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Essay

Strategic Academic Research and Development: Definitions and Defining Case

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Abstract: Increased public scrutiny and accountability demands have pressured HEIs to demonstrate their value. This article explores one way that HEIs can respond—by practicing Strategic Academic Research and Development (SARD) to improve institutional effectiveness and equity. After reviewing common definitions for R&D, the article develops SARD as an alternate method and outlines how it was implemented in a multi-campus university's transformation initiative to promote student success through data-driven, equity-focused interventions in college, graduation, and career readiness. The initiative involved substantial collaboration with K-12 schools, curriculum redesign, and career development support, with a focus on underserved student populations. The project used the "Insight Engine", a research approach combining data analytics, qualitative research, and student feedback to refine academic and support services. Despite challenges such as leadership transitions and the complexity of managing large, decentralized organizations, the initiative emphasized collaborative engagement and fidelity in implementing strategic interventions. Lessons learned include the importance of scope manageability and stakeholder buy-in. The case study demonstrates the potential of SARD to create impactful, scalable changes in HEIs, advocating for deep, institution-wide collaboration as essential for sustaining improvements in education, research, and service missions.

Keywords: higher education improvement; institutional effectiveness; quality assurance; research and development; student success

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1. Introduction

~Academy, heal thyself

This recasting of an ancient proverb (Luke 4:23) is intended to invoke the sense that higher education institutions, like the physicians to whom the original proverb is directed, should use their innate capabilities to ensure that they fulfill their mission. Amid growing public skepticism in the United States about the value of higher education and whether the historically high costs are worth the investment, federal and state legislators, as well as leaders of non-profit public interest agencies have increased pressures on academia to demonstrate their value to learners and society broadly. Internationally, there is growing demand for transparency and accountability that has spurred governmental action. Through accountability schemes, quality assurance, and national initiatives, state agencies and accrediting bodies ask that universities and colleges provide better evidence as to the values of postsecondary education and training (Leveille, 2006).

In his seminal book, *The Reflective Practitioner*, Schön (1983) argued that such accountability demands stem from public mistrust that expert practitioners sufficiently hold themselves accountable to standards of competency and morality. Schön further argues that academic staff, as educational professionals at the highest levels of learning, have responsibility as professionals to self-govern in ways that promote competent, effective practices that serve public and private needs. Stensaker and Harvey (2010) argue that accountability for higher education has become 'globally embedded as manifest by, ". . . the steadily growing number of international students, international academics or guest professors, the impact of global businesses and industry, international newspapers performance rankings of universities, establishment of international quality assurance schemes, joint degrees, strategic partnerships and consortia and numerous others" (pp. 7–8).

The world-wide pandemic that took hold in early 2020 required higher education institutions to adjust quickly, adopting and adapting information and communication technologies to continue operations. The pandemic also brought into clear view the prevalence of social inequities and injustices within virtually all established systems across the higher education landscape. More recently, higher education is being forced to adjust quickly and change again as new technologies based on generative artificial intelligence threaten to upend established practices of academia. Academic scholars affiliated with colleges and universities are generally at the forefront of rhetoric and research regarding the identification and elimination of systemic injustices within communities and institutions. However, as many critics have noted, HEIs are not necessarily at the forefront of eliminating those injustices in their own educational and employment practices.

This Special Issue of *Education Sciences* explores methods by which HEIs can focus attention and effort to improve the impact and equity of their academic programs and support services. The primary objective of assembling this issue is to contribute to the growing global community of academics and professionals who focus their efforts as scholar/practitioners on enhancing the quality and effectiveness of higher education institutions and systems. The approach described in this first article was the basis of an institutional transformation initiative at one large, public multi-campus university. The other articles in this issue provide examples of efforts to use such integrative, evidence-informed, and action-oriented strategies to make HEIs more inclusive and educationally effective. These initiatives have in common the following characteristics that are the core tenets of the construct, Strategic Academic Research and Development:

- Focusing on strategically selected priority objectives that have significant impact on institutional effectiveness;
- Harnessing the expertise of the academic and professional staff at the institution;
- Bringing to the table the diverse voices of constituents (e.g., academic and non-academic staff, students, research partners, funders, relevant members of various communities outside the institution);
- Using evidence-informed methods for selecting, implementing, monitoring, and improving interventions targeted toward the objectives;
- Involving significant cross-sections of the staff that manage day-to-day operations and the processes and structures that are involved in affecting change;
- Having the visible support of university leadership.

2. Research and Development

The concept of research and development (R&D) takes varying shapes and forms across societal sectors. Within higher education it is most often associated with the research mission of universities, wherein members of the faculty vie for competitive funding to pursue advancement in their fields of study or practice. Within most other sectors, the

R&D function entails "... a series of activities that companies undertake to innovate and introduce new products and services". (Kenton et al., 2024, p. 1).

Although these two types of R&D seem very differently focused, the U.S. National Science Foundation (NSF) compiled various definitions of research and development that suggest there is more of a continuum than one might imagine (NCSES, 2022). Specifically, the NSF analysis surveyed definitions from 14 different primary sources, organized into five broad groups: The Organization of Economic Cooperation and Development; U.S. business enterprise; federal and state government R&D; U.S. Higher Education and Non-Profit organizations; and national accounts and globalization manuals. Table 1 shows three of the 14 different sets of definitions, selected to represent differences among the definitions, the majority of which are closely overlapping.

Table 1. Select definitions of research and development (R&D) from the US National Science Foundation (NCSES, 2022).

Source	Research	Development
Frascati Manual (OECD, 2015)	"Creative and systematic work undertaken in order to increase the stock of knowledge—including knowledge of humankind, culture and society—and to devise new applications of available knowledge". (OECD, 2015, p. 44)	
Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) (https://asc.fasb.org/, accessed on 19 February 2025)	Planned search or critical investigation aimed at discovery of new knowledge with the hope that such knowledge will be useful in developing a new product or service ... or a new process or technique ... or in bringing about a significant improvement to an existing product or process	Translation of research findings or other knowledge into a plan or design for a new product or process or for a significant improvement to an existing product or process ...
U.S. Federal Acquisitions Regulations (https://www.acquisition.gov/far/subpart-2.1, accessed on 19 February 2025)	Distinguishes among: Basic research produces new or fuller knowledge rather than any practical application of that knowledge. Applied research uses basic research methods to explore pragmatic issues but not produce a specific product or application. Development is systematic use of scientific and technical knowledge in the design, development, testing, or evaluation of a potential new product or service	

The three sources cited in Table 1 illustrate commonalities as well as distinctions among definitions across these primary sources. They differ primarily in terms of whether there are distinctions between research and development as well as types of research. They have in common the core idea of systematic inquiry for expanding the stock of knowledge, but differ in how that process relates to change, with basic research not at all concerned with change, applied research that focuses on possibilities for change (new or improved products or services) and development for which change is the main objective.

Although this discussion is situated in the US context, the emergence of 'global science' has exposed HEI faculty and administrators across the globe to the research and development perspective. Marginson (2022) noted that although less than 20 percent of European R&D expenditures are associated with HEIs, 85 percent of scientific papers have at least one university author. He also describes how this perspective that emerged primarily from American practices has evolved to become more diverse and 'multi-polar' as it shifted to a global scale, marked by China recently passing the U.S. as the leading producer of academic papers. Numerous scholars have criticized aspects of global science, such as the impact of 'world-class research university' rankings on HEI policy and practice (Fauzi et al., 2020; Federkeil et al., 2012; Harvey, 2008; Ioannidis et al., 2007). However, others have noted

that the impact also includes both positive and negative impacts including, on the positive side, increased attention to the importance of higher education for global competitiveness among nations and fostering greater accountability and increased pressure to improve management practices (Liu & Cheng, 2011; Hauptman Komotar, 2019; Hazelkorn, 2015; Shin et al., 2011).

3. Higher Education Institutional Research, Assessment, and Quality Assurance

Within the higher education sector, systematic inquiry practices have emerged over the last century that incorporate the principles of research and development to plan, evaluate and improve institutional effectiveness, as well as to make those efforts visible to various constituents. In the United States, these practices are commonly referred to with such labels as institutional effectiveness, institutional research, and institutional assessment. While these terms are sometimes used in other countries, terms that translate to "quality assurance" are used more commonly. They depart from common conceptions of research and development primarily due to the influence of accountability demands.

The administrative units that traditionally support institutional research and assessment in U.S. colleges and universities are often driven by two primary sets of demands: (1) demands related to external accountability (providing support for obtaining information required for accreditation and governmental reporting) and (2) demands that emanate from internal decision-making needs. The external demands require both periodic processes (annual accountability reports; media rankings) and episodic processes (developing self-studies for institutional accreditation and assisting programs with developing information to support professional accreditation). The internal demands also typically include annual monitoring reports (fact books, enrollment trends, instructional load reports, etc.) that are now commonly deployed through web-based dashboards. The other component of this internal work is often referred to as ad hoc studies and requests, that is, non-recurring questions that come from various internal sources (senior administrators, governance committees, working groups, and task forces) to support the work being performed by those individuals or groups. While such offices and units are often involved in strategic academic research and development, the nature of their universities as complex and decentralized organizations requires such units to support a wide array of information and research demands that are seemingly unconnected.

This volume focuses on applying to universities the type of R&D more commonly associated with business and industry. That is, R&D that is directed toward organizational innovation, including new products and services. For HEI's these activities include innovations in educational delivery, research productivity, community engagement, and support of the students and staff who are engaged in the primary tri-partite missions of teaching, research, and service. Most US research universities employ many staff to gather and analyze data needed for the operation, evaluation, and planning of core mission activities. Additionally, the faculties of these institutions embody an impressive array of expertise and talent that can be further leveraged to improve the quality and impact of the institution's programs and services. However, the complexity and multi-faceted nature of university operations makes this type of R&D quite challenging, even, some would suggest, not possible.

4. Building Capacity for Strategic Academic Research and DevelopmentResearch & Development

Large, U.S. public research universities have annual budgets that are similar in size to mid-sized U.S. cities, with the largest among them having budgets the size of small states.

Regardless of size, higher education institutions (HEIs) have been characterized as very complex organizations. Among several characterizations, Birnbaum's often-cited book, *How colleges work: The cybernetics of academic organization and leadership*, notes that higher education institutions are distinguished by having simultaneous governance models—collegial; bureaucratic; political; organized anarchy; and cybernetic (that is, an open, adaptive system) (Birnbaum, 1988). Given their size and organizational complexities, it is not surprising that HEIs have often been characterized as resistant to change. However, others have noted that HEIs can adapt and adjust quickly, when necessary, as demonstrated in recent years when most institutions navigated a very rapid transformation from in person to online of all teaching, learning, and support services, along with a range of other financial disruptions related to the COVID-19 pandemic.

This article explores how HEIs, even the largest and most decentralized among them, can approach strategic and intentional change. Specifically, we focus on change that seeks to improve core academic mission activities: education, research, and the application of both to serve communities locally and beyond. The approach, labeled "strategic academic research and development", incorporates strategies related to effective participatory action research, institutional priority setting, and leveraging the expertise available within the institution itself, including its own academic and administrative professional staff and the advanced technologies that pervade the sector. The approach described in this article is not an alternative to traditional, diffuse approaches to administering, assessing, and improving higher education programs and services that remain necessary given the vast array of stakeholder interests and compliance requirements. Rather, it describes how change initiatives can be organized and supported to address priorities for positive change as a supplement to more diffuse assessment and improvement strategies.

The other articles in this Special Issue of *Education Sciences* also illustrate the limits of a strategic approach. Changes in senior leadership and external events can be very disruptive to systematic, evidence-informed development efforts. Even within environments where there is stable leadership and relative external tranquility, it is difficult to sustain institutional attention on strategic efforts for very long given the large array of programs and services that comprise the institution.

The remainder of this article describes as a case study, a three-year institutional transformation project that included both a strategic goal—improving the "throughput" of students from secondary education, through college, and into the workforce—as well as an organizational capacity building goal—using evidence-informed practices to transform institutional practices and intentionally promote social equity.

5. Defining Case

The idea for developing a university's strategic academic research and development capacity came out of an opportunity that the authors' University was provided by a generous philanthropic organization, the Lilly Endowment, Inc. (LEI) of Indianapolis, Indiana, USA. Through their "Charting the Future for Indiana's Colleges and Universities" initiative, LEI offered every public and private college and university in the state a generous three-year grant to, "engage in thoughtful discernment about the future of their institutions and advance strategic planning and implementation efforts to address key challenges and opportunities" (Lilly Endowment, Inc., 2024). Their proposal guidelines emphasized a focus on college student access, completion, and career success.

The activities that constituted the case institution's Charting the Future (CTF) initiative were designed to increase the density and readiness of the state's "school to workforce pipeline" through holistic, equity-focused student success initiatives. The initiative leveraged the institution's extensive strengths in data analytics, artificial intelligence (AI), educa-

tional technologies, and academics to improve student learning and achievement. Planners organized the activities around a three-pronged, evidence-based approach intended to move beyond incremental improvements toward sustainable and substantive increases in student success, especially for traditionally underserved student populations. The activities of the project were organized into three inter-related sets of activities: college readiness; graduation readiness; and career readiness. To sustain efforts after the project ended, initiative staff also sought to plan for a permanent office of strategic academic development.

The project was supported by a disciplined approach to applied research, labeled the "Insight Engine" (Borden & Jin, 2022). The Insight Engine connected traditional institutional research analyses that employ data from structured quantitative sources (student records, surveys, assessment instruments) with analyses that employ transactional learning data or learning analytics (data gleaned from institutional course management systems) and qualitative forms of evidence obtained through interviews, focus groups, non-participant observation and ethnographic research or thick data to assess and improve educational practices and policies.

Figure 1 illustrates triangulation within the Insight Engine Framework, highlighting three key types necessary for impactful research: data sources, methods, and interpreters. In this project, interpreters include investigators, subject matter and methodology experts, practitioners, and the "voices" of the individuals targeted by the research, along with institutional leadership for diversity, equity, and inclusion (DEI) efforts. R&D work in an HEI requires communication across a range of organizational roles, including disciplinary faculty, administrative leadership, academic advisors, career service staff, and collaborating partners from secondary schools and school districts. Shorthand labels are used to convey the different methods, data sources, and interpreters involved in the project, though they are not always precise.

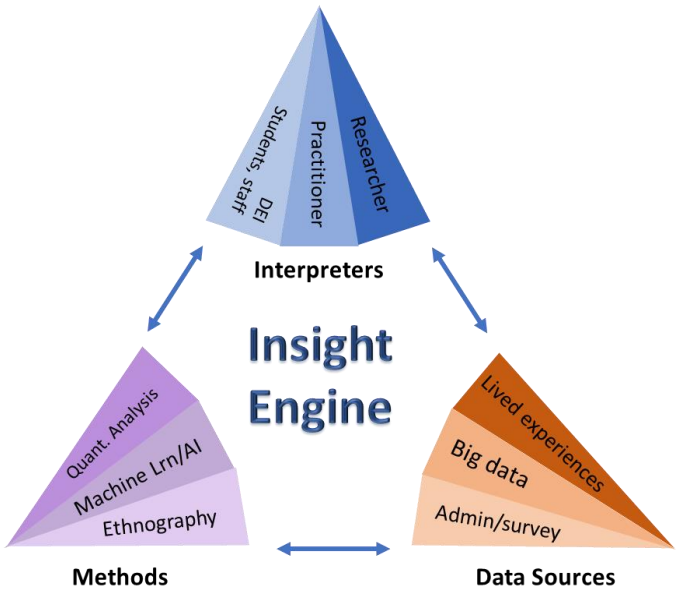


Figure 1. Multiple levels of triangulation of the Insight Engine.

The precise form that this triangulation takes varies according to the nature of a particular investigation. This adaptiveness is best illustrated through examples of Insight Engine application. The remainder of this article provides some initial examples. Two other articles in this issue provide more detailed examples that emerged from the same institutional transformation project. The other articles highlight similar practices from other institutions and contexts that use similar applied research approaches featuring triangulation of interpreters, methods, and data sources.

5.1. College Readiness: Partnering with K12 Schools and Corporations

To support expanding partnerships with the State's K12 educational systems, the institution first developed a database (using a third-party software platform, "The Collaboratory") to document all current engagements within the sector. This database was maintained by the Office of School Partnerships to support that division's ambitious goal to expand the university's connections to every K12 district in the state.

College readiness activities also included an intensive collaboration with the school district surrounding the large, research-oriented campus of the system to develop a "Pipeline Analysis" that linked data from the K12 system with the university's databases, as well as a national system that tracks college student enrollments across the country. This system provided the district with more actionable information than the state's current student tracking systems, which provide overall outcomes but do not support further analysis to understand how results could be improved (e.g., disaggregation by student type or by program participation).

Another college readiness initiative, which tied this prong of the initiative to the Career Readiness prong, included working with high school guidance staff to create a high-school version of a career exploration tool that the university created for its own students, called Career EDGE (Explore, Develop, Graduate, Employed), https://expand.iu.edu/browse/ovpss/courses/high-school-career-edge, accessed 19 February 2025. Additionally, under this component of the initiative, the institution's regional campuses hired "Pathway Specialists" to work in and with their local high schools to offer career guidance and support to high school students, including using the High School Career EDGE modules and several other tools and resources. Faculty members of the institution's Schools of Education (across multiple campuses) developed a Postsecondary and Career Exploration Self-study (PACES) to assist Pathway Specialists to assess and improve career exploration resources and services for high school-level students.

By the end of the project, the institution experienced a 13% increase in the number of such collaborations, with a total of 850 annual projects that touched 100% of the State's 99 counties, 87% of all school corporations, and 54% of all K12 schools in the state. Analysis of these engagements revealed that the institution was not reaching small, rural schools. It also showed that while the institution was engaged with school districts that were in the middle of the performance spectrum, it was not reaching schools at the low end of such assessments. These shortcomings are currently being addressed through targeted initiatives.

5.2. Graduation Readiness: Shared Responsibility for Student Learning and Success

The second prong of the CTF project was improving student progress through the curriculum. Toward this end, the project entailed four major foci: redesigning curricular gateways ("killer courses") that were preventing students from academic success and career attainment; developing class ethnographies to provide instructors with more compelling information on the challenges students faced when taking their courses; honing student advising and peer mentoring through a series of training interventions; and developing protocols for assessing the effectiveness of third-party technology platforms for improving student active participation in their classes. Two articles in this volume provide more details on the class ethnographies and protocols for assessing the efficacy of incorporating educational technologies into classroom practices.

To redesign curricular gateways, the project initiated a Summer Academy for Curricular Analysis and Improvement (SACAI) that supported 10 instructional teams from across the institution to examine and improve student success in important gateway courses. Based on lessons learned in this pilot, the project took a more strategic approach in its second year (relabeled as the Strategic Curriculum Analysis and Improvement Project

or SCAIP) focusing primarily on Math and some introductory Science courses across the campuses that were identified by campus leadership as most critical to student success. In addition to implementing these specific initiatives, project staff continually monitored and evaluated the relationship between these efforts, to leverage their combined power. For example, class ethnographies started as one of the SACAI projects in an introductory Computer Science class and, due to its success, was extended to other subjects.

Other activities under the *Graduation Ready* portfolio of the project included participating in an NSF trial of a collaborative student studying platform at the five regional campuses and creating a peer mentoring program to support the low-income and first-generation students who were recipients of the State's promise scholarship (21st Century Scholars), which provides full tuition support for such students but has been found to require intensive additional financial and academic support to achieve positive results. The project sponsored the creation of the website Learning.iu.edu, focused on helping students understand learning and the strategies they need to succeed and find resources to help them. Finally, the project sponsored a series of student feedback panels (part of the Insight Engine activities), through which a panel of 15 students from across the university were consulted on five different occasions to gain their feedback on the issues and initiatives that were nurtured by the project.

5.3. Career Readiness

Through the CTF initiative, the institution enriched its support for career readiness in several notable ways. The modules of the afore-mentioned Career EDGE platform were updated and improved, and the university ran several social media campaigns to promote use of the modules by course instructors or directly by students. These modules were placed on the University's open-access course management system and thus made available broadly in the university and state community. The 12 revised EDGE modules have proliferated in use with nearly 6000 downloads, each of which may be used repeatedly by career centers, departments, and course instructors. In a Student Feedback Panel discussing the institution's Career Services offerings, students explained they found the EDGE modules to be informative and helpful. Most panelists agreed they would recommend EDGE to their friends. Students found topics on interviewing skills and résumé writing to be the most helpful. Ultimately students were happy with module content but had some recommendations to improve the user experience.

In the same Student Feedback Panel, students shared their perceptions of other available career services. One key finding was that students recognize uneven and inequitable distributions of financial, social, and cultural capital that (dis)advantage individual students in their career development journeys. These findings have been incorporated into the work of a new, university wide division for Student Success, led by a university Vice President for Student Success.

The project also expanded student engagement with the NGO, *Ascend Indiana*, a talent initiative of the Central Indiana Corporate Partnership that matches job seeker talent with employers' needs within the state. To promote Ascend partnerships across all campuses, university staff collaborated with Ascend to create an informational video to ensure that relevant audiences (academic administrators, advisors, career services staff, members of the faculty) at the regional campuses know how the Ascend partnership can benefit students. The video chronicles the success that one campus had partnering with Ascend to help students connect with internships. Ascend Indiana staff have expanded their partnership with the university to increase their reach beyond Central Indiana and to the rest of the state through regional campuses.

While conducting this work, project leaders learned that students could be more successful job seekers if they could more clearly communicate the value of their degrees to potential employers, particularly in terms of soft skills. To support students in making explicit connections between their degrees and highly sought soft skills, grant funds were applied to develop, support, and implement the adoption of career competency frameworks at all campuses. Over 280 instructional staff across all campuses were trained to intentionally integrate Career Competencies into their course curricula. The Ascend video was also included in the Career Competencies training across all campuses. This effort was then assessed through a student survey. The results showed unevenness in the effectiveness of the effort. For example, in many classes, all students correctly identified the career competency that the instructor was highlighting while in some classes a notable number of students did not. These findings illustrate the importance of using formative assessments to guide mid-course adjustments that promote implementation fidelity. Figure 2 shows the competency framework developed by academic staff within the largest academic unit of the largest campus, to assist both instructors and students with connecting their class learning with career skills.



Figure 2. Career Competency Framework for The College of Arts and Sciences.

5.4. Challenges Faced and Lessons Learned

The university's CTF project was an ambitious attempt to develop an inter-related set of strategic initiatives that had one general goal: improving the success of students in their educational pursuits through which they identify and pursue professional and personal development goals. The various activities undertaken also had a common base of evidence- and expert-informed intelligence gathering, analysis, and interpretation, with input from the diverse range of individuals involved in designing, delivering, and participating in these activities. These features of the project served well as project staff faced several challenges in attempting to pursue the different activities within the initiative. One of these challenges, the worldwide COVID-19 pandemic, is of the type that cannot be predicted

nor generalized as to its consequences. Moreover, while the pandemic created delays and required moving activities online, it required only minimal redesign of activities.

One of the largest challenges the project faced was a more common occurrence: a substantial change in overall leadership at the institution. The project was developed and funded as a presidential initiative, as required by the funding organization. The steering group for the effort included the university's three executive vice presidents (CEOs of the two large campuses and the CEO of regional campuses). Halfway through the project, the president retired, and the new president put in place a different team of senior administrators. Since the project was half-way through its three-year life, it was not possible to completely change gears, so efforts were made to reshape some activities to better integrate them with the goals and objectives of the new leadership team. Although the leadership transition introduced uncertainty as to whether and where project initiatives would be sustained, it also demonstrated the resilience of large, complex organizations when faced with such change. While some activities of the project were dropped, some added, and some reshaped, the general focus on integrated, strategic, and evidence-informed development remained constant.

The impact of leadership change on planned initiatives has been a subject of several studies. Several studies, like Latta and Myers (2005), have found a negative and significant impact of transformational leadership behavior on organizational change management process. Martin and Samels (2006) provide a comprehensive analysis of presidential turnovers, noting that they are growing in frequency and disruptiveness, occurring in about one-quarter of US HEIs at any given time. Although most literature on this topic originates from the United States, the topic is receiving more attention internationally (Röbken, 2007; Martínez & Arellano, 2021).

In terms of lessons learned, an important one concerned finding an optimal balance between scope and manageability. The design of the project was ambitious, incorporating programs and staff that were distributed across eight university campuses as well as the academic and student management divisions, with significant support of the information technologies staff and resources. It was managed through a collaborative arrangement between executive administration and a school-based research center (The Center for Postsecondary Research). One effective strategy was to engage staff from a range of administrative and academic units, paying a portion of their salaries and giving them project management responsibilities. From our SACAI effort, we learned to engage deans and department chairs more formally in the curricular selection process. Deans and chairs are critical to ensure that initiatives continue to move forward and scale up. We also learned that more work was needed to help instructional staff learn how to identify, analyze and improve college curricula to promote equitable learning outcomes.

The largest challenge of development projects within the university context is obtaining necessary buy-in from large numbers of staff, who have "day-jobs" that require significant attention (Borden & Peters, 2014). Change-focused research projects in higher education are by nature complicated because they are carried out by humans and not machines. Because they require academic and non-academic staff to spend time and effort carrying out the project, it is essential that researchers be able to determine the true return on this investment of time and energy. Fidelity—the extent to which the intervention was implemented as intended—thus matters greatly and attention to measuring fidelity must be embedded into projects from the beginning. Our use of multiple methods of assessment for our projects was an attempt to do this. Besides traditional quantitative measures (course outcomes, pre-and post-surveys of students), we collected class artifacts (syllabi), solicited academic staff feedback on initiatives through written reflections, put observers in classes

as ethnographers, and engaged a team of students from across the university in a very structured focus group process focused on our initiatives.

To fully understand how HEIs struggle to implement strategic R&D, just consider one site—the classroom—where a considerable amount of such research is already occurring. Many instructors constantly experiment with their course content and how they teach their courses. They change readings, reorganize units, alter assessment methods, or try out new pedagogies. If performed under the Scholarship of Teaching and Learning imprimatur (SoTL), they may even use pre- and post-surveys to assess the impact of the changes on students or document changes in student performance. Such initiatives, however, remain localized to a specific instructor. When they do not work, the instructor may not have good insight into why because they were not assessing their own fidelity as they carried out the initiative. Rarely does such experimentation lead to the scaling up of successful interventions to impact more students, even within the instructor's own department! When colleagues can be convinced to try out the initiative, things can get muddled quickly. Fidelity ends up forgotten and instructors feel they have complete control over what happens in their classroom and so may resist or subvert the intervention elements. When the experiment fails, no one questions why.

For strategic R&D initiatives to bring about change in an organization, they require deep collaborative engagement of stakeholders on all levels—from academic leadership down to the boots on the ground staff who will be carrying out the initiative. Achieving that level of engagement in a project requires bringing the relevant stakeholders together from the beginning. They review together the current situation, identify the change needed, and then plan and carry out the intervention. They are supported in this work by campus technical and analytical support offices that provide data and help with analysis, by campus experts who can contribute insight about potential interventions and research design, and by campus offices charged with professional development. Such deep collaboration assumes a campus climate where academic and non-academic staff can trust that upper-level administrators are not only willing to hear their thoughts and concerns, but that those administrators recognize their staff as key stakeholders whose expertise in the matter under consideration must be considered for success in any proposed plans for change and improvement.

The efforts at the case study university benefited from a strong focus on collaboration across all campuses that had been set in motion through a university-wide office of academic affairs during the preceding ten years. This organization built networks of connected administrators, with academic and non-academic staff members across campuses so that campuses could work together on solving shared problems, sharing best practices, and using collaboration to improve student success. Once networks were built, they could be used to bring different university functions together for joint problem-solving such as, for example, admissions staff and academic advisors to better design the hand-off from admissions to enrollment or admissions, financial aid and advising staff to design a program seeking to re-enroll students who had stopped out. University institutional research staff engaged with these networks so that they could develop the dashboards and reports that units needed to identify issues and track changes. This infrastructure made the strategic R&D initiatives feasible but also required a larger adjustment when the new administration reorganized system-level offices, decentralizing academic affairs management but elevating student success as a centralized focus.

Finally, it became clear by the end of the project that, given the transition of leadership, the original scope of the project was too large. The project was designed specifically to align with the organizational units of the prior administration. Although the project was able to adjust and reshape to the interests and objectives of the new administration, the

degree of change that occurred and the development of a new institutional strategic plan shifted the project from a strategic to a tactical focus. According to the American Council on Education's 2022 American College President survey, the average term of a US University president is just under 6 years. The likelihood of such a substantial change should be considered even when undertaking a three-year project.

6. Conclusions

This article first described the conceptual and practical origins of the construct, Strategic Academic Research and Development, and provided a defining case study related to operationalizing the construct. Two other articles of this volume explore components of this case in further detail. These articles elucidate the depth of organizational learning that this project entails. All other articles in this volume provide an expansion on the construct, describing how it has taken form within other postsecondary institutional as well as national contexts. The variety of applications illustrates the potential and complexity of pursuing such ambitious, university transformation initiatives. We hope that it provides both inspiration and guidance for additional cases to be developed and documented for the field of practice.

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