or promises one can make about their institution, department, or program. As one can imagine, there are many messages Purdue University touts

proudly. Being able to employ the use of data and analytics, both quantitatively and qualitatively, helps to set strategic enrollment management (SEM) professionals up for success and provide institutions a competitive advantage (Sigler 2017). In early 2022, Purdue University had the unique opportunity to partner with Sunseed Research to help better understand how its ever-evolving constituents respond to current and proposed RTBs.

Objectives Drive Research Design

Through this partnership, Purdue University wanted to learn whether the RTBs developed over time resonated with the audiences served, how this changed at different points in the decision journey, and how one could best optimize messaging for the future. Multiple approaches were explored to answer these questions. Two approaches commonly used are traditional rating scales and rank-ordered messaging. Traditional rating scales in research can produce results that show all items in the set are viewed equally. This approach didn't provide guidance as to which messages should be emphasized more than others. Rank-order messaging is another alternative. This approach, however, assumes that an item ranked first is equidistant to the next item ranked as second, third, and so on.

To really understand the magnitude of a message, a maximum difference scaling (MaxDiff) approach is the ideal method to answer the university's questions. Using a MaxDiff approach allowed the ability to test 30 different messages that touch upon Purdue University's brand pillars of: accessible prestige, safety and security, supportive transformation, shared drive, thinkers and doers, and balanced life. When utilizing a MaxDiff, it does not involve rating scales, rankings, or require the respondents to enter a value of any kind. It's a simple design that forces choice. A respondent is asked to select the message that does the "best job" of making them want to learn more about Purdue University and which one does the "worst job" out of a set of four messages at a time. A respondent will do this until they complete the necessary amount of combination sets needed for analysis. Based on their responses, the set presented

to each respondent on each screen will differ as the approach is a real-time, iterative process.

The research design provided clarity on the university's overarching goals for the study:

- Which messages do the best job of making respondents want to learn more about Purdue University?
- What mix of messages would provide the greatest reach inside a given segment?
- What messages work best for different sub-segments of the population?
- Does exposure to these messages ultimately increase interest in Purdue University?

Messages were tested with several key audiences as well as multiple points in the funnel:

- **Prospective Students:** Those who were in grades ninth through eleventh and were classified as a prospect or inquiry in the customer relationship management (CRM) system.
- **Admitted Students:** First-year beginner students who were admitted for the fall 2022 semester at Purdue University—West Lafayette campus.
- **Parents:** Defined as adults who indicated they were the parent of guardian of a high school age student interested in pursuing a four-year college education after graduation.

From the audience groups above, a total of 42 different sub-segments were analyzed. These sub-segments included in-state versus out-of-state students, under-represented minority (URMs) students, those who had a legacy connection to the university versus those who did not, gender, area of study, among many other groups. Knowing which messages resonate with specific sub-segments gives Purdue University a strategic advantage. The university could also use these findings to know *when* in the student journey specific messages should be utilized over others. Table 1 (on page 14) shows a student journey map that represents the various stages in the student journey.

Key Insight: Frozen Tuition is Important but it's Not Everything

One of the frequent messages Purdue University has used over the past eleven years at has been its ability to keep tuition frozen, an aspect that has been unique to the institution. While it may come as no surprise that the frozen tuition message resonated across audiences, the research uncovered more nuanced findings. For example, the tuition freeze message had less impact with individuals who lived farther away from Indiana. This was an important finding, as it allowed more opportunity to concentrate on the messages that resonated more with an out-of-state audience such as return-on-investment and the ability for students to work on real-world projects with well-known companies. These distinctions were seen across the different audiences and with students at different points in their journey. Affordability messages were most impactful among parents, while prestige and employability were well received by already-admitted students.

To further understand the mindsets of Purdue University's students, when they went through the exercise online, they were presented with their top two messages based on the MaxDiff scoring. When presented with these two messages, respondents were asked why these messages resonated with them. Here is a sampling of the responses for those who indicated the frozen tuition message was among their top two messages:

I like this because it means there will be no financial surprises each year if I chose to attend Purdue.
—HIGH SCHOOL STUDENT

It demonstrates that Purdue cares about giving a high-quality education instead of just making money.
—HIGH SCHOOL STUDENT

I hate stress and I truly feel that being in debt is one of the worst stresses you can feel in your life. By looking at affordable colleges, I can mitigate this stress while still attending a school that's right for me.
—ADMITTED STUDENT

TABLE 1 ➤ Student Journey to Enrollment

		Stage					
	Wonder	**Research[1]**	**Evaluate[1]**	**Apply**	**Wait[1]**	**Decide[1]**	**Enroll**
Timeframe	Freshman, sophomore year or earlier	Junior year, varies	Late junior year	Summer before senior year, first semester of senior year	Some of fall, winter break and early spring semester of senior year	Spring of senior year	Around May 1 (standard college decision day)
The Big Question	What do I want from my college experience?	Which colleges should I consider, and which will be the right fit?	Can I get accepted at, thrive at, and afford the schools I'm applying to?	What makes a competitive application, and how do I balance everything?	Will I get in?	How do I know if I'm making the right choice?	What are my next steps?
Goals	Decide if college is for me, start learning more	Determine needs in eight areas[2] and find schools that fit	Narrow down list of 5-10 schools, find info on application requirements and continue research	Build and submit strong applications and meet all deadlines	Wait patiently	Receive offers, evaluate packages and make a final decision	Take care of enrollment next steps, battle senioritis and enjoy graduation
Actions	Discuss options with support system, get good grades, get involved in extracurriculars	Visit campuses, attend college events, discuss options with support system	Attend formal visits, meet with recruiters, conduct	Manage requirements and deadlines, write essays; complete fin. aid forms, secure transcripts and letters of rec.	Complete FAFSA and scholarship applications, send updated application materials if required	Visit campuses again; contact admissions staff, college recruiters, faculty and current students to ask questions	Accept enrollment on school site, notify friends via social media, share news with family
Interactions	Websites, social media, ranking lists, summer camps, high school counselors, family and friends	Websites, social media, campus visits, events, mailings, emails, ranking lists, current students	Websites, social media, campus visits, events, mailings, emails, ranking lists, current students	Websites, social media, application portals, college admin staff, high school counselors	College administrative staff, social media	Campus visits, enrollment portal, social media, emails from colleges and university websites	Websites, social media, admitted student pages and group chats
Pain Points	Lack of access to college-connected people in their lives	Researching schools is challenging and time consuming	Finding out which claims and rankings are true	Depending on others for rec. letters, transcripts; understanding the process and differing requirements by school	Feeling of lack of control	Changing course if not accepted into major or dream school	Huge life change is right around the corner

[1] Indicates nonlinearity and student-dependent nature of these stages
[2] Majors, cost/value, career outcomes, reputation, student life, location, size, and private vs. public

While frozen tuition may be viewed as a functional message, the open-end responses shows it also provides an emotional benefit. With nearly three quarters of today's college students reporting some sort of severe stress (Abrams 2022), knowing that frozen tuition can play a role in mitigating stress for the future can help meet student needs. It's also important for Purdue University to understand the meaning frozen tuition carries among this audience so the university can position (or reposition) it appropriately for the future. Marrying the "why" with the "what" allows further development of the messaging strategy to create a differentiated position in the marketplace.

Overall, three main messaging themes performed well across the majority of sub-segments. The three themes included messages around affordability, preparation for the real world, and external recognition from well-known and well-respected sources.

Getting the Right Mix Creates Opportunity

While knowing which message to use is critical, one also needs to know which mix of message(s) would give the greatest likelihood of making a meaningful connection. Using TURF, (Total Unduplicated Reach and Frequency), helps to determine which combination of messages would appeal to the greatest number in each of the audiences with the least overlap. Surprisingly, the frozen tuition message wasn't the one that would universally give Purdue University the best reach. The message that highlights students who can work on real-world projects (along with a few others) would maximize reach, as demonstrated in Table 2 (on page 16).

While there were consistencies between the groups, there were also differences the TURF identified that would have been difficult to discern from the MaxDiff outputs. For admitted students, incorporating rankings related to the graduate program was a message that needed to be included in the mix. For parents, learning more about the 200-plus majors offered at Purdue University showed the greatest incremental increase in reach. These insights provided another opportunity to further tell stories that showcased the depth of disciplines that students could study—from mechanical engineering, game design, nursing, marketing, and more.

With more than 2,000 completed surveys, the data could be segmented by region, academic area of interest, and basic demographic characteristics. With the partnership with Sunseed Research, an online simulator allowed for further analysis based on key questions posed after sharing the insights across campus. The online simulator has been instrumental in developing further strategies and tactics. A few additional findings by using the tool have included:

- Messages around diversity and cultural centers score higher among those interested in liberal arts.
- Even with the removal of affordability-based messaging, TURF results remain high across all groups with safety and study-abroad messaging being added to the mix in their place.
- Study abroad opportunities perform higher with female students than with male students.

Actionable Steps to Influence Strategy

Overall, there was a fifteen-percentage point pre to post lift in consideration for Purdue University. This means by simply exposing students and parents to these messages, marketing is moving the needle toward consideration of Purdue University, which will ultimately help in meeting enrollment goals among key audiences. Campus partners continue to learn more about the university messaging using its online simulator and with additional conversations and presentations across campus, and beyond. As other institutions explore similar methods of testing, here are a few key factors to consider:

- **Ensure a variety of messages:** Messages that cover a wide variety of topics and themes can help institutions better understand which content areas to emphasize and others that may need less attention.
- **Length of message matters:** With the variety of messages in mind, be sure that that they are also similar in length to minimize bias due to message length.
- **Educate others on the research method first:** Think about the varying levels of expertise in areas of re-

TABLE 2 ➤ Effectiveness of Messaging

	Overall			
	Prospects	Admits	Parents	URM Students
% Reached	79.8	80.8	84.4	70.8
Audience				
Students can work on real-world projects sponsored by companies like Microsoft and Ford Motor Company contributing to innovative solutions that change industry	✓	✓	✓	✓
Tuition has been frozen for 11 straight years now, making a world-class education attainable for more students than ever before	✓		✓	
Named one of the 10 U.S. colleges that pay off the most with Harvard, Stanford, Princeton and Michigan by *CNBC*	✓	✓		✓
59% of Boilermakers now graduate debt-free, compared to the national average of 39%	✓	✓		✓
Ranked as one of the top 10 public universities in the U.S. by *The Wall Street Journal*			✓	
Ranked the #4 best graduate program in engineering in the nation by *U. S. News & World Report*		✓		
A variety of cultural centers on campus, including the Black Cultural Center, Latino Cultural Center, the LGBTQ Center, and more				✓
Over 200 undergraduate majors allow students to take their next giant leap in disciplines like mechanical engineering, game design, nursing, marketing and more			✓	

search and insights across campus. An initial introductory video can help share findings with teams, so conversation may be spent on developing action items from the data rather than explaining the research method.

- **Everyone learns differently:** When educating on the method, it may be necessary to use multiple mediums (video, lunch and learns, one-page leave-behinds that hit the highlights, etc.). This may seem like extra work but at the end of the day, it allows the message to get across to multiple users so they can carry the story forward to their respective teams.
- **Simulate often:** The online simulator provides an excellent opportunity to be strategic and tactical. With the simulator, one can conduct real-time analysis

without having to continually bring in a partner for additional analysis. Purdue University continues to ask questions regarding students who reside in state versus out of state, first-generation versus non-first-generation, and even by those who fall within a particular attitudinal segmentation mindset, such as those with a social focus or career-minded, over others. Continuing to leverage this tool from Purdue's partners at Sunseed Research has extended the use of the initial research findings, which helps make better decisions overall.

- **Show some quick wins:** At Purdue University, a dedicated webpage[1] shows a variety of inspiring stories

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[1] *See* <stories.purdue.edu>.

about boilermakers. The findings from this research provide a roadmap for some of this content and is a meaningful way to connect research to action.

While the findings from this research provide actionable guidance to best prioritize messages, there are still many unanswered questions to explore in the future. There are other audiences institutions serve in addition to traditional undergraduate students, such as adult learners, graduate students, and others. The messages for these groups can be varied and often program-specific, making a large-scale study difficult and at times, expensive. There are opportunities in these instances to do more in-market or A/B level testing to see what patterns emerge. Another option to explore is qualitative interviews, which offer insight into the

"why" behind a viewpoint and can also happen more quickly than a quantitative study. These additional findings can help add to the collective understanding of what prospective students are looking for in the institutions of tomorrow and, in turn, how institutions can become more student-centric by making data-informed decisions based on feedback directly from their audiences.

Enrollment leaders who have insight into their audiences become more strategic in meeting the goals of universities in an ever-changing and complex environment. This work has allowed Purdue University to create a common understanding as to which messages will ultimately drive the most impact and ensure the institution is meeting its audience where they are in their respective journey.

References

Abrams, Z. 2022. Student mental health is in crisis. Campuses are rethinking their approach. *Monitor on Psychology*. October 12. Available at: <apa.org/monitor/2022/10/mental-health-campus-care>.

Bouchrika, I. 2022. *75 U.S. College Statistics: 2023 Facts, Data & Trends*. Research.com. Available

at: <research.com/universities-colleges/college-statistics>.

Reid, K. 2023. *Five Ways to Jumpstart Parent Communication in 2023*. Austin, TX: Encoura. Available at: <encoura.org/five-ways-to-jumpstart-parent-communication-in-2023/>.

Sedmak, T. 2022. *Stay Informed with the Latest Enrollment Information*.

Herndon, VA: National Student Clearinghouse Research Center. Available at: <nscresearchcenter.org/stay-informed/>.

Sigler, W. 2017. *SEM Core Concepts: Building Blocks for Institutional and Student Success*. Washington, D.C.: American Association of Collegiate Registrars and Admissions Officers.

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THE RESEARCH AGENDA

Influencing Student Persistence of Low Performing, First-Term Students through Academic Enrichment

By John Haller and Darby O. Plummer

Student retention in higher education is a primary indicator of institutional reputation, impacting factors such as national rankings, admissions selectivity, and alumni support (Lee, Sanford, and Lee 2014). Programs designed to support student success in the first year and beyond generally intersect with the institutional mission. Utilizing quantitative data, the University of Miami (UM) identified academically at-risk students and developed an intervention program to help them get back on track. UM positively affected retention rates for this population by eight percentage points over the past seven years. This study highlights the specific details of data analytics, program development, and both quantitative and qualitative outcomes for this student persistence initiative.

The University of Miami (UM) is a private not-for-profit institution classified by the Carnegie Commission as a doctoral university with the highest research activity (R1). The university's twelve colleges and schools offer 138 bachelor's, 140 master's, and 67 doctoral (62 research/scholarship and five professional practice) programs. UM is made up of three campuses and the Richmond Facility, which incorporates more than 200 university-owned buildings on more than 400 acres. The main campus, Coral Gables, is made up of two colleges and seven schools providing both undergraduate and graduate-level education. This study focuses on the undergraduate student population located on the Coral Gables campus, which in Fall 2021 reported an unduplicated headcount of 11,925 degree-seeking students. Forty-six percent of the undergraduate student body identifies as Hispanic or Latino, Black, Asian/Pacific Islander, American Indian, or multi-racial (University of Miami 2021)

Purpose

UM has enjoyed robust retention and graduation rates since 2009, which culminated with a *U.S. News* ranking

as a top 50 national university in 2012 (*U.S. News* 2012). With a retention rate of 93 percent and a six-year graduate rate of 82 percent in 2022, the number of students who do not persist is low relative to the 72 percent national average first-year retention rate and 64 percent national average six-year graduation rate (University of Miami 2021; NSC 2022; NCES 2022). As such, it was difficult finding a meaningful population of students who exhibited persistence barriers. However, students who earn a GPA of 2.0 or below in the first term exhibit lower retention rates than those who earn above a 2.0 GPA. Latest data from Fall 2023 shows that students earning above a 2.0 after the first term had an average retention rate of 92.8 percent, while students earning at or below a 2.0 GPA were retained at 70 percent (Calvo 2023) This population contributes annually to a 1 percent lower overall retention rate for UM. Note that a one percentage point decline in retention results in a loss of $2.6 million in institutional net revenue over three years. Additionally, students with below a 2.0 GPA are at risk of losing institutional and federal financial aid support for not meeting the minimum GPA requirements needed to retain eligibility. Losing access to financial resources can necessitate transferring to another institution. To assist this population, the GPAid program was developed to identify and provide support for first-year students at the end of the first semester.

GPAid

GPAid is a cost-free program designed to support students who are not meeting the minimum academic requirements in their course of study at the end of their first term in college. It addresses student challenges holistically, helping students identify and overcome both academic and non-academic factors that adversely impact their success in the first college term. The program includes four components—self-assessment/motivation/empowerment; overcoming apprehension to engage with support services; building a meaningful advisor relationship; and understanding UM policies—all geared toward getting the student back on track quickly while minimizing the long-term impact of underperforming in the student's first term.

GPAid launched in Fall 2015 as a pilot in the College of Arts and Sciences. Thirty students were identified as program eligible, with ten students opting to participate and become the first trial cohort. The results of the GPAid pilot were encouraging. All ten participants persisted into the subsequent fall semester, with 100 percent retention, while those who did not participate, retained at 70 percent. Additionally, the trial participants earned an average GPA of 2.09, 0.45 higher than those who did not participate with a GPA of 1.64. GPAid participants had an average term GPA increase of 0.60, while those invited who did not take advantage of GPAid only improved their term GPA by 0.27. The longitudinal results of GPAid are presented in Figures 1 and 2.

Based on GPAid's initial success, other UM schools and colleges requested to join. As of 2020, GPAid is now offered across all nine undergraduate schools and colleges at UM and is considered a staple for ongoing first-year student support.

GPAid is offered cost-free to students to remove program adoption barriers. It underscores UM's commitment to student success and the "preparing students for lifelong careers" mission that begins with successful academic progress to degree completion. Additionally, a financial incentive exists for GPAid participation for students who receive financial assistance within the Office of Student Financial Assistance and Employment (OSFAE). Students who receive financial assistance are required to successfully complete coursework toward an eligible degree. This is called Satisfactory Academic Progress (SAP) and need-based financial aid, scholarships, and grants are awarded each year based on an assessment as to whether the student is meeting SAP or not. When a student is not meeting SAP, they are considered ineligible for aid and thus do not receive the financial resources from outside sources that they had previously counted on. When a student is not meeting SAP, an appeal can be submitted for consideration, explaining what prevented them from making adequate progress and what they are doing to ensure future success. The GPAid program criteria were developed in concert with OSFAE to meet appeal guidelines for students facing SAP issues. As a result, rather than

losing financial assistance, students who successfully complete GPAid continue to receive both institutional and federal financial aid in "warning" status until the student returns to satisfactory academic standing. This approach removes the financial barriers for students who have struggled academically and is a meaningful incentive for students to opt into GPAid. As a result, GPAid has achieved a near 50 percent adoption rate for those invited to participate, and an average of 60 students complete GPAid each year.

Prospective GPAid participants are invited to join the program via email or a print brochure mailed to the home address. The invitation and brochure communicate a message about UM's belief in the student's ability to succeed and the historic success of GPAid.

The first component involves self-assessment, guiding students to reflect on the activities, attitudes, choices, and behaviors that adversely impacted academic performance in the first semester. The self-assessment guide, titled *Barriers to Success*, provides students with opportunities to identify and appreciate how behaviors and choices impact the college experience while helping form a foundation of self-efficacy and ownership for future change (Whitley, Takahashi, Zwickle, Besley and Lertpratchya 2018). The survey also provides meaningful insight that is shared with a student's academic advisor lending to more effective interaction.

The second component of GPAid focuses on the removal of embarrassment or shame surrounding poor academic performance (Nurdin, Askar and Adawiyah 2021). GPAid provides intentional foundational skills needed for achieving academic success (Alalawan, *et al.* 2019). This component includes a group orientation and two in-person workshops on time management, study skills, and mental health. During the orientation, students participate in interactive in-person sessions with a prior successful GPAid program completer and program coordinator. Conversations involve strategies that remove the stigma of failure and normalize the challenges of college transition while establishing program parameters that have proven to get students back on track. This portion of GPAid is grounded in the fact that "as much as 25 percent of student's academic success is determined by

affective or nonacademic characteristics such as student attitudes, motivation; the degree to which students are connected to peers and university personnel as well as the degree to which a student is willing to seek help" (Fowler 2010). (While this is Fowler's understanding (p.2), the original idea belongs to Bloom [1976]). The workshops engage students with UM's academic resources; these sessions focus on time management, study skills, and utilizing UM's counseling center to address issues of mental health that can adversely impact academic performance (Eisenberg, Golberstein and Hunt 2009).

Building on Bloom's (1976) affective characteristics that impact academic success, the third component of GPAid focuses on building the student-advisor relationship (Bloom 1976). Four mandatory advising sessions are required within GPAid, as a student's relationship and interaction with the academic advisor can be the biggest factor in promoting student retention (Tinto 1990). These sessions are held at specific times and are pre-scripted so each session addresses topics critical to the moment. The sessions also ensure consistency of content and delivery across all nine schools and colleges.

The first advising session occurs within the first month of a student's second semester and focuses on "getting to know your student." The session is dedicated to relationship building knowing that, "students who are the happiest and academically the most successful have developed a solid relationship with an academic advisor" (Drake 2011).

The second advising session was developed for early intervention. This session, held during the second month of the term, gives students and advisors time to discuss areas of student concern. Conversations include both academic and non-academic topics, such as coursework confidence levels and social, health, or financial concerns. Academic advisors connect students with applicable campus resources and services.

The third advising session focuses on registration preparation for the upcoming term. This occurs during the third month of the term and informs students about course sequencing in their major, addresses enrollment barriers such as registration holds, and ensures that students are actively engaging with campus resources.

The final advising session, held two weeks before final exams, provides students with mindset skills needed to complete the term. This includes mental health strategies addressing stress or anxiety, priority setting, and refreshers on UM policies to maximize academic success.

Qualitative Outcomes

Qualitative measures of GPAid, captured within the *Barriers to Success* survey, highlight that when asked about resources utilized on campus, most students indicated that they had not made use of or had only slightly used available resources. Of the resources utilized, academic advising, the student health center, and the counseling center were the three most cited. Notably, students typically did not engage with the academic resource center, the writing center, or tutoring services, illustrating that although they were struggling academically, they did not reach out to the most relevant help resources.

Poor time management, fear of failure, mental health issues, social distractions, and feelings of isolation were the top personal barriers indicated by students. The most cited time commitment barrier focused overwhelmingly on too much screen time like TV, social media, or video games. Students also indicated their top institutional barriers to success were a lack of connection to their academic advisor and poor study skills, such as a lack of concentration and skipping class. The top reason indicated as a barrier to personal study skills was not enough time spent reviewing the material. Most students expressed concerns about poor performance on tests and quizzes and noted a lack of fit with their major as a contributing factor to their academic success.

Quantitative Outcomes

The impact of GPAid has been evidenced by the difference in retention rates between students who were eligible for the program but did not participate, versus the students who completed the program. Since Fall 2017, program participants have consistently retained at 100 percent, with the exception of Fall 2020, during the COVID-19 pandemic, when participants retained at 98 percent. This is in comparison to a 92 percent average retention rate for non-participants over the past five years. Note that results of GPAid from the pilot program are not included in Figure 1 (on page 7), as the format was not finalized until Fall 2017.

GPAid success was also evidenced in the change in term GPA from fall to spring as shown in Figure 2 (on page 9). GPAid participants saw an average term GPA increase of 0.97, while students who elected not to participate had a 0.46 average change in GPA from fall to spring (more than double the improvement).

Looking Ahead

GPAid is celebrated as a successful partnership between enrollment management and academic affairs and is evidence of the positive impact of collaboration. Looking ahead, UM continues to work to reduce the number of students eligible for GPAid, meaning fewer students qualify for the program. With continued onboarding development efforts and an expanded first-year freshman seminar course, fewer students will face academic challenges during the transition from high school to college. At UM, as the number of students with a GPA of 2.0 or under in the first semester drops, inviting students with a higher GPA has been considered. Additionally, efforts continue to maximize adoption rates as outcomes show those who participate achieve meaningful improvements in academic success and persistence. Adoption rates are lower for students who do not receive financial aid, so additional work on effectively communicating the value proposition for GPAid, outside of a financial incentive, continues. Qualitative measures of GPAid, as captured by the *Barriers to Success* survey, show that students who opt into the program are motivated to improve. Finally, work continues to maximize completion rates of students who opt in but fail to complete GPAid. As referenced, students must possess the willingness and motivation to engage with the programs and services that exist. Continuing to address effective challenges hindering students from utilizing available resources that positively impact their success is an ongoing effort.
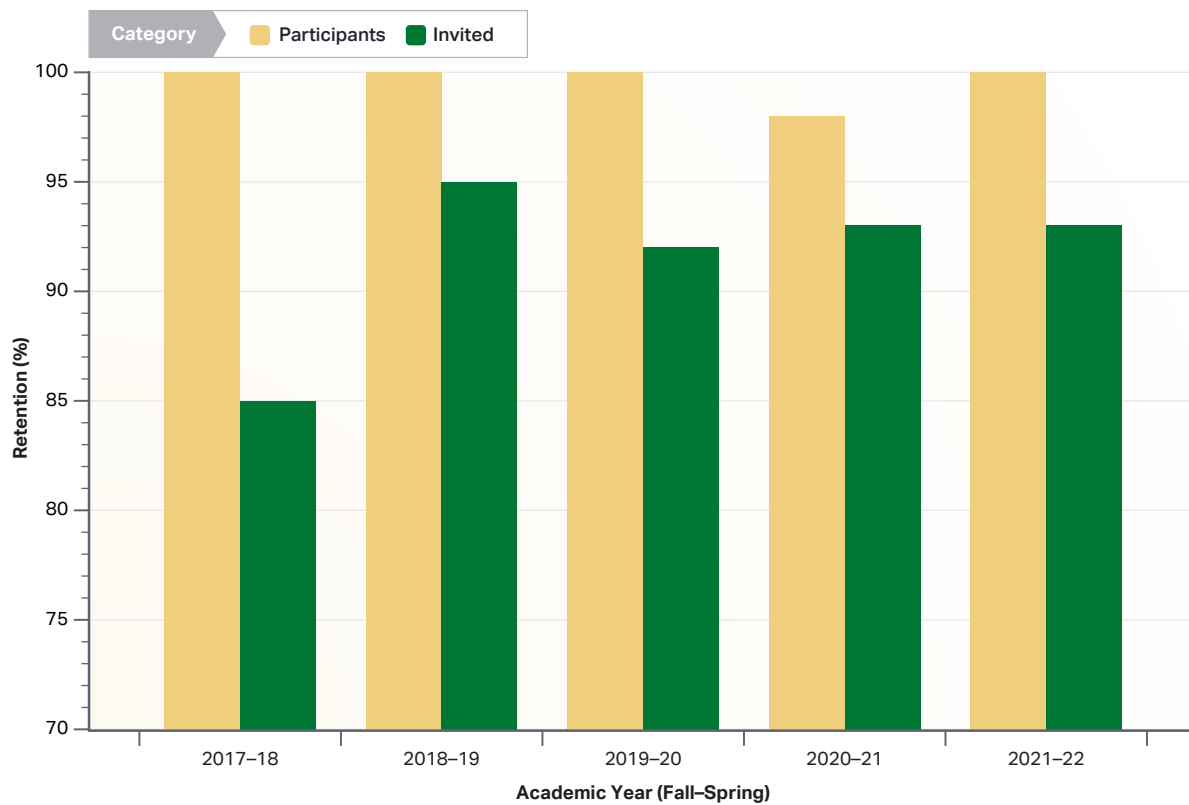
FIGURE 1 ➤ Fall to Spring Persistence Rates

Implications

Institutions interested in working to increase student persistence should first understand the causes of student attrition. Assessing the persistence rates of students who perform below certain GPA thresholds after the first semester, could give justification for launching a GPAid-like program. The GPA thresholds can vary based on institutional analysis.

Institutions might also consider launching a GPAid-like program for at-risk students in the first semester of freshman year before facing academic hardship. Institutions could also consider operating a summer bridge GPAid-like program in advance of the first semester for at-risk students. Each of these potential opportunities involves doing institutional analysis to determine, historically, who the at-risk students are. This could involve assessing admissions information about high school GPA, students from certain geographic areas with higher attrition rates, students from certain demographic backgrounds, or students with higher levels of demonstrated financial need.

Limitations

One challenge associated with assessing the effectiveness of GPAid concerns opt-in bias. For students who opt in to GPAid, arguments could be made that they are more motivated to succeed versus students who do not opt in to the program. From this perspective, should a control group of students be built for those who are eligible but are not offered the full suite of GPAid services? This crosses ethical research lines, as knowingly not offering some students needed and available services is not appropriate. With this consideration, knowing the full impact of GPAid for those who opt in versus those who do not, remains uncertain.

A similar challenge has been the consideration of requiring GPAid for students who are not meeting the minimum academic standards within their academic program of study. However, given the nature of GPAid, this requires dedication of time and effort from students outside their core academic program, so requiring participation has not been pursued.

Another ongoing challenge being considered focuses on offering incentives for participation in addition to the current financial incentives. UM has found that students who most frequently opt in to GPAid are those whose financial assistance is at risk. The ability to create additional value for the program that is easily explained to students has proven challenging, as other program benefits are more qualitative in nature, such as possessing better study skills and time management abilities, as well as the hope for an improved academic record. These longer-term benefits do not seem to have significant enough appeal to attract students to the program. Thus, the opt-in rate has typically hovered around 48 percent. Knowing the program outcomes, it would be optimal if more students opted in.

Summary

GPAid improves student academic performance and persistence at UM. Students who successfully complete GPAid have increased their term-over-term GPA by nearly one grade point, while non-participants see less than a half point increase in academic performance (0.97 point increase for participants versus 0.48 increase for non-participants). Most significant is that GPAid participants retain at 100 percent. This is 7 percentage points higher than the university average. Identifying students who struggle academically in the first semester and offering a free program that provides enrichment activities, with a financial incentive to participate, improves academic outcomes and institutional affinity. A program for first-year students that includes self-assessment on behavior and attitudes that may have negatively impacted the first term—including four mandatory academic advising sessions, institutional support through academic workshops, and counseling center education and alignment with financial aid persistence requirements—positively impacted student success at UM.

References

Alalwan, N., W. M. Al-Rahmi, O. Alfarraj, A. Alzahrani, N. Yahaya, and A. M. Al-Rahmi. 2019. Integrated three theories to develop a model of factors affecting students' academic performance in higher education. *IEEE Access*. 7: 98725–98742.

Bloom, B. S. 1976. *Human Characteristics and School Learning*. McGraw-Hill.

Calvo, C. 2023. *Retention Report for Fall 2022 Cohort Students*. Miami: University of Miami, Institutional Research and Strategic Analytics.

Drake, J. K. 2011. The role of academic advising in student retention and persistence. *About Campus*. 16(3): 8–12. Available at: <doi.org/10.1002/abc.20062>.

Eisenberg, D., E. Golberstein, and J. B. Hunt. 2009. Mental health and academic success in college. *The B .E. Journal of Economic Analysis & Policy*. 9(1).

Fowler, P. R. 2010. Increasing student success and retention: A multidimensional approach. *Journal of Developmental Education*. 34(2): 2.

Lee, G., T. Sanford, and J. Lee. 2014. Variables that explain changes in institutional rank in *U.S. News & World Report* rankings. *Journal of Education Policy*. 11(1): 27–47.

National Center for Education Statistics. 2020. Undergraduate retention and graduation rates. *Condition of Education 2020*. Washington, D.C.: Author.

National Student Clearinghouse Research Center. 2022. *Persistence and Retention: Fall 2020 Beginning Postsecondary Student Cohort*. Herndon, VA: Author.

NCES. *See* National Center for Education Statistics.

NSC. *See* National Student Clearinghouse Research Center.

Nurdin, N., A. Askar, and A. Adawiyah. 2021. Understanding students' psychological distress compliants through online academic advising support. *Medico-legal Update*. 21(3): 162–167.

Tinto, V. 1990. Principles of effective retention. *Journal of The Freshman Year Experience*. 2(1): 35–48.

U. S. News & World Report. 2012. *U. S. News* best colleges.

University of Miami. 2021. *Fact Book*. Coral Gables, FL: Author. Retrieved from: <irsa.miami.edu/facts-and-information/fact-book/index.html>.

Whitley, C. T., B. Takahashi, A. Zwickle, J. C. Besley, and A. P. Lertpratchya. 2018. Sustainability behaviors among college students: An application of the VBN theory. *Environmental Education Reserach*. 24(2): 245–262.
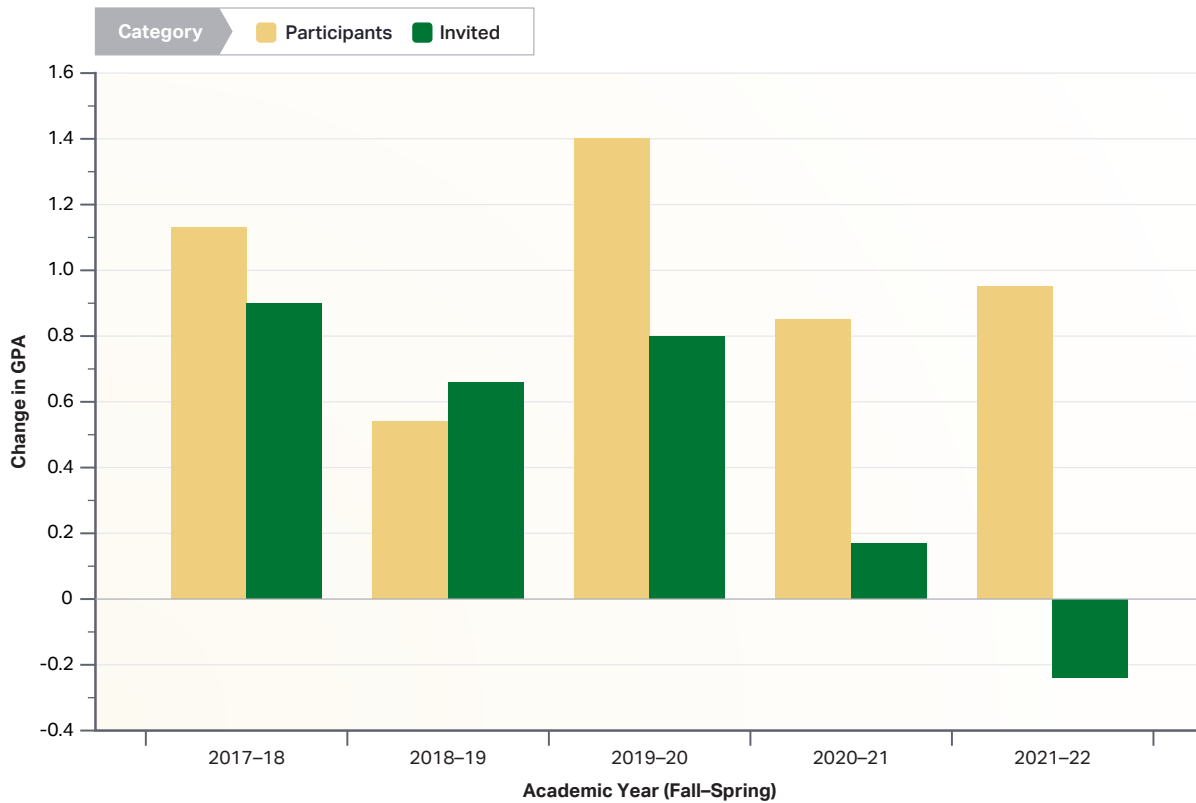
FIGURE 2 ➤ Change in Term GPA from Fall to Spring

About the Authors

John Haller

John Haller, Ed.D., is the Vice President of Enrollment Management and New Student Strategies at the University of Miami. At Miami, he led the movement from a largely merit-based to a hybrid merit- and need-based financial aid strategy where 100 percent of financial need is met. Also, the institution realized a 60 percent plus increase in applications and a 50 percent plus increase in yield. The institution realized a decrease in student indebtedness and the highest freshman retention and six-year graduation rates in university history. Previously, Haller served as the associate provost for enrollment management at Saint Joseph's University and worked in student success at Drexel University, M.B.A. admissions at Vanderbilt University, and undergraduate admissions at Denison University. He is an honors graduate in economics and statistics from the University of Michigan, received master's degrees in business and higher education, and received is Ed.D. in higher education from the University of Pennsylvania.

Darby Plummer

Darby Plummer began her higher education career in 2008 at the University of Miami, dedicated to creating and managing retention and graduation efforts for undergraduate students. Currently, as Executive Director of Student Success and First Year Foundations, Ms. Plummer leads the 'Cane Success Center and is responsible for a number of campus-wide retention initiatives. Her leadership has been instrumental in helping achieve the highest retention and graduation rate in university history.

Plummer was selected to the Golden Key International Honor Society and has presented on best practices in student success at the College Board Forum, the National Conference on Students in Transition, and the AACRAO Annual Meeting.

Plummer received her master's degree in leadership from the University of Miami Herbert Business School and her bachelor's degree in psychology from the University of North Carolina at Chapel Hill.

GRAD AND PROFESSIONAL SCHOOLS

Exploring Institutional Rationales for Holistic Review in Graduate Admissions

Joseph H. Paris and Jake D. Winfield

Holistic review is widely practiced in graduate admissions. However, despite its prevalence, there is a need to understand how practitioners approach holistic graduate admissions, how its practice relates to institutional priorities, and its potential implications for equitable access to graduate education. This exploratory mixed method study captures the perspectives of graduate enrollment management (GEM) professionals on the (a) consideration of applicants' personal attributes for evaluating their potential for graduate degree completion, and (b) alignment between applicants' personal attributes with strategic institutional priorities. Applicants' professionalism and integrity were reported most important when evaluating applicants' potential for graduate degree completion. Applicants' multicultural competency was reported most important for the institutional priority of increasing graduate student diversity. Participants' overarching perception of holistic review was that it provides important flexibility during the application evaluation process. Implications for practice are discussed including the need for institutions to (a) make the consideration of applicants' personal attributes transparent to applicants by defining the attributes and aligning required application materials to these attributes and (b) create internal methodologies to ensure reliable and consistent evaluation of applications.

Holistic review refers to the consideration of a variety of cognitive and non-cognitive qualities of admissions applicants (Bastedo 2021; Bastedo, *et al.* 2018). Holistic review is typically used to expand the predictive po-

tential derived from variables historically considered in graduate admissions: undergraduate grade point average (GPA) and standardized test scores such as the Graduate Record Examination (GRE) and Graduate Management

Admission Test (GMAT; Kent and McCarthy 2016; Michel, *et al.* 2019).

Traditionally, graduate admissions models have emphasized quantitative measures of applicants' prior academic achievement and ability as evidenced by their undergraduate GPA and standardized test scores (Kent and McCarthy 2016; Michel, *et al.* 2019). However, research suggests that quantitative measures such as standardized test scores may not reliably and accurately predict success in graduate school and may disadvantage underrepresented student populations (Bleske-Rechek and Browne 2014; Kent and McCarthy 2016; Miller and Stassun 2014). In response, researchers and practitioners have called for the use of holistic review to evaluate a broader range of criteria in the admissions process including, but not limited to, applicants' non-cognitive attributes (*e.g.*, Kyllonen 2005; Kyllonen, Walters and Kaufman 2011; Michel, *et al.* 2019; Sedlacek 2005, 2017).

Many higher education institutions claim to use a holistic approach to graduate admissions (Haviland, *et al.* 2023; Kent and McCarthy 2016), but holistic review practices are ill-defined across the field of higher education. Kent and McCarthy (2016) suggest there is a need for a "clearer understanding of what constitutes a truly 'holistic' graduate admissions process for master's and doctoral programs" (iv). This increased understanding is necessary as there is uncertainty about how practitioners approach holistic graduate admissions, how its practice relates to institutional priorities, and its potential implications for equitable access to graduate education. This opacity limits understanding of the benefits or challenges of holistic review and developing graduate enrollment management (GEM)[1] best practices.

Prior studies of holistic review in graduate admissions have primarily focused on program-specific contexts and institutional objectives such as enhancing student diversity (*e.g.*, Aibana, *et al.* 2019; Grabowski 2018) and promoting more equitable access to graduate education in the health sciences (*e.g.*, DeWitty 2018; Scott and Zerwic 2015; Wise 2017) and STEM fields (*e.g.*, Miller and Posselt 2018, 2020; Posselt, *et al.* 2017; Wilson, *et al.* 2019). Okahana, Augustine, and Zhou (2018) explored the admission attributes considered most important for improving master's program success (*i.e.*, program fit, degree completion, professional success) and identified the materials admissions officers use to evaluate those attributes. Through the analysis of focus group and survey data, Okahana, *et al.* (2018) found that critical thinking and analytical thinking were reported as very important admission attributes for determining applicants' potential for master's degree completion in both research-focused and professional-focused programs. Although Okahana, *et al.*'s (2018) findings provide important insights into how admissions officers view holistic review practices and how they consider applicants' personal attributes to improve program success, there remains a limited understanding of how the practice of holistic review may relate to institutional objectives and priorities, at both the master's and doctoral levels.

Current Study

This exploratory mixed method study captures the perspectives of GEM professionals on the (a) consideration of applicants' personal attributes for evaluating their potential for graduate degree completion, and (b) alignment between applicants' personal attributes with strategic institutional priorities. The current study expands on Okahana, *et al.*'s (2018) findings by investigating how holistic review practices relate to institutions' mission and strategic priorities such as increasing student diversity and quality. Additionally, this study explored holistic review practices in the context of both master's and doctoral program admissions whereas Okahana, *et al.* exclusively examined the master's level.

The following research questions were posited:
- How does the consideration of applicants' personal attributes relate to the evaluation of applicants' potential for master's and doctoral degree completion?
- How does the consideration of applicants' personal attributes align with institutional

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[1] GEM refers to a comprehensive approach to the methods by which an institution recruits, admits, supports, retains, and graduates post-baccalaureate students (Connor, *et al.* 2015). GEM includes codependent functions working congruently to strategically manage graduate student enrollment levels and the graduate student experience (Connor, *et al.* 2015).

strategic priorities of mission attainment, enrollment headcount growth and/or tuition revenue generation, enhancing student diversity, and increasing student quality?

▌ How do GEM professionals describe the rationale for holistic review in graduate admissions?

Methodology

The current study employed an exploratory pragmatic approach to data collection and analysis (Remler and Ryzin 2015) to understand holistic review from the perspectives of GEM professionals. Pragmatic approaches are ideal for exploring socially situated phenomena, particularly in different institutional environments (Creswell and Plano Clark 2017; Remler and Ryzin 2015). After institutional review board approval, a survey was administered to capture the perceptions of GEM professionals. The survey results informed the development of semi-structured interview questions and identified respondents who agreed to participate in a follow-up interview.

Procedures

Because the current study was exploratory, a fifteen-item survey instrument adapted from Okahana, *et al*. (2018) was administered to GEM professionals to collect data on holistic review practices. Questions were selected about the reported importance of applicants' personal attributes in graduate admissions. The survey included five-point Likert scales that asked respondents to rate the importance of the personal attributes for master's and doctoral degree completion and the level of alignment between applicants' personal attributes and institutional priorities. Given the exploratory nature of the research questions, Likert scale items were used because they helped the researchers quickly understand the extent to which respondents agreed with different statements about applicant qualities to explore during interviews. The survey also asked respondents to indicate the GEM model employed at their institution (*e.g.*, centralized, decentralized, collaborative [*i.e.*, hybrid]). *See* Appendix A for the survey instrument.

Participants were recruited between June and October 2020 through an open-call disseminated to members of NAGAP, The Association for Graduate Enrollment Management, via e-newsletters and direct email. Forty-six respondents completed the survey. Two respondents were removed from the sample, as they did not meet the inclusion criteria[2]. The remaining 44 respondents included GEM professionals who are active members of NAGAP and work in GEM or a related field at a non-profit, Integrated Postsecondary Education Data System (IPEDS)-submitting institution that offers at least one graduate degree. Given the decentralized nature of graduate admissions (Connor, *et al*. 2015, Balayan, *et al*. 2022), some respondents were responsible for institutional-level graduate admissions whereas others were responsible for academic school, college, or program-level graduate admissions.

At the end of the survey, respondents indicated their willingness to participate in a 30-minute follow-up interview. Thirty-three survey respondents indicated their willingness to participate in an interview. Fifteen respondents were selected to ensure institutional diversity and invited to schedule an interview, ten of whom participated in interviews.

Prior to conducting the interviews, the survey data were used to develop interview questions to elicit perspectives on institutional-level and academic program-level graduate admissions holistic review practices. Interviews lasted 30–45 minutes in length and were conducted by Paris via Zoom between July and October 2020 and were transcribed before analysis.

Quantitative Data Analysis

The first step to analyze the data was to develop descriptive statistics from the survey results and collect institutional characteristics from IPEDS. The IPEDS data collected included respondents' institutional control, geographic region, and Basic Carnegie Classification. Next, the means of responses to the Likert scale

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[2] One respondent worked at a proprietary institution that does not report to IPEDS and therefore was removed from the data. One respondent worked at an institution with a Carnegie Classification of Baccalaureate Colleges: Diverse Fields and therefore was removed from the study.

survey items were calculated to create an indicator of reported importance of personal attributes for evaluating applicants' potential for degree completion. A similar indicator for the reported alignment between the evaluation of applicants' personal attributes and institutional priorities was created. The values for each personal attribute were compared to identify the attributes participants reported to be of most importance when evaluating applicants' potential for degree completion (RQI) and most aligned with institutional strategic priorities (RQ2). Secondary analyses included comparing these indicators by the GEM model and characteristics of respondents' institutions.

Qualitative Data Analysis

Each interview transcript was read, and data were organized into the following *a priori* categories: (a) applicant qualities, (b) internal tensions, (c) limitations of graduate admissions criteria, (d) COVID-19, and (e) admissions processes. Then, the data within these categories were analyzed using thematic analysis (Guest, Mac-Queen and Namey 2014), considering these responses and the literature on the use of non-cognitive variables in admissions. This process ended with the development of overarching themes.

Positionality and Reliability

At the time the current study was conducted, Paris was a graduate enrollment management professional at a large public research university. His perspectives on holistic review in graduate admissions were shaped by more than a decade of graduate admissions experience. Winfield was a graduate student who studied college access for undergraduates but did not have professional admissions experience.

To ensure the reliability of the qualitative data analysis, the researchers engaged in continuous discussions about the interview data and how participants' perspectives relate to graduate admissions practices. Following each discussion, the emergent themes were refined to arrive at an understanding of participants' views on holistic review practices in the graduate admissions context.

Limitations

Readers should be aware of several limitations to the current study. The researchers imposed the notion that the evaluation of even a limited range of applicants' personal attributes constitutes a holistic review process. The researchers acknowledge that holistic review may incorporate the evaluation of additional aspects of applicants' personal background, characteristics, and prior achievements. Further, survey respondents were not offered operational definitions of applicants' personal attributes and institutional priorities. Therefore, if definitions of these variables were unclear to respondents, this could lead to observable inconsistencies in the reported importance of considering applicants' personal attributes when evaluating admissions applications.

The survey was administered to members of a single professional association which limited the size and representativeness of the sample. Therefore, readers are cautioned not to generalize the findings of the study given its exploratory nature and relatively homogenous sample.

Findings

The survey respondents for the current study predominantly worked at private institutions (63.4 percent) and doctoral universities (72.7 percent). These institutional characteristics and small sample size limit the generalizability of the current study, as they are not representative of institutions with graduate programs nationally. *See* Table 1 (on page 43) for additional descriptive statistics.

Quantitative Findings

The researchers examined which personal attributes participants reported to be most important when evaluating graduate admission applicants' potential for master's and doctoral degree completion. Table 2 (on page 43) presents the means and standard deviations for the personal attributes GEM professionals associated with potential for degree completion. Professionalism ($\bar{x}=3.68$, $SD=0.53$ [master's]; $\bar{x}=3.88$, $SD=0.33$ [doctoral]) and integrity ($\bar{x}=3.82$, $SD=0.45$ [master's], $\bar{x}=3.82$, $SD=0.47$ [doctoral]) had the greatest mean values and the least variability which suggests that participants consistently considered these attributes to be most im-

portant when evaluating master's and doctoral applicants' potential for degree completion.

Next, the researchers examined which personal attributes participants believed were most aligned with institutional priorities, as shown in Table 3 (on page 44). Concern for others had the greatest mean score ($\bar{x}=3.71$) and smallest standard deviation ($SD=0.55$) for *alignment with institutional mission*. For the institutional priority of *increasing graduate student diversity*, applicants' multicultural competency had the greatest mean score ($\bar{x}=3.82$) and the smallest standard deviation ($SD=0.45$). For the institutional priority of *increasing student quality*, knowledge of the profession/discipline had the greatest mean score ($\bar{x}=3.56$, $SD=0.84$). However, there was observable inconsistency (as approximated by a comparatively large standard deviation) in the rating of this attribute, which leads to inconclusive results.

To determine if differences existed in responses between those who worked at public and private institutions, the means and standard deviations of the holistic review scores for each type of institutional control were compared. Minimal differences between types of institutional control were found. Similarly, there were no meaningful differences when comparing means and standard deviations for responses by Carnegie Classification and GEM model. This indicates that, in the sample, holistic admissions practices are largely operationalized in similar ways across institutional control types, GEM models, and Carnegie Classifications.

TABLE 1 ➤ Descriptive Statistics on the Institutions Represented by Survey Respondents (*n=44*)

	Frequency	%
Institutional Control		
Public	16	36.4
Private	28	63.6
Institutional Geographic Region		
Midwest	17	38.6
Northeast	14	31.8
South	8	18.2
West	5	11.4
Carnegie Classification		
Doctoral Universities	32	72.7
Master's Colleges and Universities	4	9.1
Special Focus Four-Year	8	18.2
GEM Model		
Centralized	2	4.5
Decentralized	26	59.1
Collaborative	16	36.4

TABLE 2 ➤ Reported Importance of Personal Attributes for Evaluating Degree Completion Potential (*n=44*)

Personal Attribute	Graduate Degree Completion			
	Master's		Doctoral	
	Mean	*SD[1]*	*Mean*	*SD[1]*
Concern for Others	3.46	0.82	3.56	0.66
Creativity	2.95	0.64	3.18	0.64
Curiosity	3.43	0.59	3.61	0.56
Dependability	3.64	0.58	3.76	0.50
Integrity	3.82	0.45	3.82	0.47
Knowledge of the Profession/Discipline	3.45	0.75	3.82	0.58
Leadership	3.25	0.74	3.62	0.55
Multicultural Competency	3.14	0.83	3.42	0.79
Persistence	3.76	0.68	3.76	0.44
Professionalism	3.68	0.53	3.88	0.33

[1] SD = Standard Deviation

TABLE 3 ➤ Reported Importance of Personal Attributes Alignment with Institutional Priorities (*n*=44)

| | Institutional Priority | | | | | |
| | Mission Alignment | | Graduate Student Diversity | | Graduate Student Quality | |
Personal Attribute	*Mean*	*SD¹*	*Mean*	*SD¹*	*Mean*	*SD¹*
Concern for Others	3.71	0.55	3.74	0.55	3.23	0.96
Creativity	3.17	0.86	3.22	0.79	3.02	0.88
Curiosity	3.65	0.57	3.49	0.56	3.46	0.81
Dependability	3.19	1.03	3.29	0.80	3.29	0.96
Integrity	3.67	0.68	3.61	0.76	3.50	0.88
Knowledge of the Profession/Discipline	3.56	0.73	3.22	0.92	3.56	0.84
Leadership	3.62	0.58	3.49	0.79	3.44	0.90
Multicultural Competency	3.49	0.71	3.82	0.45	3.29	1.01
Persistence	3.21	0.77	3.49	0.73	3.39	0.89
Professionalism	3.60	0.66	3.43	0.77	3.51	0.81

¹ SD = Standard Deviation

TABLE 4 ➤ Holistic Review Scores by Institutional Control, Carnegie Classification, and GEM Model (*n*=44)

| | Degree Completion | | Institutional Priorities | |
	Mean	SD¹	Mean	SD¹
Institutional Control				
Private	3.48	0.29	3.39	0.47
Public	3.51	0.46	3.51	0.33
Carnegie Classification				
Doctoral Universities	3.53	0.36	3.45	0.40
Master's Colleges and Universities	3.43	0.27	3.30	0.81
Special Focus Four-Year	3.40	0.39	3.45	0.33
GEM Model				
Centralized	3.58	0.11	3.67	0.19
Decentralized	3.51	0.41	3.44	0.50
Collaborative	3.45	0.29	3.40	0.29

¹ SD = Standard Deviation

Qualitative Findings

Table 5 (on page 45) includes participants' pseudonyms and their respective job titles. As the data were analyzed, one central theme emerged that reflects interviewees' perceptions of holistic review: *additional flexibility in* GEM. This flexibility was consistent across GEM models and manifested in three ways: (a) flexibility to adapt to evolving standardized test score requirements, (b) flexibility to consider applicants' experiences, and (c) flexibility for graduate admission practices to reflect the institutional mission.

Participants' overarching perception of holistic review was that it provides flexibility during the application evaluation process. Participants described that

TABLE 5 ➤ Interview Participants Pseudonyms and Institutional Characteristics

Pseudonym	Title	Institutional Control	Carnegie Classification	GEM Model
Cindy	Director of Graduate Admissions	Private	Master's Colleges and Universities	Collaborative
Dorothy	Graduate Admissions Counselor	Private	Doctoral Universities	Decentralized
Francis	Assistant Vice Provost for Graduate Enrollment	Private	Doctoral Universities	Decentralized
Grace	Director of Graduate Admissions	Private	Doctoral Universities	Collaborative
Lauren	Assistant Director of Graduate Admissions	Private	Doctoral Universities	Collaborative
Mark	Director of Graduate Admissions	Private	Doctoral Universities	Decentralized
Nancy	Director of Graduate Admissions	Private	Doctoral Universities	Decentralized
Rebecca	Director of Graduate Admissions	Public	Doctoral Universities	Collaborative
Sarah	Assistant Director of Graduate Admissions	Public	Doctoral Universities	Collaborative
Tom	Director of Graduate Admissions	Private	Doctoral Universities	Decentralized

using a holistic approach to the evaluation of admissions applicants helped them make more accurate predictions about applicants' likelihood of success and contribution to their intended graduate program, while also helping to fulfill institutional priorities. Participants' perceptions suggest that holistic review helps institutions avoid denying admission to applicants whose potential is demonstrated through their personal attributes and admitting applicants whose goals are misaligned with that of their intended program.

Standardized Testing — "The Great (Un)equalizer"

Several participants suggested that there is an inherent tension between predicting applicants' potential for success and the reliance on standardized test scores as a predictor, particularly among underrepresented students. Francis recognized the importance of predicting applicants' potential for success and the limitations of test scores in making this prediction.

> *How do you discern a student's aptitude? Their overall makeup. Their ability to really thrive and move forward in a rigorous academic program. That's where we get into some of the issues with test scores...Tests are the great unequalizer.*

While many participants described how deprioritizing test scores through holistic admissions promoted student diversity, there were other benefits as well. For example, Lauren noted that "holistic review may not supersede basic academic qualifications [such as test scores], but it can increase opportunities." Rebecca noted that "qualities like grit, perseverance, motivation, and passion are important and those characteristics could make up for a deficiency in GPA or a test score." Thus, holistic review promotes the consideration of applicants' personal characteristics that an institution has decided are associated with success outcomes.

Tests of English language proficiency were also a commonly discussed by participants. Some participants described how English language proficiency was important for the attainment of their program's goals. For example, Tom's program involves a field placement and over time the program learned that "students who don't

have a high level of English proficiency are not success-ful in their field placement" because students need to communicate with people or work in immigrant com-munities where English is not the dominant language. However, Tom and Rebecca noted institutional processes that provided flexibility for students slightly below min-imum expectations including a careful review of sub-scores, a waiver from an academic dean, or successful completion of an intensive English language program. This flexibility recognizes the specific competencies nec-essary for success, instead of a strict cut-score approach that may be used as part of other admissions paradigms.

Participants who worked in admissions for programs that led to a professional credential, like physician as-sistant studies, often viewed tests as more valuable than those in other programs. Several of these participants shared that the consideration of standardized test scores was important for ensuring that admitted applicants could successfully complete a professional certification exam, such as a board exam. To Nancy, "[s]uccess is not only graduating from the program but successfully com-pleting the board [exam]…That said, other goals of our program are having well-rounded professionals who are lifelong learners and are going to continue to advance the profession." That is, admissions test scores may pro-vide some indicator of future success on certification or licensure exams but are not to be used in isolation.

Tom described how standardized test scores are considered at his institution using a multistep process: "Faculty don't see the GRE at all during the first round of review. Scores are only considered later in the process for the final candidates. The committee reviews GRE scores only when they are 'on the fence about some-one.'" Although this example demonstrates how stan-dardized test scores can be utilized as part of a holistic review process, it suggests the variability in the criteria employed across the applicant pool. In other words, test scores are considered for some applicants, but not for others. Variability in the graduate admissions process may present a lack of transparency regarding how appli-cations are evaluated, what criteria are considered, and how applicants can best position themselves for optimal admissions outcomes.

Considering Applicants' Experiences

One frequently-mentioned benefit of holistic review was the flexibility to consider applicants' characteris-tics and backgrounds including their life circumstances, past experiences, and future goals and their alignment with institutional values. Most commonly, participants described how a holistic review process allows them to evaluate candidates who are vastly different from one another. Sarah, typical of participants, noted that:

> *I cannot look at an application from a 21-year-old stu-dent coming straight in from undergraduate [studies] and evaluate them the same as another applicant who has a three-page resume that's been working for 20 years…Now is 2.97 [GPA] a red flag? Yes, but we look at it as [a GPA earned] 20 years ago, [and now] we look at a beautiful resume. We look at all of this, all the things that this stu-dent has done. We look at their writing sample which is great. We look at their goal statement which aligns with the program perfectly. Why wouldn't we let that student have a chance for a degree?*

Sarah's perspectives illustrate how professional ex-periences are considered when an applicant's under-graduate GPA does not meet admissions requirements. Cindy, for example, described how one applicant had a low undergraduate GPA but over fifteen years of pro-fessional experience. Cindy asked, "Are we really going to deny him [admission] because of 16 years ago?" Ad-ditionally, Cindy's example suggests that an applicant's recent experiences are more indicative of their poten-tial for success than their academic performance many years earlier.

Other participants noted that considering applicants' previous experiences can be helpful for better under-standing their potential for success in their profession and intended graduate program. Mark described the admissions process at his professional school in which applicants' professional experiences reflect their "reli-ability" rather than domain-specific knowledge. How-ever, the consideration of professional experience was not uniform among all participants. For example, Nancy noted that the graduate admissions process at her insti-tution valued specific types of professional experiences.

Specifically, Nancy explained that "professional experience through healthcare work" was the only type of work experience valued in the admissions process at her institution.

Participants also described how holistic review provided the flexibility to consider the relationship between applicants' academic and non-academic experiences. For example, Dorothy's institution considered undergraduate grades and coursework as well as applicants' applied experiences outside of the classroom such as volunteerism, student leadership positions, internships, or field experiences.

For all participants, the consideration of applicants' backgrounds did not include their racial or ethnic identities. Rebecca described that even though her institution aims to increase the number of underrepresented minority graduate students enrolled, "race is not visible" as part of the admissions process. These color-evasive practices (Annamma, Jackson and Morrison 2017) may become more commonplace following the 2023 U.S. Supreme Court rulings (*Students for Fair Admissions, Inc. v. President and Fellows of Harvard College* 2023; *Students for Fair Admissions, Inc. v. University of North Carolina, et al.* 2023) that ended affirmative action in admissions, even in holistic admissions paradigms.

Centrality of Mission— "Mission Drives Everything"

To participants, holistic review is essential for evaluating how applicants' attributes align with their institution's mission and strategic priorities. This provides the flexibility necessary to align admissions criteria with the mission of the program and institution. In doing so, students may be more successful, and the institution itself may better fulfill its mission. The authors found that institutional missions inform many parts of the admissions process, especially at religiously-affiliated institutions. For example, Francis noted that at his Catholic institution "the mission drives everything—so we look to the mission for how we recruit students, how we admit students, and hopefully that's going to drive who's going to be successful in the program." Many participants noted that personal statement prompts in-

cluded aspects of their institution's mission, especially commitments to social justice. For example, Lauren noted that she needs "to see at least in a personal statement that someone recognizes the ideas" central to the philosophy of the program to help ensure their future success. This recognition of key values helps ensure that admitted students are prepared for coursework and later embody the institutional mission in their careers and lives.

Other respondents noted an indirect connection between graduate admissions practices and mission. For example, one participant who worked at a land grant university noted that their institution's mission is to "prepare people for the workforce needs" of the state and that they "don't know if that mission aligns always with graduate education." Sarah noted that, at times, graduate admissions practices and an institution's mission can be in conflict—institutions may be tasked "to create as big and wide a net as possible" and doing so may require admissions to "maintain quality, while also increasing numbers," potentially by utilizing more flexible admissions practices. Therefore, while mission can guide admissions processes, it must be used carefully and how mission is operationalized should be open to examination.

Impact of COVID-19

Participants described the impact of the COVID-19 pandemic on graduate admissions practices. For example, participants described how holistic review helped them account for new complexities in the admissions process such as pass/fail undergraduate course grades and the absence of graduate admissions test scores due to the unavailability of test administrations. For example, Grace shared how her institution introduced a COVID-19 impact statement as an option component of the admissions application:

> COVID was an impetus for moving away from tests and instead we ask students to include an explanatory statement that's an addendum to their personal statement that gives them an opportunity to just share where they're at; a COVID-19 impact statement.

To participants, holistic review afforded them the flexibility necessary to better understand how the impact of COVID-19 manifests in the lives and academic experiences of graduate admissions applicants.

Discussion

The findings of the current study illustrate how the consideration of applicants' personal attributes, a component of holistic review, is related to the evaluation of applicants' potential for graduate degree completion while also providing GEM professionals with flexibility to identify promising applicants and achieve institutional goals. In the quantitative analysis of survey responses, professionalism and integrity were reported most important when evaluating applicants' potential for graduate degree completion. Semi-structured interview data expanded upon this finding, particularly for professionalism. Interviewees described how applicants' professionalism could be demonstrated by professional experiences in a particular domain and how work experiences highlight an applicants' reliability, a personal attribute they deemed critical to success in graduate education. Most participants in both components of the current study worked in graduate programs that lead to professional licensure, so these characteristics may be less valued in other types of graduate programs.

The current study also illuminated the potential alignment between the consideration of applicants' personal attributes and an institution's strategic priorities. First, in the quantitative survey, applicants' concern for others was most closely aligned with participants' institutional mission. The qualitative data suggests that this may be because institutions with missions that prioritize social justice, religion, or service use holistic review practices to explicitly consider specific components of an application that allow them to assess these dispositions. Recruiting and admitting students who explicitly demonstrate specific personal attributes may also help achieve other institutional goals such as promoting lifelong learning and preparing state residents for workforce needs, the fulfillment of which requires applicants with qualities difficult to measure exclusively using standardized test scores and undergraduate GPA.

Second, the survey data showed that multicultural competency was most closely aligned with an institutional priority to increase student diversity. Interviewees frequently described how applicants' race or ethnicity were not explicitly considered in the admissions process. Taken together, these findings suggest that holistic review has the potential to provide admissions officers with richer insights about applicants' disposition toward studying and working within multicultural environments, information that cannot be derived from applicants' race or ethnicity alone. Third, applicants' knowledge of their profession and academic discipline was most aligned with the institutional objective of increasing student quality. However, some respondents described how increasing student quality and access, driven by an institution's mission, could conflict with one another, potentially limiting the tools available to GEM professionals to craft admissions processes.

One key area of divergence between the quantitative and qualitative data was about the use of standardized test scores, as the quantitative survey did not ask respondents how test scores were specifically used at their institution. Among the interviewees, there were a variety of perspectives. Some viewed standardized admissions test scores as inequitable tools that could be largely replaced with other criteria considered using holistic approaches, while others viewed test scores as key indicators for potential success, particularly on future certification exams. We attribute these divergent perspectives on the utility of standardized test scores to differences in graduate admissions practices across fields and disciplines.

Implications for Practice

The findings of the current study highlight the personal attributes that current GEM professionals associate with graduate degree completion and their institution's strategic priorities. Based on these findings, GEM professionals and institutions should engage in three holistic admissions practices. First, practitioners should clearly identify the personal attributes of current and prospective students they associate with graduate program and student success. GEM professionals and institutions are

encouraged to frequently evaluate the success indicators they identified to inform the modification or discontinuation of particular admissions practices. Additionally, institutions must make these attributes transparent to applicants by clearly defining them and explicitly aligning these attributes to required application materials. Institutions and graduate programs should also create internal methodologies to ensure reliable and consistent evaluation of applicants' personal attributes.

Second, if standardized test scores are considered as part of the admissions process, there should be a clear understanding of the value these scores contribute to understanding applicants' potential for success. This norm setting around standardized tests would certainly vary between graduate programs, and therefore, it is important to establish a common vision for these assessments—especially when new GEM professionals join an admissions team. The uses of test scores should also be communicated to students—particularly if tests are used for specific reasons or parts of the admissions process such as determining financial support awards. A transparent admissions process may support institutions and graduate programs to attain the objective of increasing the diversity of the applicant pool or student body by

reducing barriers and the hidden curriculum (Margolis 2001) of the graduate admissions process. Finally, these findings suggest that the importance of the institutional mission as part of holistic admissions varies by institution. However, all graduate programs, institutional leaders, and GEM professionals should engage in ongoing conversations about how admissions practices reflect the institution's mission and position it to fulfill its mission.

Conclusion

The current study sought to craft a deeper understanding of graduate admissions holistic review practices in the United States and how these practices relate to institutional priorities. Central to the findings is that holistic review is a flexible tool to evaluate applicants to identify their potential for success. However, holistic review is not practiced in a standardized way across institutions. As such, GEM professionals and scholars need to engage in scholarly and applied efforts to work toward a comprehensive definition of holistic review and understanding of its implications for policy and practice. A deeper understanding of holistic review processes is important for the development of best practices to support a more equitable future in higher education.

Appendix: Survey Instrument

1. In what type of Graduate Enrollment Management office do you work?
   a. Centralized, institution-wide office
   b. Academic school or college within an institution
   c. Academic program or department within an academic school or college
   d. Other (please specify)
   _____
   _____
   _____
   _____

2. What office evaluates graduate admissions applications on your campus?
   a. Centralized, institution-wide office (*e.g.*, Graduate Admissions, Graduate School)
   b. Academic school or college within an institution
   c. Academic program or department within an academic school or college
   d. Other (please specify)
   _____
   _____
   _____

3. What office makes graduate admissions decisions (*e.g.*, admit, deny) on your campus?
   a. Centralized, institution-wide office (*e.g.*, Graduate Admissions, Graduate School)
   b. Academic school or college within an institution
   c. Academic program or department within an academic school or college
   d. Other (please specify)
   _____

   _____

4. If response to Question 1 is "academic school or college within an institution," please select the field of study that best describes your academic school or college.
   a. Arts and Humanities
   b. Biological and Agricultural Sciences
   c. Business
   d. Education
   e. Engineering
   f. Health and Medical Sciences
   g. Mathematics and Computer Sciences
   h. Physical and Earth Sciences
   i. Public Administration and Services
   j. Social and Behavioral Sciences
   k. Other (please specify)
   _____

   _____

5. If response to Question 1 is "Academic program or department within an academic school or college," please select the field of study that best describes your academic program or department.
   a. Arts and Humanities
   b. Biological and Agricultural Sciences
   c. Business
   d. Education
   e. Engineering
   f. Health and Medical Sciences
   g. Mathematics and Computer Sciences
   h. Physical and Earth Sciences
   i. Public Administration and Services
   j. Social and Behavioral Sciences
   k. Other (please specify)
   _____

   _____

6. When evaluating potential for master's degree completion, how important are the following attributes of applicants? (Use Table 6 [on page 51].)

7. When evaluating potential for doctoral degree completion, how important are the following attributes of applicants? (Use Table 6 [on page 51].)

8. When evaluating the following admission attributes of master's applicants, which of the following do you consider? Check all that applies to each of the attributes. (Use Table 7 [on page 52].)

9. If response to Question 8 includes "Other Application Materials," please describe the material(s) used to evaluate the indicated admission attribute(s) of master's applicants:
   _____

   _____

   _____

   _____

10. When evaluating the following admission attributes of doctoral applicants, which of the following do you consider? Check all that applies to each of the attributes. (Use Table 7 [on page 52].)

11. If response to Question 10 includes "Other Application Materials," please describe the material(s) used to evaluate the indicated admission attribute(s) of doctoral applicants:
    _____

    _____

    _____

    _____

12. To what extent are the following personal attributes of graduate admissions applicants aligned with the mission of your institution? (Use Table 8 [on page 53].)

13. To what extent are the personal attributes of applicants considered in graduate admissions aligned with your institution's/academic program's (*based on response to Question #1*) goals of enrollment headcount growth and/or tuition revenue generation? (Use Table 8 [on page 53].)

TABLE 6 ➤ Applicant Attributes[1]

Attribute	Not Important	Slightly Important	Moderately Important	Very Important	Not Applicable
Past Academic Performance	○	○	○	○	○
Past Research Experience	○	○	○	○	○
Past Work Experience	○	○	○	○	○
Undergraduate Institution Quality/Reputation	○	○	○	○	○
Critical Thinking Ability	○	○	○	○	○
Analytical Thinking Ability	○	○	○	○	○
Written Communication Skills	○	○	○	○	○
Oral Communication Skills	○	○	○	○	○
Collegiality, Collaboration, Cooperation	○	○	○	○	○
Concern for Others	○	○	○	○	○
Social Orientation	○	○	○	○	○
Curiosity	○	○	○	○	○
Creativity	○	○	○	○	○
Multicultural Competency	○	○	○	○	○
Knowledge of the Discipline/Profession	○	○	○	○	○
Time Management	○	○	○	○	○
Ability to Work Under Stress	○	○	○	○	○
Professionalism	○	○	○	○	○
Persistence	○	○	○	○	○
Dependability	○	○	○	○	○
Integrity	○	○	○	○	○
Leadership	○	○	○	○	○

[1] Randomize rows for each instance this table is used.

14. To what extent are the personal attributes of applicants considered in graduate admissions aligned with your institution's/academic program's (*based on response to Question #1*) goals of increasing student diversity? (Use Table 8 [on page 53].)

15. To what extent are the personal attributes of applicants considered in graduate admissions aligned with your institution's/academic program's (*based on response to Question #1*) goals of increasing student quality (*e.g.*, average undergraduate GPA and/or standardized test scores [GRE, GMAT])? (Use Table 8 [on page 53].)

16. Please indicate the name of your institution. (Note: This information will only be used so that your responses can be compared by selected institutional characteristics. The name of your institution will be kept confidential, and no direct reference will be made in final results.)

_____

_____

_____

_____

TABLE 7 ➤ Admission Attributes[1]

Attribute	Academic Transcripts / GPA	Standardized Test Scores[2]	Resume or CV	Personal Statements	Letters of Recommendation	Interviews	Other Application Materials
Past Academic Performance	○	○	○	○	○	○	○
Past Research Experience	○	○	○	○	○	○	○
Past Work Experience	○	○	○	○	○	○	○
Undergraduate Institution Quality/Reputation	○	○	○	○	○	○	○
Critical Thinking Ability	○	○	○	○	○	○	○
Analytical Thinking Ability	○	○	○	○	○	○	○
Written Communication Skills	○	○	○	○	○	○	○
Oral Communication Skills	○	○	○	○	○	○	○
Collegiality, Collaboration, Cooperation	○	○	○	○	○	○	○
Concern for Others	○	○	○	○	○	○	○
Social Orientation	○	○	○	○	○	○	○
Curiosity	○	○	○	○	○	○	○
Creativity	○	○	○	○	○	○	○
Multicultural Competency	○	○	○	○	○	○	○
Knowledge of the Discipline/Profession	○	○	○	○	○	○	○
Time Management	○	○	○	○	○	○	○
Ability to Work Under Stress	○	○	○	○	○	○	○
Professionalism	○	○	○	○	○	○	○
Persistence	○	○	○	○	○	○	○
Dependability	○	○	○	○	○	○	○
Integrity	○	○	○	○	○	○	○

[1] Randomize rows for each instance this table is used.
[2] *e.g.*, GRE, GMAT

17. Would you participate in continued research on holistic review in graduate admissions? The researcher is committed to understanding holistic review practices in graduate admissions. Continued study would include participation in a 30-minute phone interview. You are not committed to participate in continued research; however, providing your contact information will allow the researcher to alert you about opportunities for continued participation.
   a. Yes (there is no obligation)
   b. No

TABLE 8 ➤ Mission Alignment Attributes[1]

Attribute	Not Aligned	Slightly Aligned	Moderately Aligned	Significantly Aligned	Not Applicable
Collegiality, Collaboration, Cooperation	○	○	○	○	○
Concern for Others	○	○	○	○	○
Social Orientation	○	○	○	○	○
Curiosity	○	○	○	○	○
Creativity	○	○	○	○	○
Multicultural Competency	○	○	○	○	○
Knowledge of the Discipline/Profession	○	○	○	○	○
Time Management	○	○	○	○	○
Ability to Work Under Stress	○	○	○	○	○
Professionalism	○	○	○	○	○
Persistence	○	○	○	○	○
Dependability	○	○	○	○	○
Integrity	○	○	○	○	○
Leadership	○	○	○	○	○

[1] Randomize rows for each instance this table is used.

References

Aibana, O., J. L. Swails, R. J. Flores, and L. Love. 2019. Bridging the gap: Holistic review to increase diversity in graduate medical education. *Academic Medicine*. 94(8): 1137–1141.

Annamma, S. A., D. D. Jackson, and D. Morrison. 2017. Conceptualizing color-evasiveness: Using dis/ability critical race theory to expand a color-blind racial ideology in education and society. *Race Ethnicity and Education*. 20(2): 147–162. Available at: <doi.org/10.1080/13613324.2016.1248837>.

Balayan, A., C. Connor, and J. LaFave. 2022. The evolution of graduate enrollment management. *Strategic Enrollment Management Quarterly*. 9(4): 35–46.

Bastedo, M. N. 2021. Holistic admissions as a global phenomenon. In *Higher Education in the Next Decade*, edited by H. Eggins, A. Smolentseva, and H. de Wit. Brill. Available at: <doi.org/10.1163/9789004462717_006>.

Bastedo, M. N., N. A. Bowman, K. M. Glasener, and J. L. Kelly. 2018. What are we talking about when we talk about holistic review? Selective college admissions and its effects on low-SES students. *Journal of Higher Education*. 89(5): 782–805. Available at: <doi.org/10.1080/00221546.2018.1442633>.

Bleske-Rechek, A., and K. Browne. 2014. Trends in GRE scores and graduate enrollments by gender and ethnicity. *Intelligence*. 46: 25–34.

Connor, C., J. LaFave, and A. Balayan. 2015. *Integrated interdependence: The emergence of Graduate Enrollment Management (GEM)*. Overland Park, KS: NAGAP. Available at: <21265535.fs1.hubspotusercontent-na1.net/hubfs/21265535/135361-WhitePaper-FINAL.pdf>.

Creswell, J. W., and V. L. Plano Clark. 2017. *Designing and Conducting Mixed Methods Research* (3rd edition). Thousand Oaks, CA: SAGE Publications.

DeWitty, V. P. 2018. What is holistic admissions review, and why does it matter? *Journal of Nursing Education*. 57(4): 195–196. Available at: <doi.org/10.3928/01484834-20180322-01>.

Grabowski, C. J. 2018. Impact of holistic review on student interview pool diversity. *Advances in Health Sciences Education*. 23: 487-498. Available at: <doi.org/10.1007/s10459-017-9807-9>.

Guest, G., K. M. MacQueen, and E. E. Namey. 2014. Introduction to applied thematic analysis. *Applied Thematic Analysis*. 3(20): 1–21.

Haviland, S., J. H. Paris, R. Gooch, and J. Sotelo. 2023. *What's Now and What's Next in Graduate Admissions Policies: Results from the ETS/NAGAP 2022 Admissions Survey*. Princeton, NJ: ETS.

Kent, J. D. and M. T. McCarthy. 2016. *Holistic Review in Graduate Admissions: A Report from the Council of Graduate Schools*. Washington, D.C.: Council of Graduate Schools. Available at: <cgsnet.org/wp-content/uploads/2022/01/CGS_HolisticReview_final_web.pdf>.

Kyllonen, P. C. 2005. *The Case for Noncognitive Assessments*. Princeton, NJ: ETS. Available at: <ets.org/Media/Research/pdf/RD_Connections3.pdf>.

Kyllonen, P. C., A. M. Walters, and J. C. Kaufman. 2011. *The Role of Noncognitive Constructs and Other Background Variables in Graduate Education*. Princeton, NJ: ETS. Available at: <ets.org/research/policy_research_reports/publications/report/2011/ined.html>.

Margolis, E. 2001. *The Hidden Curriculum in Higher Education*. London, U.K.: Psychology Press.

Michel, R. S., V. Belur, B. Naemi, and H. J. Kell. 2019. *Graduate Admissions Practices: A Targeted Review of the Literature*. Princeton, NJ: ETS. Available at: <doi.org/10.1002/ets2.12271>.

Miller, C., and J. Posselt. 2020. Equitable admissions in the time of COVID-19. *Physics*. 13: 199.

Miller, C., and J. Posselt. 2018. Broadening participation in graduate education through holistic review. *Bulletin of the American Physical Society*. 63.

Miller, C., and K. Stassun. 2014. A test that fails. *Nature*. 510(7504): 303–304. Available at: <doi.org/10.1038/nj7504-303a>.

Okahana, H., R. M. Augustine, and E. Zhou. 2018. *Master's Admissions: Transparency, Guidance, and Training*. Washington, D.C.: Council of Graduate Schools.

Posselt, J., K. A. Reyes, K. E. Slay, A. Kamimura, and K. B. Porter. 2017. Equity efforts as boundary work: How symbolic and social boundaries shape access and inclusion in graduate education. *Teachers College Record*. 119(10): 1-38.

Remler, D. K., and G. G. Ryzin. 2015. *Research Methods in Practice: Strategies for Description and Causation*. Thousand Oaks, CA: SAGE Publications.

Scott, L. D., and J. Zerwic. 2015. Holistic review in admissions: A strategy to diversify the nursing workforce. *Nursing Outlook*. 63(4): 488–495. Available at: <doi.org/10.1016/j.outlook.2015.01.001>.

Sedlacek, W. E. 2004. *Beyond the Big Test: Noncognitive Assessment in Higher Education*. San Francisco: Jossey-Bass.

———. 2017. *Measuring Noncognitive Variables: Improving Admissions, Success and Retention for Underrepresented Students*. Sterling, VA: Stylus Publishing LLC.

Students for Fair Admissions, Inc. v. President & Fellows of Harvard College; *Students for Fair Admissions, Inc. v. University of N. Carolina, et al.* 2023. No. 20-1199, No. 21-707, 14 S. Ct. 2141.

Wilson, M. A., M. A. Odem, T. Walters, A. L. DePass, and A. J. Bean. 2019. A model for holistic review in graduate admissions that decouples the GRE from race, ethnicity, and gender. *CBE—Life Sciences Education*. 18(1): 1-12. Available at: <doi.org/10.1187/cbe.18-06-0103>.

Wise, D., J. Dominguez, Z. Kapasi, B. Williams-York, V. Moerchen, S. Brooks, and L. J. Ross. 2017. Defining underrepresented minorities and promoting holistic review admission strategies in physical therapist education. *Journal of Physical Therapy Education*. 31(4): 8-13. Available at: <dx.doi.org/10.1097/JTE.0000000000000009>.

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Joseph H. Paris is Dean of the School of Graduate and Professional Studies at Delaware Valley University. As a scholar-practitioner, his research and practice focus on the intersections between college admissions criteria and selection methodologies, institutional finance, and access to postsecondary and graduate education.

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