Creating a diverse student success infrastructure: The key to serving today’s student body and catalyzing cultural change

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Abstract
While there have long been campus efforts to better support students from diverse backgrounds, these programs, services and interventions have not been systemic. This paper documents student success infrastructure elements which share similar features that enhance their effectiveness, suggesting some basic ways of re-orienting the way higher education is organized that better support student success. The shared features of effectiveness within the student success infrastructure include broad stakeholder engagement, collaboration, learning, clarity & transparency, equity, and alignment.

Keywords
Student success, university infrastructure, higher education reform

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Missing systemic efforts to support diverse student success
Worldwide higher education systems and institutions struggle to support low income, racialized minority and first generation college students. Interventions, policies and initiatives have been implemented with mostly limited success. For example, in the United States, there have long been campus efforts to better support students from diverse backgrounds, but these programs, services and interventions have not been aimed at the overall campus environment or systemic in focus and therefore have not had the deep and sustained impact hoped for. In the 1960s, ethnic and women’s studies programs and centers sprang up, followed by Lesbian,
Gay, Bisexual, Transgender and Queer centers and services in the 1970s and adult, commuter and first-generation student centers and spaces in the 1980s. The 1990s saw efforts to diversify curriculum and teach in more active, inclusive and culturally relevant ways, while the 2000s brought programs to serve veterans and the learning disabled. In addition, repeated federal efforts have attempted to support campus efforts in increasing low-income student success, starting with the introduction of TRIO programs and Pell grants in 1970 through the development of GEAR UP in the 1990s. A similar patterns of support for diverse student populations can be seen in other countries.

With all these efforts, one would expect significant progress on the graduation rates of these many groups. But with the exception of women, the needle has moved very slowly (Cataldi et al., 2018; National Center for Education Statistics et al., 2015, 2016). We have seen minimal progress in improving the retention and success of first-generation, low-income and racialized minority students; the same goes for adult, commuter and part-time students. Moreover, statistics for some groups—such as transgender, learning disabled and LGBTQ students—are not even tracked, so it’s unknown how they are faring.

As many have observed over the decades, higher education has added programs and services “on the side” to address the changes in student body, without a substantial rethinking of the core functions and practices of campus (Smith, 2015; Smith et al., 1997). In the late 1990s, Daryl Smith and her colleagues first noted this trend on campuses to add programs (summer bridge, first-year experience, learning communities) without really changing the general campus culture (Smith et al., 1997). Smith called this trend “programmitis,” and suggested campuses would not substantially improve the success of diverse students until diversity, equity and inclusion became part of the institutions’ central mission, values, goals, policies and practices. Twenty years later, programmitis continues—and we have yet to capitalize on what Smith labeled diversity’s promise (Smith, 2015).

For two decades, I have argued that higher education is not organized for student success, let alone diverse student success. In Re-organizing higher education for collaboration (Kezar & Lester, 2009), I demonstrated how divisions between campus structures, such as those that separate academic and student affairs, academic departments, and disciplinary forms of thinking, as well as modes of being in versus out of classroom, prevent student from succeeding, developing and learning. Over the past 120 years, campuses have drifted away from their mission around learning and are no longer structured effectively to support that mission. Additionally, I have established that campuses need to undergo institutional transformation in order to support students that these campuses were not originally established to support. In a similar argument, in my book Recognizing and serving low-income students (Kezar, 2010), I traced how campuses developed historically to serve the wealthy and elite, demonstrating how ingrained the patterns of whiteness, class and privilege are. Building on my arguments, McNair et al. (2016) in their book Becoming a student ready college noted that the challenge of serving diverse students is an organizational one, arguing that higher education has never been set up to support today’s students and that higher education needs to rethink its primary organizational structures if it is to support diverse students.

In these analyses, scholars highlight how the structures of higher education institutions—general services such as advising or career as well as campus operations like institutional research strategic planning and resource allocation, prevent students from succeeding, and underscore why side programs and services alone will never suffice. So taking a systemic approach means a total restructuring and reorienting of campuses to disrupt these embedded patterns and to reorient campuses for a new student body. Smith (2015) called on us to re-examine the underlying mission of campuses, but even changing the mission and values as she advocated may not be enough to alter historically embedded patterns that seep into policies,
facilities, resource allocations and daily decision-making. What the research points to is the need for culture change and a thorough examination of existing organizational structures/processes. Systemic or culture change entails implementing a four part model (explore existing values and history of support for diverse students; auditing the current infrastructure/processes; making needed changes; and then promoting accountability, responsibility and continuous improvement) that is exemplified in the case study outlined in the next section.

Institutional culture transformation for diverse student success

How can campuses undergo lasting institutional transformations that support diverse student success? Examples of this sort of transformation are rare but do exist. The University of Maryland, Baltimore County (UMBC) is one place where the culture and climate writ large supports all students. Research studies of UMBC show that the institution underwent a major culture change, under the guidance of Freeman Hrabowski, UMBC president. Instead of simply adding a few side programs, Hrabowski spearheaded a more holistic transformation so the entire campus community was aligned to support the success of first generation, under-represented minority students in STEM. Studies of this campus have documented a variety of practices important to understanding culture change processes in higher education. UMBC’s change process was undertaken through a shared leadership approach that instilled collective responsibility for student success; informed by exploring new values and examining existing ones; and involved re-examining campus history; collecting and reviewing data and information about students/conducting research; auditing current policies, structures and practices; eliciting feedback and dialogue; and creating accountability.

One of the core aspects of UMBC’s change process was the creation of a student success infrastructure that supports long-term cultural change. In the next section, I review UMBC’s change process to help demonstrate the need for a student success infrastructure and the prerequisites for scaling such changes in higher education.

Exploring values and history: The first insight garnered from UMBC’s change process is the need to begin by examining an institution’s unconscious assumptions and biases. Leaders must understand how the existing values, assumptions and beliefs on their campuses might be contradictory to the culture the campus is trying to create to support diverse student success. This insight mirrors Kegan and Lahey (2009) work on Immunity to change (Hrabowski & Maton, 2009), which showed people often hold contradictory values that may prevent them from engaging a new set of values. Kegan and Lahey’s study, followed by dozens of others including some specifically in the field of higher education (e.g. Kezar et al., 2015), identify how implicit or embedded values often prevent culture change if left unrecognized and unaddressed. The key is to make individuals, groups and institutions aware of the basic assumptions that often go undisussed so that new values might be entertained.

Prior to its change efforts, UMBC conducted an inventory of the existing values of various subgroups about student performance to understand the values that might impede (or support) change. UMBC then developed a strategy that took this information into account. Culture change was also facilitated by a new set of institutional values; the campus was guided by the Association of American Colleges and Universities’ “inclusive excellence” framework. Inclusive excellence was embraced by campus leadership and made a priority as part of campus communication. UMBC even explored their history of inequity, and looked for ways inequities may be perpetuated in the present.

Such cultural approaches to change recognize how values are embedded into organizational structures over time and are not quickly or easily changed. For lasting institutional transformations, those structures themselves need to be examined and altered.
Auditing the current infrastructure: After exploring the institution’s values and history, leaders at UMBC conducted a thorough examination of the institution to identify policies, practices and structures that needed to be aligned to the new values. They examined resource allocation, facilities, institutional research, incentives and metrics, and professional development. Based on this audit, they implemented a variety of changes, such as instituting new admissions and financial aid policies and scholarships; realigning data collection efforts to track student success; revising the way introductory courses were taught; providing professional development for faculty and staff related to student support and success; and implementing mentoring processes, study groups and peer support and aligned facilities to support these efforts, among other policies and practices.

Promoting accountability, responsibility and continuous improvement: Culture change means having everyone—not just individuals in positions of authority but every member of the community—see his or her role in creating and shaping culture (Kuh et al., 2010). Thus, UMBC leaders also confronted the issue of responsibility for student success by involving members of the campus—both staff and faculty—in all of the change processes through teams. To support broader involvement, the leaders developed supports such as networks, learning communities, cross-functional teams, communication channels and relationship-building in support of the new culture. Then, leaders set up assessment mechanisms to ensure the culture change stayed in place. To this day, UMBC regularly collects data about student experiences as well as staff and faculty perceptions about the campus climate and services. UMBC also continues to audit its infrastructure so that it remains aligned with student success goals. Leaders recognize that without accountability and reward/incentives for progress, forward movement could halt, or worse, backsliding occur.

The UMBC example identifies many of the key strategies needed in order to undergo transformational change that supports student success. While many change leaders often resonate with and understand the role of values and vision, data and even accountability (although higher education leaders are frequently loathe to set up accountability structures), it is the student success infrastructure that is often overlooked when moving toward culture change. Culture change is unlikely to be cemented without substantial changes to policy and practice. Add for campuses not ready to engage in full culture change, the student success infrastructure provides a place to start transformation efforts that might seem daunting at the outset.

As is clear from the UMBC example, leadership is central to the change process. In fact, leadership is often a prerequisite for creating a student success infrastructure, and without leadership, forward movement on this issue is challenging. Studies of transformational change have consistently identified shared or team leadership—across administrators, faculty, staff and students—as central to implementing changes (Eckel & Kezar, 2003).

Yet as will be demonstrated throughout this discussion on the student success infrastructure, unless there is alignment of the values with the infrastructure, then there may not be execution of values in practice. In sum, leadership and values exploration are important precursors to engaging in the creation of a student success infrastructure. Other research describe the role of leaders (and shared leadership—see https://www.acenet.edu/newsroom/Documents/Shared-Leadership-in-Higher-Education.pdf) and values in change (see Hrabowski & Maton, 2009; Kezar, 2018), this article focuses on the student success infrastructure. The UMBC case is illustrative of a process that many campuses can use and future research should test its applicability but there is no data to suggest that these same processes could not work within other institutional context and within different countries. Certainly countries with more centralized planning approaches to higher education could utilize these processes at a broader systems level as well.
Creating systemic support: The student success infrastructure

A student success infrastructure enables the institution to mobilize to effectively serve a diverse student body. The infrastructure is the core features of an organization that facilitate organizational functioning and day-to-day operations. They are desirable for effective organizational functioning. A campus is unlikely to be ready to create and sustain change related to a student success if they lack the basic infrastructure. However, just having these elements in place is not enough to fulfill a student success agenda (see UMBC example for the full process)—but examining these areas and getting them into place, if they are missing, is an important starting place.

To fulfill a student success agenda, the infrastructure is strategically leveraged and aligned with the goals of student success—creating a student success infrastructure. This infrastructure is already being driven by implicit assumptions about the core values and priorities of the campus. But if the values and priorities underlying the infrastructure remain unexamined, then the infrastructure may not be directed to diverse student success. By intentionally focusing on the infrastructure, it can be shifted to support diverse student success. The infrastructure helps with three core areas related to change and systemic support for student success: implementation, sustaining interventions, and ultimately helps lead to culture change.

1. Implementation of interventions to support students are facilitated through the infrastructure. Infrastructure is the basic structures in key areas that facilitate implementation—resources, policy, technology, information and human resources. Implementing proactive advising without investments in technology and training, professionals that have new skills, adequate technology, or policies that support use of the advising software are likely to face serious challenges. But an infrastructure that is in place facilitates, eases and often speeds up adoption.

2. A student success infrastructure not only supports interventions implementation but also sustains them over the long run - institutionalizing the interventions. Interventions often come and go based on a lack of tangible support or organizational hurdles being too overwhelming to sustain them. With finances, policies and leadership all supporting cross campus mentoring, for example, then change agents struggle less to overcome organizational inertia and issues that prevent them from supporting and embedding the change.

3. Lastly, the student success infrastructure can lead to culture change by having student success values integrated into the day-today work of the campus—its decisions, processes, and activities. Ultimately, the value of the student success infrastructure is that it can lead to broader institutional transformation. As more and more elements of the infrastructure are aligned toward the same underlying values of student success, the more likely it is that the overall campus will be a different place.

The following are the central aspects of infrastructure: planning; governance and decision-making; policy; finance/resource allocation; information and institutional research; facilities and information technology; human resources/development; incentives and reward structures; and metrics/accountability.

The elements of the student success infrastructure are interdependent. While a campus can certainly look at and improve an area leaders feel might need some attention, each aspect of the infrastructure is reinforcing. For example, as a campus builds human resources policies aimed at diverse student success, the institution will also likely enhance its use of data, which will then help improve policy and technology decisions. Therefore, the student success
infrastructure elements are best engaged collectively as there is a strong synergistic effect when all aspects of the infrastructure are being developed simultaneously.

**Elements of a student success infrastructure**

Each element of the infrastructure has its own internal logic that supports why it is important to work on in order to create sustainable systems and culture change. We review the rationale for each element to help support why it is necessary to work on re-examining it in relationship to student success.

- **Planning** is a central way that campuses reset priorities. The values, direction and priorities that are articulated by a campus will not become a reality with careful planning processes that implement these values and priorities into daily work and processes. Planning involves the re-examination of core processes as well as the institution of new initiatives that can become part of the campus. And typically planning shapes budget priorities. Campus processes were traditionally developed without an understanding of diverse student needs—therefore, financial aid processes, advising, instruction and support service are all areas that need review and resetting. Planning is an organized way for campuses to initiate and maintain re-examination of processes as a priority. Planning processes for student success involve student voices and members as part of the process. They also use data and information about student success. And students keep changing, so planning processes need to be on-going and responsive to new changes. However, one tendency of planning processes that distracts campus from meeting their student success goals is that campuses focus on new ideas rather than re-examining their current processes. New ideas are always an add-on to the current systems and may not always be pivotal for meeting goals and can absorb lots of time and energy.

- **Decision-making and governance** refers to who and what processes are used to make decisions and policy. Decision-making and governance works best when guided by the values, priorities and direction around student success. Decision-making marked by student success at the center involves including the student voices in decisions whether that be focus group data or students being part of governance processes. Campuses with a robust governance infrastructure have shared processes that bring in all faculty and staff that have expertise about student success into governance processes as well. And when there are competing priorities, a strong governance infrastructure creates processes to carefully weigh different views about student success or priorities that may compete with student success. So campus need to re-examine their underlying governance processes to ensure that student success is a central value and that there are avenues for obtaining diverse student voices and various educational practitioners into the process.

- **Policies** dictate the actions of faculty and staff and create the conditions in which student success can be established or not. If policies are examined routinely then one’s that create barriers can be changed. Because policies establish the possibilities for action they are a strong driver of systems and cultural change. In addition to having robust governance structures that create new policies, you need to examine existing policies for the way that they support student success or not. This is particularly important because campus policies were generally established when institutions were not diverse. Without examination they can stand in the way of important efforts that are undertaken to support diverse student success. For example, policies related to admissions criteria, student advising, curriculum, staff hiring criteria, faculty promotion and tenure when left unexamined can shape a set of experiences that are exclusive rather than inclusive.
• **Finance/resource** is necessary to support systems and cultural change that institutionalize transformation. Resource allocation reflects institutional priorities and if decisions related to finances do not foreground student success, then the campus is unlikely to make progress in this area. Values are reflected in where resources are allocated. Resource allocation approaches that tend to support student success typically have more input from varied constituents. Resource allocation for student success also fundamentally re-examines budget assumptions allowing for major restructuring to occur. Resource allocation decisions from the past typically have not been made using student success as a central criteria. Therefore, if leaders try to make adjustments within a current set of budget assumptions, they are unlikely to be able to prioritize student success. Campuses can create more inclusive budget processes that bring in more voices and advocate for strategic budget cuts in areas that can free up money for student success or bring in new monies to support initiatives. A set of student success and equity measures can be developed as part of budget processes that hold campuses accountable for budgetary decisions. When goals and metrics are set that determine success and future funding, campus leaders are pressured to shift and reallocate resources to meet these goals. This is connected to the accountability element of the infrastructure noted later.

• **Information and institutional research** are necessary to support systems and cultural change that institutionalize transformation. Data and information help to monitor student progress. While institutional research is a key capacity that needs appropriate support to inform institutional decisions and practice, other types of data may also be helpful such as historical background and documents, national reports about best practices, data about peers. Thus, a robust set of information is important to provide guidance for student success initiatives. Additionally data about students helps support learning and making decisions in service of student success. Governance decisions, planning, and policy re-examination are all facilitated though institutional research data and capacity.

• **Facilities and information technology** is important infrastructure that creates the possibilities in which faculty and staff can deliver education and support all the programs, activities and services of a college. Classroom spaces, areas for student activities as well as virtual and on-line modes of interaction and support are significant and often overlooked aspects of infrastructure. Particularly for low, income, first generation and under-served minority students the physical spaces can signal inclusion or exclusion. The many recent debates over campus statues, names of buildings, and pictures/artwork help illustrate how physical space can shape student success. Research demonstrates that campus leaders tend to ignore their facilities and IT and leave these areas up to specialists (Bensimon & Neumann, 1993). As a result, these areas can often become unaligned with student success goals.

• **Incentives and rewards** focused on student success facilitate transformation. Leaders can establish reward systems that incentive and prioritize the value of student success. Additionally finance/resource allocation can translate leaders values into merit pay and other systems that tangibly demonstrate that incentive. Furthermore, awards and recognition that honor student success are ways to help move toward institutional transformation. Too often student success is assumed to happen because it is the “right” thing to do but if incentives are set up to reward other behaviors, this can conflict with and make it difficult for faculty, staff and administrators to execute this work. In fact, various studies demonstrate that one of the greatest barriers to changes related to student success is that faculty rewards are not aligned with student success. Staff also face pressures to focus on improving institutional prestige and generate revenue and are rewarded for this activity rather than student success. In fact, staff have reported this pressure has increased
dramatically in the last few decades. Without an honest examination of both the formal rewards systems as well as informally what people say is rewarded on campuses—truly meeting goals around supporting diverse student success will be extremely difficult. Incentive systems remain an area of the infrastructure that often goes unexamined. Like resources, it is a system that is often preset and challenging to change, but necessary for changing the culture of campuses.

- **Human resources and development** is important for student success. Human resources includes the ways that faculty and staff are hired and oriented so that they support student success, how their work is structured in terms of employment policies and how their roles are structured to support student success. Human resources also provide opportunities for development to enhance their skills to support student success, and how faculty and staff are evaluated and rewarded for work that supports student success. Development is particularly important as research identifies that employees who are properly trained can react in real time to challenges and support students and be more effective in their roles. Campuses have long assumed that faculty and staff as professionals require little development. But today’s students often have backgrounds and experiences quite different from the faculty and staff they interact with. Research shows that by providing faculty and staff development about how to work with first generation, low income and underserved minority students these groups increase their efficacy and effectiveness in working with these populations (Schademan & Thompson, 2016). Capitalizing on faculty and staff professional norms is a way to engage them in professional development, campuses can support norms of on-going professional development. While faculty and staff may engage in professional development as part of their discipline or professional field, there is often not an effort on campuses to emphasize the need for local professional development aimed helping faculty and staff to connect to the students on their campus and the specific values, priorities and goals of the campus.

- **Metric and accountability systems** are critical to provide a measure for the goals and priorities, to aim planning efforts, to align resources, and to incentivize the campus to focus on student success. While systems such as performance based funding have had mixed results in higher education, research more generally supports that having metrics in place that are widely shared, understood, and the target of people’s work help to drive change, align actions, and can help lead an institution to focus on diverse student success. There are some cautions needed as metrics are often overly simplistic—such as graduation and persistence. The push for simplistic metrics—as part of the student success movement—has in fact “tarnished” this key area of the student success infrastructure. But accountability for student success is indeed central for a campus to remain invested in and guided in this work. Campuses therefore, need to devise a complex set of metrics to guide their work. So in addition graduation rates, do students report a positive experience in college, do they feel prepared for graduate school or work. Values that are developed into goals as part of planning but for which there is never any accountability are quite likely to be goals that are not met or superficially so.

The beginning step to make progress in altering the infrastructure is to ask: How does this part of our campus support student success (or not?). How do our policies, resource allocation, institutional research, or information technology support student success, for example? Without intentionally grounded infrastructure in the concept of student success, it is unlikely these structures will support students.
What makes a robust or effective student success infrastructure?

The student success infrastructure elements share similar features that enhance their effectiveness, suggesting some basic ways of re-orienting the way higher education is organized to better support student success. The shared features of effectiveness within the student success infrastructure include broad stakeholder engagement, collaboration, learning, clarity & transparency, equity, and alignment:

First, the infrastructure elements are strengthened by broad stakeholder engagement. For example, broad stakeholder engagement enhances decision-making and governance and planning and leads to better policies, processes and decisions around student success. Broad stakeholder engagement also creates ownership and buy in of plans and it leads to understanding and learning that enhance implementation and lead to sustainability. When more staff and faculty have access to data to make decisions, then decisions will more likely support student success. When policies are known among the broadest number of people—they can better support students. Stakeholders need to be asked about technology needs to create the most robust IT system.

Second, collaboration across groups in the work of the student success infrastructure also supports student success by improving and building new processes and systems. Units that communicate to implement student success initiatives are likely to more smoothly implement them. Students are best supported when faculty and staff can use similar technology to obtain information about students and provide the same counseling advise. This is a call for new types of collaboration not just working in committees or communicating across units. Collaboration should extend beyond typical modes and involve breaking down silos and pushing the campus into new work boundaries such as having groups work together in new ways—for example, combing academic and student affairs units, cross-functional teams or co-locating units that typically have not worked together that need to.

Third, clarity and transparency. We noted earlier how intentionality and keeping the student at the center as one deploys planning, resource allocation, or creates policy is central to altering the values system. Tied directly to this notion of intentionality is clarity and transparency around the infrastructure. When the elements of the infrastructure are clear and transparent, they are more easily accessible to faculty and staff and better able to guide work. Are policies clear and visible as it relates to student success? Are leaders consistent in communication about the priority of student success? Are there clear goals around what information and data is important to collect related to student success and is this made available to multiple campus stakeholders? Clarity often relates to defining student success as well as goals and metrics for accountability.

Fourth, infrastructure elements are strong when they allow the campus to learn and develop its expertise. While human resource and development is an area of the infrastructure itself, learning is also a unique feature that cuts across the infrastructure. Learning allows the campus to constantly adjust the infrastructure elements so they might change with new circumstances or new student populations. Technology and data can provide information that allows staff and faculty to make better decisions and to plan differently. Are there metrics and data available to assess and understand the financial health of the campus? Continuous learning and improvement are emphasized in the infrastructure elements—policies, processes, budgeting, data, facilities are never set in stone—they need to evolve. Both data and technology can provide information that can help the campus learn. Shared governance processes include a multitude of voices that allow for learning to occur in the decision-making process. Professional development is needed to build skills among faculty and staff necessary to be competent and execute a student success infrastructure.
Fifth, *equity* is an important feature across the infrastructure. Equity is the examination of whether student success is being considered for different groups and that they are each being treated fairly and justly. Equity is important to ensuring that all students are supported—particularly low income, first generation and underserved minorities that often get overlooked. Data is disaggregated so that disparities by race or gender are apparent and gaps in performance of students closed. Facilities and technology uses principles of universal design so that all students, faculty and staff can use technology effectively. Policies are examined for ways they may unfairly impact certain groups, including admissions or financial aid decisions. Human resources reflect on the diversity of demographics of people in roles and explores how diverse perspectives are within faculty, staff and administrative leadership. When equity cuts across the elements of the infrastructure, student success becomes a reality for all students.

Sixth, *alignment and integration* are important for the infrastructure elements. Alignment is important to creating smooth and effective implementation and to ensure that the benefits of a student success infrastructure are expansive and included across the campus as a system. Infrastructure elements work best if they are mutually reinforcing. Alignment happens along two dimensions—across the infrastructure themselves and across the system of the campus. As the leadership pursues a strategic agenda, alignment means that all infrastructure elements are aligned in service of specific goals set. In terms of the system of the campus, leadership needs to have a definition of student success that is adopted at multiple levels across leaders from department chairs to the presidential cabinet. With technology, systems in units and departments need to follow similar principles around student success as central systems. And data used by units or colleges should receive the same level of training of data used by the president’s cabinet. If infrastructure elements vary and are deployed on different assumptions throughout the campus, this will likely negatively impact student success.

In the end, the infrastructure together creates a culture that either supports or does not support diverse student success. It is time to move from diverse student success being on the margins of campus, in isolated programs and services to student success being a reality for all students. The creation of a diverse student success infrastructure is a way to make good on the shifting values—of wanting all students to succeed in college. Increasingly campuses are embracing a new set of values, but without the infrastructure to support the new values, there is likely to be minimal changes that are scaled, long-term and enduring. A diverse student success infrastructure is one of the main cornerstones to institutional transformation and institutions worldwide can better support diverse students by embracing this new approach.

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