KAUFFMAN CAMPUSES INITIATIVE:

A STUDY THAT EXPLORES THE PHENOMENON OF

CROSS-CAMPUS ENTREPRENEURSHIP

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DEDICATION

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ABSTRACT

KAUFFMAN CAMPUSES INITIATIVE:

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Entrepreneurs drive the United States economy by creating small businesses that in turn create jobs. Colleges and universities have been capitalizing on this small business driver for decades by creating entrepreneurship education programming. Indeed, since the first entrepreneurship education class was offered in 1947, the field has grown exponentially, with more students studying entrepreneurship than any time in history.

Entrepreneurship education is a relatively new field of study in higher education. Born out of business schools, it is now embraced by scholars across academic disciplines. It has evolved further with support from entrepreneurship centers and the creation of majors and minors in the field. In order to grow further, it must continue to stretch into interdisciplinary territories. Public sentiment supports this movement beyond the business school, yet there is very little to support educators and administrators looking to embed entrepreneurship across their campuses.

A recent effort by the Kauffman Foundation to seed entrepreneurship in departments outside of business schools provides data and space to study the phenomenon. In 2003, the Kauffman Foundation launched its Kauffman Campuses Initiative (KCI) with the goal of creating a campus-wide experience among diverse

schools so students would begin to develop a more "entrepreneurial perspective." Leading an investment of nearly a quarter of a billion dollars from 2003 to 2012, the Kauffman Foundation supported grant-funded programming on 18 college and university campuses.

This study attempts to understand what happened on the respective campuses during and after the KCI grants ran out: what factors influenced successful implementation of entrepreneurship programming, and which campuses were able to sustain these programs after the grant period? It gathers data from the 18 KCI institutions, the Kauffman Foundation, and the Burton D. Morgan Foundation in order to show the initial and sustained impacts of the grants upon cross-campus entrepreneurship initiatives. It employs a qualitative approach to tell a cohesive story about the KCI schools and to extrapolate from that story those characteristics that support successful and sustainable implementation of entrepreneurship programming.

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INTRODUCTION

In the fall of 2010, I was a new college president seeking ways to elevate our liberal arts focus at McPherson College. At this time, I was introduced to the Kauffman Foundation and its Kauffman Campus Initiative (KCI) program, which had begun in 2003. Although the program would end in 2012, I was energized by its efforts to plant entrepreneurship education across 18 college campuses through distribution of seed grants of $43 million. These initial grants spawned an additional $160 million in gifts to the KCI, the first major initiative to support entrepreneurship education outside of the business school. I was drawn to the idea that entrepreneurship was a cross-disciplinary phenomenon that could be applied outside the business school.

With a little encouragement from an executive at Kauffman, I set off on the journey that eventually led to this dissertation. The first stop on that journey was Florida International University in Miami. There, I toured the Pino Global Entrepreneurship Center, which had been founded at Florida International with $3 million from Kauffman and matching funding of $6 million from private donors. The assistant director explained that the center supported students across all disciplines interested in starting a business. I sat patiently waiting for the rest of the story, but that was it. So, all $9 million gets you at Florida International is a few flyers and a series of business start-up workshops? I walked away from Florida International, curious. There had to be more. I then decided to spend the next year visiting other KCI schools, looking for ideas to borrow for my own liberal arts campus.

As a part of this study I collected 20 individual stories and formulated them into a collective tale about two foundations planting entrepreneurship programs across college campuses. The study attempts to answer specific questions about the KCI (see Chapter 2).

Entrepreneurs are a driving force in the U.S. economy. Small businesses started by entrepreneurs make up nearly half of the gross domestic product in the United States (Kobe, 2012). By definition a small business employs fewer than 500 employees (U.S. Census Bureau, 2010) on average, but they make up 99.7% of U.S. companies. And they maintain steady growth: small businesses accounted for 64% of new job growth between 1993 and 2011, and, even during the recession of 2009-2011, they still accounted for 67% of new jobs.

Colleges and universities have been capitalizing on this small business driver for decades. Faculty have created entrepreneurship education programming for their students in and out of the classroom, while many stakeholders on campus engage in curricular and co-curricular learning about venture creation and fostering entrepreneurial mindsets.

As a result, the field of entrepreneurship is booming on college campuses. Since the first entrepreneurship education class was offered in 1947, the field has grown to over 1600 colleges and universities offering 2200 courses (Katz, 2003). Last year alone, over 400,000 students at two- and four-year institutions took classes in entrepreneurship—and many of these were courses outside of business schools (Clark, 2013). Faculty research in the field has increased as well; endowed faculty chairs have doubled every four years since the 1980s (Katz, 2003), and publications in entrepreneurship-themed journals is at an all-time high. These efforts have gained traction based on a recent Department of

Commerce (DOC) report recognizing entrepreneurship education as a key economic force over the last 20 years (Department of Commerce, 2012). The DOC study of 142 major universities concluded that entrepreneurship is a critical part of American college and university campuses, providing worthwhile research opportunities for scholars within and beyond business schools, and playing a critical role in the national economy. In recent years, higher education institutions have received funding from foundations and private donors to further expand entrepreneurial activities on their campuses. Consequently, more students and academics are engaged in the field of entrepreneurship education than at any time in history.

This study explores the development of entrepreneurship as a cross-campus phenomenon at schools expanding their efforts with the assistance of KCI grants. It documents the successes and failures at these 18 institutions, and it examines the sustainability of the KCI-funded initiatives after the grant period ended in 2012. To do so, this study addressed the following questions:

- Was the KCI program successful in creating a culture of cross-campus entrepreneurship education? If so, what made it successful? Why?
- Did the KCI-funded initiatives create specific, lasting effects within each institution and across the 18 participating institutions?
- What are the characteristics of sustainable cross-campus entrepreneurship education initiatives?
- What were the barriers to creating these new programs and how were they overcome?

- Have the KCI-funded initiatives continued on campuses after the Kauffman funding ran out in 2012? If so, how and why?
- What roles did the foundations and the institutions play in developing specific programs? Did these differing roles affect program success? How and why?
- What can higher education institutions learn from the KCI as they develop cross-campus entrepreneurship programs or other cross-campus initiatives? How do the KCI experiences translate to other institutions?

To answer these and other questions, I employed a qualitative case study approach. I collected primary and secondary data from the 18 KCI institutions as well as from the Kauffman Foundation and the Burton D. Morgan Foundation.

CHAPTER ONE

LITERATURE REVIEW

Entrepreneurship education is a relatively new field of study in higher education, but the literature around its evolution is rich. Two key questions about entrepreneurship education have centered around whether entrepreneurship can be taught, and, if so, how it can move beyond the business school to the other areas across campus. The very definition of *entrepreneurship* has also changed over time. This literature review documents the birth and progress of an academic field of study, tracing major themes and stages in its development.

Can Entrepreneurship be Taught?

The first question to ask when studying entrepreneurship education is whether it can be taught in the first place. Most of the literature suggests that certain entrepreneurial *skills* can be learned or developed. However, there is debate as to whether entrepreneurship *itself* can be taught. Adcroft and Dhaliwal (2004) suggest that entrepreneurs cannot be “manufactured, only recognized,” and that education can develop some technical skills, but it cannot contribute the element of “serendipity,” which is central to entrepreneurship. Henry, Hill, and Leitch (2005) wonder whether entrepreneurs are “born or made,” but they also agree that some aspects of entrepreneurship can be taught. Drucker (1985) argues that entrepreneurship is not “magic” or “mysterious,” and it is certainly not genetic, suggesting that people can learn how to become entrepreneurs. According to Kuratko (2005), students can develop their “entrepreneurial perspective.”

A study by Dickson, Solomon, and Weaver suggests that entrepreneurial success is connected to educational attainment (2008), suggesting that entrepreneurship can be taught. Their study shows that students who develop their leadership skills and those who understand and practice concepts like opportunity recognition, feasibility analysis, and project management are more likely to become entrepreneurs.

Public attention often focuses on entrepreneurial icons like Steve Jobs, Bill Gates, and Mark Zuckerberg, all of whom did not graduate from college. However, according to the Global Entrepreneurship Monitor (2011), college graduates are twice as likely to become entrepreneurs as those with only a high school diploma. And students who persist in any academic area are more likely to start successful small businesses.

While the question has not been entirely settled, this literature review and dissertation in general will proceed from the view that entrepreneurial skills *can* be taught and that scholars are shaping an ever-changing field of study.

Entrepreneurship Education Defined

Like most emerging fields of study, entrepreneurship education has struggled to create common definitions for key terms. Even the definition of *entrepreneurship* itself has been "slippery," with little to no universal agreement on how to define the word in relation to higher education (Hess, 2011).

Shane and Venkataraman (2000) contend that the field of research within entrepreneurship education lacks a contextual framework and consists of a cobbled set of ideas. Yet even though scholars have defined key terms in various ways, the definitions of *entrepreneurship education* coalesce around two themes: venture creation and the entrepreneurial mindset. In North American culture, “entrepreneurship” generally means “starting a business.” Since the field of entrepreneurship education began in the United States, it adopted this venture creation model as a driving concept in curricula. For example, Shepherd and Douglas (1997) define entrepreneurship education as “the ability to envision and chart a course for new business ventures.” Most of the early North American definitions for entrepreneurship education center on teaching students how to start a businesses.

However, others in the field see entrepreneurship education as helping students develop entrepreneurial mindsets. Garavan and O’Cinneide (1994) suggest that the field’s “major objectives” should be developing “enterprising people and inculcate[ing] an attitude of self-reliance using appropriate learning processes.” More recently, the Aspen Youth Entrepreneurship Strategy Group (2008) described the development of an entrepreneurial mindset as “a critical mix of success-oriented attitudes of initiative, intelligent risk-taking, collaboration, and opportunity recognition.” And the World Economic Forum (2009) further expanded a vision of this mindset as “a process that results in creativity, innovation and growth.”

Not until Solomon (2006) did these scholars and thinkers recognize that entrepreneurship was capable of holding both competing ideas together, in a comprehensive definition, and thus joining together venture creation with an entrepreneurial mindset. Solomon suggested that scholars think beyond entrepreneurship as just another way of describing small business, while Gorman, Hanlon, and King (1997) created a theoretical framework for educational practices that could stimulate both venture creation and the entrepreneurial mindset. This combined framework, of course, assumes that entrepreneurship education's purpose is in fact to educate students in both areas. In contrast, a narrower definition, according to Teske and Williamson (2006), would restrict students and limit the field of entrepreneurship education.

The broadened definition reflects academics' recognition that entrepreneurship education requires more than just business skills. Consequently, business school faculty members have broadened their skills in teaching principles of the entrepreneurial mindset, while their counterparts in other disciplines have become more versatile in teaching business skills. Today, many schools combine entrepreneurship with other disciplines using a dual-degree approach. Some programs—particularly in schools of liberal arts and sciences—integrate business skill development with the mindset approach (West, Gatewood, & Shaver, 2009).

Clearly, the field's own definition of entrepreneurship has changed over time; this change is a direct reflection of the evolution occurring in and out of business schools. This dissertation proceeds from the view that an approach combining venture creation with an entrepreneurial mindset provides the best context for studying entrepreneurship education today.

The Evolution of a Field of Study

Today, entrepreneurship education ideally penetrates throughout all campus departments and schools; however, at the outset, entrepreneurship education in the United States was located in business schools. We can trace the development of the field using three separate but related domains: course offerings, co-curricular infrastructures, and faculty publications (Katz, 2003). This dissertation focuses primarily on the first two domains and examines these further below.

Course offerings and curricular developments

Myles Mace taught the first entrepreneurship class at Harvard Business School in 1947. Named “Management of Small Enterprises,” it enrolled 188 MBA students from a class of 600 total (Katz, 2003). By 1972, the University of Southern California had developed the first concentration in entrepreneurship for MBA students, signaling significant interest from students and seriousness from faculty in asserting entrepreneurship education as a field. Scholars caught up to USC in 1987 with Zeithaml and Rice’s (1987) identification of entrepreneurship as a key concept for business curricula broadly.

Zeithaml and Rice’s insight meant that business faculty began to integrate entrepreneurship into multiple business disciplines, such as marketing and finance, while other business fields provided additional context. This broad curricular shift represents the first major evolution in the field, setting the stage for the major growth that followed in the 1990s. At this time, the numbers of courses, endowed faculty chairs, entrepreneurship centers, and scholarly publications increased rapidly, doubling every three to five years. Finally, the field gained further traction with the development of majors and minors in entrepreneurship and the movement beyond the business school into other disciplines, particularly the arts and sciences. According to Morris, Kuratko, and Cornwall (2013), majors and minors were created because a few courses were not enough to capture the depth and breadth of the field. Today, students are now paying for advanced degrees in entrepreneurship.

Co-curricular infrastructures

The field expanded beyond the classroom through the establishment of entrepreneurship centers, which focus on education, outreach, and research (Kuratko 2005. The new centers did so by supporting student clubs; incubators for new projects; and workshops for faculty, staff, and students. The centers were mainly housed in business schools and provided strong leadership for everything entrepreneurial on campus. The centers inspired entrepreneurial activity, and faculty started to understand that students needed to engage in such activities in order to gain practice.

A Home Outside the Business School

The turning point in the field of entrepreneurship education occurred when business faculty recognized that students outside of business had creative ideas about new venture creation. At the same time, business faculty conceded that students needed both business skills and discipline-specific knowledge in order to bring any entrepreneurial concept to fruition. According to Morris, Kuratko, and Schindehutte (2001) entrepreneurship education "represents a fundamental change in ways of thinking about business, life, and the environments in which people and ventures operate" (p. 35). This conclusion opens the doors of entrepreneurship education to those outside the business school. Indeed, expanding entrepreneurship education across campus, with faculty advocates from non-business disciplines, including the arts and sciences, could provide a strong model for the future of entrepreneurship education (Morris, Kuratko, & Cornwall, 2013).

Morris, Kuratko, and Cornwall (2013), adopting a narrow view of the role of other disciplines in entrepreneurship education, assert that most of the entrepreneurship education activity is manifested in business schools leaving other disciplines left to provide supporting roles. However, they concede that entrepreneurship education diffused out of business schools across campus with champions from multiple disciplines (including liberal arts) provides a model for the future of entrepreneurship education.

The idea that an entrepreneur is a whole person interested in developing skills like expression, perception, critical thinking, and creativity interested faculty across campus. Arts and sciences faculty in particular saw entrepreneurship education as a skill set that could be applied to any discipline, and they became the early adopters of the field outside of the business school. They inspired business faculty members to build the field outside their walls, showing them how entrepreneurship could provide options for all students. The studios and labs of the arts and sciences have long been a place of experimentation. Combining business- driven acumen with these disciplines created an even richer learning environment for college students. According to West, Gatewood, and Shaver (2009) some liberal arts faculty were starting to see entrepreneurship education as a way to enhance the liberal arts by providing another career avenue for students to pursue.

Expansion beyond the business school has given entrepreneurship education increased flexibility and greater applications. Scholars have started to identify different types of entrepreneurs, those who were not necessarily attached to starting businesses. For example, entrepreneurs can work within corporations to create new enterprises and produce value for the larger organization (Pinchot, 1985). Or they could become new kinds of entrepreneurs outside of business (Zhao, 2012). For example, social entrepreneurs produce value for mission-driven organizations that are not tied to the traditional entrepreneurial profit models. Programs in social entrepreneurship take similar principles taught in starting a business and apply them to creating social ventures, which in turn have become part of curricular initiatives in social justice and service learning. Similarly, policy entrepreneurs work to influence and create change in the public sector. Kingdon (2012) suggests that policy entrepreneurs in the private sector can also influence changes in the public sector. As Gelderen and Masurel (2012) suggest, entrepreneurship education has itself changed the nature of entrepreneurial activity; its "ethos" has become disconnected from economic motivations like profit. The values, virtues, and norms related to the entrepreneurial ethos have become less quantitative and more qualitative. The transformation of the idea of entrepreneurship as having purely economic functions to one that has functions and applications to arts, sciences, governments, and more has opened the door for scholars and students to expand the field of entrepreneurship education.

The Developing Entrepreneurship Education Pedagogy

As these curricular and disciplinary changes occurred, scholars recognized a disconnection between the entrepreneurship education curricula and the traditional pedagogies employed in higher education. Most universities have come to understand entrepreneurship education through traditional media, such as academic publications, business textbooks, current periodicals, government reports, case studies, and even biographies. Some might even have read or undertaken interviews with entrepreneurs or attended multimedia presentations from them. Faculty members might then develop lectures and tests, assign case studies, or arrange guest lectures for their entrepreneurship studies. However, many of these traditional pedagogy tools have been found by educators to be ineffective when they are used in isolation.

Thus, developing and enhancing entrepreneurial approaches in a higher education context required more than the traditional methods used (Higgins, Smith, & Mirza, 2013). And as noted by an early survey by Robinson and Hays (1991), the field lacked—but needed—new pedagogical models. As more interdisciplinary entrepreneurship programs developed, faculty members shifted toward experiential models (Solomon, 2007). These models have become an important part of all cross-campus entrepreneurship education programs (U.S. Department of Commerce, 2013). With experiential learning gaining ground as legitimate higher education pedagogy, entrepreneurship education programs started to use it to help students integrate career experience and opportunity recognition into the classroom (Politis, 2005).

As experiential models continued to gain traction, the Coleman Foundation (2012) developed an experiential learning portfolio concept that includes a number of student assignments and activities: idea diaries, commercialization projects, venture simulations, entrepreneurial audits, business plans, business adoptions, consulting projects, marketing inventions, student accelerators, students teaching entrepreneurship in high schools, field experiences, entrepreneurial internships and social entrepreneurship community projects. These teaching methods have been tested by Coleman

Entrepreneurship Faculty Fellows and recommended as best practices for teaching entrepreneurship education.

A study by Politis, Winborg, and Dahlstrand (2012) also suggests that giving new contexts to entrepreneurship education pedagogy affects student outcomes. Students in the study who were taught entrepreneurship used resources differently than those not in entrepreneurship programs. For example, they were able to apply opportunity recognition skills that are important when starting a business. Students who participated in business plan competitions and worked on real projects in classes used those skills after graduation.

Experiential learning requires a network of support, including outside expertise, mentors, and “live” projects. According to Hampden-Turner (2009), entrepreneurship is not learned in a classroom; it needs its own space. This space must be “hospitable” to students’ development of problem-solving skills, including diverse people and experiences designed to facilitate mistakes and real learning. The arts and sciences, of course, have a long history of development of experiential learning pedagogies. Nie (2011) connects the liberal arts with entrepreneurship in a music conservatory setting where students are able to learn the technical aspects of the craft while exploring their interest in entrepreneurship.

Legitimacy in Academia

Entrepreneurship has expanded as an academic field such that a body of scholars devotes research time and resources to it, while campuses express their engagement in the form of curricular changes and the construction of multi-disciplinary centers. Katz (2003) argues that the field is “mature” in the sense that enrollments in entrepreneurship courses and publication numbers have increased. However, at the same time, Katz points out that the field lacks a sufficient quantity of professors to conduct research and teach, Ph.D. programs to train new scholars, administrators trained in or knowledgeable about the field, and departments of entrepreneurship. The growth has happened so fast that it “outstripped” the available intellectual resources. For these reasons, Katz (2003) asserts that the field is not yet legitimate. Its shortage in these areas calls into question whether entrepreneurship education is just a passing fad. And as such, entrepreneurship may be seen by some academics as lacking in legitimacy, resulting in resistance to its incorporation across campus curricula and activities.

The legitimacy of the field is challenged by academics in several ways. First, most fields of study are taught within departments, and faculty often shy away from content that is not discipline-based. Faculty members will also resist the field because it lacks a significant theoretical framework. In addition, since entrepreneurship has traditionally been seen as a business concept, faculty outside of business may have difficulty seeing how it relates to educational goals and outcomes (West, Gatewood, & Shaver, 2009). This disconnect creates another barrier between business and other faculty members in regard to understanding the value of entrepreneurial education. This barrier can dissolve, but it can do so, paradoxically, only with further research, faculty adoption across the curriculum, and more doctorates in the field—which cannot happen while the barrier is in place.

Finally, and perhaps most important, institutions and faculty in particular just resist change. According to Torraco, Hoover, and Knippelmeyer (2005), faculty members resist efforts to promote systematic approaches to change that require them to think about the curriculum outside of just the classes they teach. West, Gatewood, and Shaver (2009) suggest that change upsets the institutional balance and shakes the institutional culture. According to Tierney (1988), organizational culture is what holds institutions together. Environment, mission, socialization, information flow, strategy, and leadership start to look different when the status quo is disrupted. Resources may be diverted and faculty might be required to change what and how they teach. Entrepreneurship education puts pressure on other disciplines in this way.

Yet this resistance must be overcome if the field wishes to attain legitimacy within academia, and it can achieve that legitimacy through broad integration in the campus. Entrepreneurs are known for being disruptive, but entrepreneurship education leaders will need to work at integrating the concept carefully rather than forcing innovation for innovation's sake if they want to gain socio-political legitimacy on their campuses. They must also gain cognitive legitimacy by reframing initiatives to give them context within other fields. For example, how can artists in the humanities take advantage of entrepreneurship education? The concept is too abstract for some faculty to see the advantages, so entrepreneurship leaders on campuses must make these benefits more explicit. In addition, the field must work to better fit the current institutional objectives and rules. Until both cognitive and socio-political legitimacy are achieved, the field will continue to struggle to move forward (West, Gatewood, & Shaver, 2009).

One approach that might hasten legitimacy on campuses is outlined by Streeter, Jaquette, and Hovis (2002), who ask us to think about the structure of entrepreneurship within the organization. They identify two different approaches employed by institutions seeking to integrate cross-campus entrepreneurship programming; “magnetic” structures centralize efforts in a particular school or department so that the campus gravitates toward that center for curricular and co-curricular entrepreneurship programming, while “radiant” structures decentralize their activities across schools and departments. According to Streeter, Jaquette, and Hovis (2002), both models can work effectively to implement cross-campus entrepreneurship depending on the institution.

The Future: Cross-Campus Entrepreneurship Education

“Higher education should graduate intellectually curious students prepared to make innovative contributions to society and the economy. That will be the only way to succeed in the entrepreneurial economy.” (Schramm, 2006, pp. 133-4)

As I have argued, entrepreneurship education must continue to grow by stretching outside business schools into interdisciplinary territory. Most research in the field calls attention to this need as well. However, there is little research on the phenomenon of cross-campus entrepreneurship education. A recent effort by the Kauffman Foundation provides the data necessary to beginning to fill that void.

Entrepreneur and philanthropist Ewing Marion Kauffman established the Kauffman Foundation, based in Kansas City, Missouri, in the 1960s. It is one of the largest private foundations in the United States, with assets of two billion dollars. The vision of the foundation is to “foster a society of economically independent individuals who are engaged citizens in their communities” (Ewing Marion Kauffman Foundation, 2015).

In 2003, the Kauffman Foundation launched its Kauffman Campuses Initiative (KCI) with the goal of creating a campus-wide experience among diverse schools so students would see their own knowledge and resources from a more "entrepreneurial perspective" (according to Torrance, 2013). Kauffman loosely defined entrepreneurship education across campus as "outside the business department and in and out of the classroom." KCI launched with eight institutions in 2003 and added 10 more institutions in 2006, including five liberal arts colleges in northeastern Ohio. The Ohio colleges also received support and resources from the Burton D. Morgan Foundation. Table 1 represents the eight schools that received funding from 2003 through 2006 and the 10 schools who received funding through 2012.

Table 1

Kauffman Campus Initiative Schools

2003 Recipients	**2006 Recipients**
Florida International University	Arizona State University
Howard University	University of Maryland-Baltimore County
University of Illinois at Urbana-Champaign	Purdue University
University of North Carolina at Chapel Hill	Syracuse University
University of Rochester	University of Wisconsin-Madison
University of Texas at El Paso	*Baldwin Wallace University
Wake Forest University	*College of Wooster
Washington University in St. Louis	*Hiram College
	*Lake Erie College
	*Oberlin College

*Denotes the Ohio colleges supported by the Burton D. Morgan Foundation

Kauffman poured nearly $45 million dollars into the initiatives, and the campuses matched another $148 million dollars from 2003 to 2012. It represented Kauffman's first major attempt to infuse its mission into a segment of higher education. The term *venture* *philanthropy* was coined to describe this type of effort; according to Cunniffe (2014), venture philanthropy is a blanket term that encompasses the actions made by foundations to target financial resources toward creating change in institutions.

After the grant program was concluded in 2012, Kauffman, Burton D. Morgan Foundation, and several of the grant recipients created multiple white papers that were published on the Kauffman website. The studies highlighted five strategies common to most KCI campuses that effectively created a campus culture supportive to entrepreneurship education (Torrance, 2013). First, democratized ownership was critical on several campuses. When key stakeholders were allowed to define concepts and initiatives, there was a greater likelihood of success. Second, all 18 campuses used blended funding to leverage dollars outside the foundations. Campuses used operating funds or matching gift dollars from private donors to enhance the initial Kauffman gift. Third, top-down support was critical, especially at the dean level. In addition, campus champions like the president lifted the initiative up and gave it a different level of credibility. Fourth, all campuses publicized the initiative. It became part of the language used on campus. Finally, campuses had to work to overcome the stereotypes of entrepreneurship. Campuses framed entrepreneurship in multiple contexts, using language like “innovation” and “independence,” and they contrasted venture creation with the development of an entrepreneurial mindset.

Opportunities for Research

As we have seen, entrepreneurship education has a well-documented history. Its movement outside of the business school has coincided with a rise in its importance within higher education generally. To date, though, few scholars have engaged with sustained research—particularly the gathering of empirical data—on entrepreneurship education outside of business schools. Babson College and Kauffman have begun this work. Babson integrated entrepreneurship across its campus programs and co-curricular activities 50 years ago (Babson, 2014); as a result, it has a great deal of data on the developments. Similarly, Kauffman collected significant data on the recipient institutions to explore the effectiveness of entrepreneurial programming on the KCI campuses during and after the grant period.

These efforts represent a strong beginning, but there is minimal analysis available to researchers interested in entrepreneurship education in a cross-campus context. This study offers a new effort to fill the gap in current literature.

CHAPTER TWO

METHODOLOGY

Research Questions

The Kauffman Foundation led an investment of over $200 million dollars in the Kauffman Campuses (KCI) schools to seed entrepreneurship education across campus. They granted $43 million, and campuses matched $148 million and raised an additional $14 million above the required match.

This study begins with several research questions:

- Was the KCI program successful in creating a culture of cross-campus entrepreneurship education? If so, what made it successful? Why?
- Did the KCI-funded initiatives create specific, lasting effects within each institution and across the 18 participating institutions?
- What are the characteristics of sustainable cross-campus entrepreneurship education initiatives?
- What were the barriers to creating these new programs and how were they overcome?
- Have the KCI-funded initiatives continued on campuses after the Kauffman funding ran out in 2012? If so, how and why?
- What roles did the foundations and the institutions play in developing specific programs? Did these differing roles affect program success? How and why?

- What can higher education institutions learn from the KCI as they develop cross-campus entrepreneurship programs or other cross-campus initiatives? How do the KCI experiences translate to other institutions?

Research Methodology

I used a qualitative study to answer these research questions; I chose this approach because any study of the cross-campus entrepreneurship education phenomenon requires examining a number of complexities not easily measured by quantitative means (Creswell, 2013). I employed a case study approach that took advantage of the Eisenhardt (1989) small sample research method. Data from each campus served as experiments for testing the research questions.

Eisenhardt's method was especially useful because of its applicability to entrepreneurship studies; she developed it, in fact, while studying entrepreneurship. One key element of the Eisenhardt method is triangulating data from multiple sources in order to verify conclusions. My study combined primary and secondary source data for triangulation. I also used both the perspectives of stakeholders on KCI campuses and within the foundations to ensure more reliable results. I conducted analyses within and across all 18 KCI campuses. The analysis section discusses the common themes and unique features that emerged in the findings. Eisenhardt (1989) suggests that this method is primarily helpful when little is known about the phenomenon because it does not rely on previous empirical data, which is the case with entrepreneurship education across campus.

Site Selection

The 18 colleges and universities that participated in KCI made up the sample population for this study. The purposeful sampling approach (Creswell, 2013) used in this study meant that both the site and the interview subjects were crucial considerations. The Kauffman Foundation (Kauffman) began funding KCI in 2003. In 2006, the Burton D. Morgan foundation became a partner providing matching grants and oversight for five Ohio liberal arts colleges (as seen in Table 1). They uncovered information and understanding to best answer the stated research questions. The size of this population, the diversity of institutions, and the complexity of the initiatives provided a rich environment to study the implementation of cross-campus entrepreneurship education. Access to the 18 schools came with the support of the Kauffman Foundation and the Burton D. Morgan Foundation.

I first conducted a pilot study to explore access and availability of data. As part of the pilot study, I contacted four out of the 18 KCI campuses, and all four agreed to participate in the study. The Kauffman Foundation and Burton D. Morgan Foundation also agreed to participate in the pilot study and provide data for the larger study.

The significant challenge with access for this study was the conflict of interest that resulted from each institution's receipt of at least one million dollars in grants. If they were to share data that would show unsuccessful implementation of grant dollars, the institutions would put themselves at risk. However, the pilot study revealed overwhelming interest by institutions to move forward with a comprehensive study of KCI. Moreover, nearly three years have passed since the conclusion of the grant period.

Only one person invited to participate in the study later refused to be interviewed on record.

Data Collection: Primary and Secondary

Primary data

Primary data were collected through interviews to fill in gaps, confirm secondary data, and understand what exists today as a result of the KCI efforts. In addition, primary data served as evidence to answer the more complex questions about why KCI worked or did not work on a given campus.

Primary data were collected through three sources. First, interviews were conducted with current program directors at the KCI participating schools. Next, interviews were conducted with program directors at the time of the KCI grants. Finally, current and former foundation executives responsible for administering the KCI project participated in interviews. Primary data were collected from sources that were focused on institutional outcomes versus student outcomes, which is consistent with the research questions. Thirty-seven people were interviewed in the study. Table 2 represents the different categories of participants.

Table 2

KCI Primary Data Participant Categories

Foundation Participants	
Current Foundation Leaders	1
Past Foundation Leaders	4
Foundation Leaders Present During and After KCI	2

Institutional Participants	
Current Program Directors	10
Past Program Directors	13
Program Directors Present During and After KCI	7

I interviewed seven staff members from the foundations, three by phone and four in person, for about one and a half hours each time. Foundation participants included a combination of current and former presidents, vice presidents, and program directors. A complete listing of foundation participants and their backgrounds may be found in Appendix D. The interviewer fully engaged with the interviewee. It was important to have good rapport with the interviewee to get the best insights into the specific situations at hand. In addition, the relationships formed supported prompt and successful member checks.

The foundation interviews were semi-structured with opportunities for follow-up questioning. I used a complete participant strategy (Creswell, 2013) and focused my interview questions on process rather than variance. In doing so, I followed Maxwell (2013)'s guidelines in posing questions referring to the meanings of the events, influences of context, and processes by which outcomes occurred. The interview questions were designed to verify secondary data and to fill in any gaps needed to answer the research questions; the interviews themselves provided a valuable point of triangulation for the study. The protocol I used for all foundation interviews may be found in Appendix C. I also compared the activities of the two foundations in support of the grantees.

I also conducted semi-structured phone interviews with 30 program directors from the KCI campuses. Program Directors fell into three categories as identified in Table 2: ten current program directors; thirteen past program directors who were in place during the grant period; and seven current program directors who were also program directors at the time of the KCI grant (these program directors were asked questions from both current and past perspectives).

I chose to interview my subjects by phone because the data to be collected did not require significant onsite observation. Phone interviews also enabled me to maximize time, since traveling to 18 campuses would not have been feasible. I utilized both pre- and post-interview strategies (Burke & Miller 2001) in conducting the phone interview; and the interview protocol was piloted in advance. All participants were asked the same questions, which were shared in advance. Participants were also asked some open-ended questions.

The protocol for current and former directors differed somewhat; each may be found in Appendices A and B, respectively. The semi-structured phone interviews with current directors lasted between 30 minutes and one hour. These interviews confirmed secondary data and provided data on which elements from the KCI grant period persisted beyond the grant period, and why. Most of the current directors received the questions in advance of the interview. A comprehensive list of current program director participants can be found in Appendix E.

The protocol for past directors focused more on process than on persistence beyond the grant period. The former directors confirmed secondary data and explained how and why KCI was implemented on their campuses. They also reflected on the challenges of implementation. More information on the former program directors can be found in Appendix F.

Secondary data

As seen in Table 3, significant secondary data were collected during the grant period starting in 2003 with the first round institutions and ending at the conclusion of round two in 2012. Secondary data included annual reports submitted to Kauffman by each school through 2012. Annual reports included a combination of progress toward achieving institutional objectives as well as specific activity measurements outlined by Kauffman. Specific data requested by Kauffman as part of the annual surveys included questions about the following categories: progress against current objectives; entrepreneurship curriculum; co-curricular and experiential learning; impact on students, faculty; entrepreneurship research; technology transfer/commercialization activities; outreach; administration; program management; cultural transformation; evaluation; challenges; and open reporting.

Table 3

KCI Secondary Data and Sources

Data	**Description**	**Source**
KCI Annual Reports	Annual reports completed by program directors a participating schools documenting progress toward goals.	Kauffman Foundation
Mathematica Study	Random sample survey of faculty perceptions of entrepreneurship.	Kauffman Foundation
KCI Student Survey	Self-selected freshman and senior surveys from the participant schools measuring student interest, experience, background and self efficacy in entrepreneurship.	Kauffman Foundation
KCI White Papers	Participating schools published white papers at the conclusion of the grant period outlining their experience.	Kauffman Foundation
KCI Focus Groups	Kauffman hosted a series of focus groups in Kansas City at the concluding of the grant period and published a white paper.	Kauffman Foundation
NE Ohio Annual Reports	Morgan continues to collect annual data on the five participating Ohio schools as part of a NE Ohio Collegiate Entrepreneurship Consortium.	Burton D. Morgan Foundation
Institutional Demographics	Basic institutional demographic data on the participating institutions.	IPEDS and KCI Institutions

At the conclusion of the grant in 2012, all campuses were required to submit white papers (although not all complied) and to participate in focus groups at the Kauffman Foundation. Data from both the white papers and focus groups were published on the Kauffman website.

This study also used data from the Burton D. Morgan Foundation, which continued to collect data on its liberal arts college participants after the grant period. The Foundation continues to work with those campuses today as part of an entrepreneurship education consortium known as the Northeast Ohio Collegiate Entrepreneurship Program (NEOCEP).

I also used Integrated Postsecondary Education Data System (IPEDS) data in order to better understand the characteristics of each institution.

I collected much of the secondary data via a secure website hosted by Kauffman. I also collected data in person at the Burton D. Morgan Foundation office. I stored my collected data on a secure server and/or in a locked office at McPherson College, my place of employment, so as to protect confidential information. I also backed up all data daily. I created a master data matrix (Creswell, 2013) to ensure easy access and organization to the information.

Data Analysis

The analytic scheme for this study involved organizing, coding, categorizing, and interpreting the data by connecting big ideas that rose to the surface (Creswell, 2013). Table 4 represents the variables used to organize and analyze data in the study. Most of the variable categories are centered on the institution and are consistent with the data collection categories present in the KCI Annual Report forms issued each year to all KCI participants. Data were coded using Dedoose coding software to apply thematic analysis (Creswell, 2013). I then used a narrative framework to interpret and connect themes and ideas.

Table 4

Categories of Variables in the Cross-Campus Entrepreneurship Education Study

Variable Categories	Description	Sources
KCI Grant Amount	Total gift from Kauffman	Annual Reports
KCI Grant Match Amount	Additional matching gifts from other foundations or private donors	Annual Reports
Pre-Grant Investment	How much was investedin entrepreneurship activities before the grant application?	Annual Reports/Institutional and Foundation Interviews
Investment Over Match	How much was invested above the match amount?	Annual Reports/Institutional and Foundation Interviews
Pre-Grant Cultural Mindset	How much of an understand or acceptance did the campus have of entrepreneurship? How big is the institution? How involved were faculty with entrepreneurship outside business?	Annual Reports/Kauffman White Papers/Foundation Interviews/Institutional Interviews
Leadership	Was the president and administrative leadership supportive?	Annual Reports/Kauffman White Papers/Foundation Interviews/Institutional Interviews
Institutional Characteristics	Public/Private; Teaching/Research; Associates/Bachelors/Masters/PhD; Enrollment; Graduation Rates; total faculty, tuition and fees	IPEDS
Broadening the Scope	Was the definition and reach of entrepreneurship broad across campus?	Kauffman White Papers/Foundation Interviews/Institutional Interviews/Annual Reports
Champions	Were campus champions engaged to support implementation?	Kauffman White Papers/Foundation Interviews/Institutional Interviews/Annual Reports
Organizational Structure	What kind of structure did institutions use to organize the initiative based on Streeter, Jaquette and Hovis (2002)?	Kauffman White Papers/Foundation Interviews/Institutional Interviews/Annual Reports
Communication Plans	Did the campuses communicate with their constituents about KCI? How comprehensive and effective was this communication?	Kauffman White Papers/Foundation Interviews/Institutional Interviews
Curriculum	What was present before, during and after? Changes to current, additions and deletions? Emphasis/Minor/Major/General Education	Annual Reports/Foundation Interviews/Institutional Interviews
E Enrollment Totals	How many students participated before, during and after?	Annual Reports/Foundation Interviews/Institutional Interviews
E Enrollment Distribution	How were the student distributed across disciplines on campus?	Annual Reports/Foundation Interviews/Institutional Interviews
Co-Curricular Initiatives	What were the existing and new programs on campus? What still exists today? Clubs/Workshops/Internships/Competitions	Annual Reports/Foundation Interviews/Institutional Interviews
Experiential Learning	In and out of the classroom	Annual Reports/Foundation Interviews/Institutional Interviews
Faculty	Activity, Interest, Development	Annual Reports/2006 Kauffman Survey
Students	How focused was KCI on students	Annual Reports/2008 Kauffman Survey
Research	Faculty research incorporating entrepreneurship	Annual Reports/Kauffman White Papers/Foundation Interviews/Institutional Interviews
Community Outreach	Efforts that connect with the broader community off campus	Annual Reports/Kauffman White Papers/Foundation Interviews/Institutional Interviews
Campus Culture	Evidence that supports a more entrepreneurial culture	Annual Reports/Kauffman White Papers/Foundation Interviews/Institutional Interviews
Assessment	How is entrepreneurship assessed on campus?	Annual Reports/Kauffman White Papers/Foundation Interviews/Institutional Interviews
Obstacles	What major challenges exist/ed and how where (or not) overcome.	Annual Reports/Kauffman White Papers/Foundation Interviews/Institutional Interviews
Leadership Continuity	Was there turnover in presidential, provost, dean or primary investigator leadership?	Annual Reports/Kauffman White Papers/Foundation Interviews/Institutional Interviews
Outcomes	Did curricular entrepreneurship indicators like enrollment, faculty, departments and courses increase? Was the effort considered a success by the institution and Kauffman? Were initiatives sustained? Was there an entrepreneurship mindset change on campus? Are institutions still planting seeds?	Annual Reports/Kauffman White Papers/Foundation Interviews/Institutional Interviews

I first conducted my analysis on the institutions to understand whether the KCI grant had been successful I measured success based on three dimensions:

1) Institutional matching of funds and execution of the KCI plan;

2) Impacts on cross-campus entrepreneurial education; and

3) Continuation of entrepreneurial efforts after the end of the grant period.

I then conducted analysis across institutions to understand which characteristics of the institutions correlated with success and which did not and what influence the foundations had on success.

Coding occurred after each individual interview thus informing subsequent interviews. It also took place concurrently with data collection. Simultaneous collecting and coding allowed the study to build upon itself and allowed me to develop the coding system as data were collected instead of waiting until the end of the study to do so.

The secondary data were collected, organized, and coded in concurrent steps. I developed initial codes as the secondary data were deductively analyzed; this step paved the way for analysis of the primary data collected in the interviews.

After the data were coded, a “themes x data” matrix (Maxwell, 2013) was created to explore the major categories within and across the institutions. This strategy enabled me to pull together the big ideas generated by the generalized interpretations of the data (Creswell, 2013). The goal was to find the big ideas so that they can be used in the theory and practice of cross-campus entrepreneurship education.

I wrote “caselet” summaries for each of the 18 KCI institutions; these are collected in Appendix G. Caselet summaries were created based on a Kauffman

Campuses Initiative Data Analysis Model represented in Figure 1. I then organized the data into a master file, which I used to produce my findings.

Kauffman Campuses Initiative Data Analysis Model

The Kauffman Campuses Initiative Data Analysis Model integrates Kauffman's criteria for annual evaluation during the KCI grant period as well as additional variables needed to answer the research questions. Inputs as illustrated in Figure 1 can be defined as those variables that were present or invested by the institution prior to the grant application. Inputs were measured from the time the institution decided to apply for the grant. There are five categories of input variables: financial, cultural, leadership, faculty involvement, and institutional characteristics. Financial inputs included dollars invested in entrepreneurship prior to the grant, dollars invested by Kauffman, dollars matched as part of KCI, and additional dollars invested by the institutions. Financial inputs help us understand how institutions funded KCI. Cultural inputs include the level of entrepreneurial mindset prior to the grant, as measured by entrepreneurial activity, such as number of courses and entrepreneurship faculty. Cultural inputs also include the size and type of the institution. Cultural inputs like entrepreneurial activity help identify a starting place for the work that would occur in the implementation and operation of the grant. Leadership input measures how supportive and vocal the president or chancellor was before the application was submitted to Kauffman. Finally, faculty involvement measures entrepreneurship-related campus activities of professors prior to the grant, and institutional characteristics provide variables about total enrollment, graduation rates, tuition, and full-time faculty.

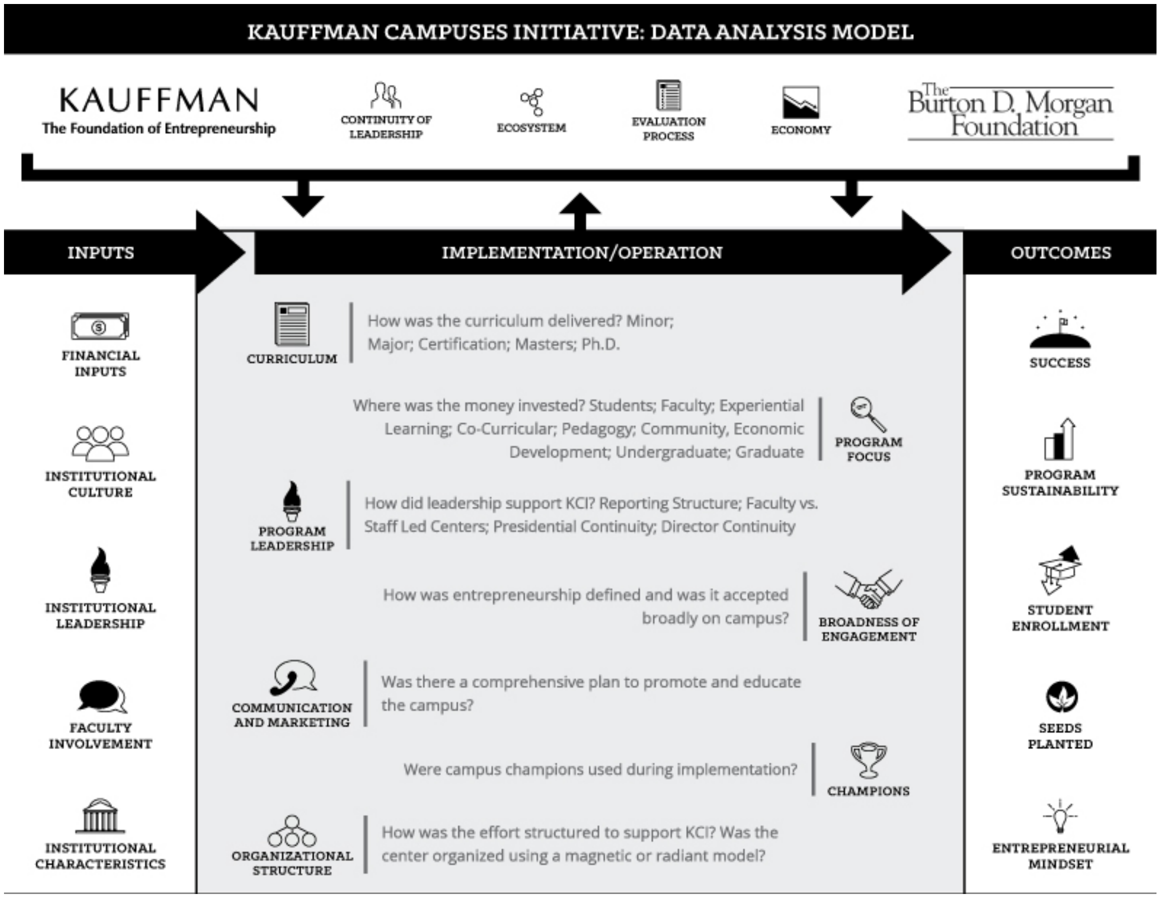


Figure 1. Kauffman Campuses Initiative: Data Analysis Model

Implementation and operational variables are defined as those things measured after the institutions decided to apply for the grant. These variables included curriculum, areas of focus where dollars were invested, program leadership, broadness of the effort, communications, campus champions, and organizational structure.

Curriculum variables indicated whether institutions created majors, minors, certificates, Masters, or Ph.D. programs. Program focus includes curriculum and programming focused at the undergraduate and/or graduate level, students, faculty, experiential learning, pedagogy, research, community/economic development, and research. Program leadership variables indicated whether there were leadership transitions at the President or Chancellor level as well as the primary investigator level. These variables also indicate the reporting structure for KCI, the faculty/staff status of the leadership for KCI, and, if applicable, the faculty rank (i.e., whether a faculty KCI leader was tenured). The broadness category measures both broadness of definition and broadness of participation across campus. Specifically this indicator helps illustrate whether the institution was able to move beyond the traditional business mindset associated with entrepreneurship education. The communications variable indicates whether the campus had an intentional comprehensive communication and marketing plan to promote KCI on and off campus. The variable, champions, reveals whether the institution created a campus champions model to implement the grant. Champions would include faculty, staff, students or constituents who were interested in participating and supporting KCI. Finally, the organization structure variable measures whether the organizational model employed on campus used a “radiant” or “magnetic” structure as defined by Streeter, Jaquette, and Hovis (2002). Magnetic assumes that the campus will be attracted to some type of organization (office, center, etc.) that controls all the programming and curriculum similar to the traditional business school model. A radiant structure means a structure may exist to organize and manage, but the initiatives radiate out across campus with deep ownership outside of the center.

Outcome variables rate success and sustainability based on Kauffman's goal of creating programming inside and outside of the business school, and inside and outside of the curriculum. Curriculum variables measure increases and decreases in enrollments, departments, course offerings, and full-time faculty engaged in cross-campus entrepreneurship after the grant.

I created two final outcome categories to understand future growth and cultural change. One variable rated the level at which the institution is still planting seeds of cross-campus entrepreneurship, while the final variable rated the level of mindset change that existed after the grant.

External variables arose primarily from the foundations as well as the economy. The external variables produced pressure specifically on the implementation and operations, which in turn affected outcomes. The economy affected all of the institutions, possibly some more than others. External variables also included the level of leadership continuity at both Kauffman and Morgan, the foundations ability to build networks, and the evaluation and interaction the foundations had with the institutions.

Validity, Limitations, and Implications

The study was validated through a series of member checks triangulated through contacts at the KCI institutions and foundations. After the data were collected and coded, and after the "themes x data matrix" was created in the form of a conceptual framework, I shared the findings with entrepreneurship education experts, foundations, and the KCI institutions to check for accuracy. Entrepreneurship education experts worked as informants to check for errors or inconsistencies from their individual perspectives (Eisenhardt, 1989). In addition, I contacted interviewees to confirm direct quotes as they related to the themes and conclusions of the analysis. I systematically performed respondent validation or member checks (Maxwell, 2013).

My decision to study the entire KCI population could be seen as a limitation, as the results might be perceived as too broad to be significant. In my study design, I did consider narrowing the scope to three to five KCI institutions where I would have collected primary data from a larger and more diverse group of people. However, I ultimately decided to include all of the schools because of the significant secondary data; these data contain multiple institutional perspectives, from students to administrators, providing stronger evidence for answering my research questions than would a shallow but deeper analysis at a few schools. The smaller study also would have weakened cross-institutional analysis, which was the primary basis for answering the research questions.

This study was not without biases, the most significant of which came from the foundations supplying the grant funding. Since the foundations had agreed to participate in the study, the KCI institutions would naturally feel expected to participate. The Ohio colleges in particular might feel this pressure, since they continue to receive financial support from Morgan. Furthermore, the KCI schools might fear that their participation in the study might jeopardize future grants from the foundations. To mitigate this bias, I recruited KCI participants voluntarily and independently from the participation of the foundations. I made clear to the institutional participants that their participation in the study had no bearing on future grant funding.

Nearly three years have passed since the conclusion of the grant period, and I have found that the participating institutions are genuinely interested in understanding the effects of the KCI funding. This genuine interest was evident throughout the study, as access was deep and participation wide.

My own position did present biases. As an entrepreneur and college president, I could personally identify with some of the experiences I learned about during the interviews. As Creswell (2013) notes, researchers who share personal experiences with their subjects face a dilemma that a bias can be created that either leads the participant or influences their answers. I knew that sharing my own personal experiences could cause interviewees to limit or otherwise censor the information that they shared with me. To combat this problem, I acknowledged the potential for bias at the start of each interview, and I limited the information about the entrepreneurship education initiatives I was involved with at McPherson College.

Although my embedded position created bias, this position also provided some benefits. As a college president, I navigate frequently between and among faculty, students, staff, administrators, donors, and interested external parties. This facility aided my ability to interview various individuals for this study. My position also granted me immediate credibility with interviewees, which in turn allowed for productive, engaged interviews with various campus stakeholders and foundation leaders.

This study resulted in several concrete findings that contribute to the existing literature on entrepreneurship education. I established a framework for evaluating KCI that can also be used to evaluate any major cross-campus initiative undertaken with foundation funding. Based on the conceptual framework, I created case sketches for each KCI institution. I outlined findings across institutions and shared foundation findings. Finally, I completed an analysis that led to recommendations not only for research use, but also for practical application. This study provides a new empirical framework for the field as well as a new perspective on cross-campus entrepreneurship education.

CHAPTER THREE

FINDINGS

The Kauffman Foundation: Birth of an Idea

Ewing Marion Kauffman, a successful entrepreneur who made his fortune in the pharmaceutical industry, founded The Kauffman Foundation ("Kauffman") in 1966. Based in Kansas City, MO, its mission "to help individuals attain economic independence by advancing educational achievement and entrepreneurial success" is consistent with the aspirations of the founder (Ewing Marion Kauffman Foundation, 2015). Today Kauffman is the largest not-for profit foundation focused on entrepreneurship in the United States, with assets of nearly two billion dollars.

In 2002, the Kauffman Foundation hired Carl Schramm to lead the foundation. Schramm started his career as an economist and later received a law degree. He was associate professor of health policy and management at Johns Hopkins University for 15 years before starting a company that aggregated hospital data. Schramm spent most of his career before Kauffman as an academic and entrepreneur.

By the time Schramm arrived, Kauffman had given several million dollars to multiple universities, including Stanford and MIT, to develop and support existing entrepreneurship programs, which were mostly housed within business and engineering schools. When Schramm began his tenure as president, he wanted to change the earmarking of Kauffman funds so that they were not exclusive to business schools. According to William Green, a former Kauffman consultant, "[Schramm] saw that entrepreneurship should move out of the business schools" (W. Green, personal communication, January 21, 2015). He wanted to make this change because business schools appeared to be approaching the study of entrepreneurship “casually,” with little empirical data on the significance of entrepreneurship vis-à-vis economic growth and too much “cheerleading.” “Business schools hauled in rich alumni to tell their story [ies,] and although case studies can be effective teaching tools, [they are] not science” (C. Schramm, personal communication, January 24, 2015). He also felt strongly that colleges had a moral duty to the study of entrepreneurship, that it should become a subject of serious academic research. “There is a moral side to letting a student study entrepreneurship. They actually need to have something to entrepreneur” (C. Schramm, personal communication, January 24, 2015). Schramm’s idea was to move entrepreneurship out of business and engineering schools by creating the Kauffman Campuses Initiative (KCI).

Kauffman Award Process: Rounds One and Two

Thirty-two universities were invited to apply in the first round of the KCI grant process in 2003; funding was awarded to eight. In round one, Kauffman was looking for institutions with strong presidential support for the idea as well as established community outreach, research, and academic programs. The first round schools, according to Nancie Thomas, Manager of Entrepreneurship, at Kauffman, “were ready for it [cross-campus entrepreneurship programs] and had already started to embrace it” (N. Thomas, personal communication, October 3, 2014). It was also important to Kauffman to have a diverse mix of schools; accordingly, the first round included private and public universities, as well as one private liberal arts university (Wake Forest University) and one Historically

Black University (Howard University). The other six schools that received funding during this round were Florida International University (Florida International), University of Illinois-Urbana-Champaign (Illinois), the the University of North Carolina-Chapel Hill (University of North Carolina), the University of Rochester (Rochester), the University of Texas-El Paso, and Washington University in St. Louis.

The second round of funding in 2006 enabled the Kauffman Foundation to invest in institutions that were not necessarily as predisposed to entrepreneurial curricula as the first round institutions. Second round institutions included the following universities: Arizona State University (Arizona State), University of Maryland-Baltimore County, Purdue University (Purdue), Syracuse University (Syracuse) and University of Wisconsin-Madison (Wisconsin). In addition, five Ohio liberal arts schools participated in the second round: Baldwin Wallace University (Baldwin Wallace), Hiram College (Hiram), Lake Erie College (Lake Erie), Oberlin College (Oberlin) and College of Wooster (Wooster). Although Arizona State and Syracuse had good programs in entrepreneurship, "growth and expansion was their motive" (N. Thomas, personal communication, October 3, 2014). A few of the grantees in this round had applied for and been denied funding in the first round, including the University of Maryland-Baltimore County, Syracuse, and Wisconsin; these schools used the time between 2003 and 2006 to prime their institutions for the Kauffman second round funding opportunity. Round two recipients also represented a diverse cohort, four large public research universities—Arizona State, University of Maryland Baltimore-County, Purdue, and Wisconsin —as well as one large private research university—Syracuse. Perhaps most significant in round two was the inclusion of the five private liberal arts colleges in Ohio. These five schools would become known as the Northeast Ohio Collegiate Entrepreneurship Program (NEOCEP). According to Thomas, the foundation focused its attention in round two on those proposals that emphasized undergraduate and experiential learning as well as community inclusion in an effort to build an ecosystem (N. Thomas, personal communication, October 3, 2014). Showcasing Kauffman's interest in testing the phenomenon on smaller liberal arts colleges, Judith Cone, Executive Vice President at Kauffman, led the relationship with the Burton D. Morgan Foundation to engage the Ohio liberal arts colleges.

The KCI grants in both rounds favored those institutions that promised or secured matching funding. Although round one matches were negotiated separately with Kauffman, most had at least a 2:1 matching agreement; for round two, large research universities had to show a 5:1 match. Most of the round two liberal arts colleges were required to show 3:1 matches; however, all the liberal arts colleges received 1:1 matching dollars from Burton D. Morgan to assist their meeting the required Kauffman match. The matches according to Thomas were based on size of the [entrepreneurship] program, total cost and university financial ability (personal communication, October 3, 2014). This requirement helped ensure that all institutions had funding resources available after the grant funds were depleted. It also helped the schools locate new donors, a goal of Schramm's. "The schools did not even know who their [entrepreneurial] alumni were, and the match opened up a whole new pool of resources for them" (C. Schramm, personal communication, January 24, 2015). Ten of the 18 schools (Baldwin Wallace, Florida International, Howard, Illinois, University of Maryland Baltimore-County, Oberlin, Purdue, Syracuse, University of Texas El Paso, and Wake Forest.) raised endowment funding as part of KCI matches. The round one and round two application processes were similar. After proposals were reviewed, applicant presidents presented to a committee at the Kauffman Foundation. Recommendations were made to Schramm, who made the final decisions. Each of the KCI schools also received implementation grants, which enabled the institutions to plan for implementation of entrepreneurship programming. These implementation grants reflect Kauffman's larger philosophy of providing resources to transform a small idea into a larger program that could have impact at the institution and beyond.

Kauffman's philosophy on grant making is to seed an idea and provide resources so the grantee can scale the initiative into a program that impacts their institution. Kauffman looks for demand driven grants that they can fund and allow to grow within that institution (N. Thomas, personal communication, October 3, 2014).

The Other Foundation: Burton D. Morgan Becomes a KCI Partner

The Burton D. Morgan Foundation (Burton D. Morgan) began in 1967 with the goal of strengthening "the free enterprise system by investing in organizations and institutions that foster the entrepreneurial spirit" (Burton D. Morgan Foundation, 2015). In its work with collegiate grant recipients, Burton D. Morgan focused primarily on gifts to build physical space for entrepreneurship centers. Meanwhile, as Kauffman was investing in collegiate entrepreneurship under Schramm's leadership, it began looking for a partner with whom it could make a regional impact (N. Thomas, personal communication, October 3, 2014). At the same time, Burton D. Morgan wanted to move beyond bricks-and-mortar construction (which it had started in 2000 at the request of Mr.

Morgan) to funding collegiate programming (D. Hoover, personal communication, October 6, 2014). The two foundations came together through the work of Judith Cone, Executive Vice President at Kauffman, and Deborah Hoover, then Executive Vice President at Burton D. Morgan. “Kauffman approached us at a time where we were reinventing ourselves. The Burton D. Morgan estate was closing after Mr. Morgan’s death in 2003, which increased our assets, providing more resources. We were ready for this,” Hoover said (personal communication, October 6, 2014). “Kauffman approached us at a time when we were refining the mission of the foundation to focus more intensely on entrepreneurship education,” Hoover continued. According to Nancie Thomas, Burton D. Morgan had a vision and opened their doors to entertain the prospect of partnering with another foundation; “Aspects of leveraging resources and exchanging knowledge were influential for the decision [to partner]” (personal communication, October 3, 2014).

In 2006 Burton D. Morgan invited 17 liberal arts colleges to submit proposals for inclusion in the Northeast Ohio Collegiate Entrepreneurship Program, or NEOCEP. The schools selected for the NEOCEP would become part of the KCI, “starting a partnership that would transform our foundation,” according to Hoover (personal communication, October 6, 2014).

In their call for proposals, Burton D. Morgan and Kauffman noted a specific interest in integrating entrepreneurship with liberal arts curricula:

> The prospect of working closely with a group of liberal arts college campuses is exciting and in our view the benefits of such a partnership are substantial, not only to the partners, but the entire nation. The model program, focusing solely on the program and curricula of liberal arts colleges, is designed to encourage a variety of innovative approaches and, ultimately to create models that will spread widely beyond original grantees. (Burner & Hoover, 2012).

Eight colleges completed proposals and presented their plans to a panel of judges; five were selected, becoming the founding colleges of NEOCEP: Baldwin Wallace, Hiram, Lake Erie, Oberlin, and Wooster.

The Foundations' Approaches to Implementation and Evaluation

Kauffman: Hands-Off

Kauffman implemented the grants using a hands-off approach in line with founder Ewing Kauffman's own preference "to keep his name out of it and make it about the grantee. He did not want accolades for something it took many people to accomplish" (N. Thomas, personal communication, October 3, 2014). Nancie Thomas, Kauffman's entrepreneurship program manager, upheld this perspective; "If we keep it in the foundation and do not let it go out the door, then we really do not know if it sticks" (N. Thomas, personal communication, October 3, 2014). Similarly, Judith Cone former vice president at Kauffman, (personal communication, October 30, 2014) noted that the foundation had a small role in implementing school-specific programs, "because the grant process was iterative and the proposals were specific there was not a strong role in the implementation—more convening and observing to keep the schools accountable." Thomas concurred, "it was never our intent to dictate programing, just set the criteria and ensure schools were following through." Kauffman approved their plan and monitored their progress toward the agreed upon criteria (N. Thomas, personal communication, October 3, 2014). Other interviews for this study with Green and Schramm similarly reveal that all at Kauffman followed a “hands-off” approach to implementing the KCI programming.

This hands-off perspective was perceived differently by the KCI interviewees, many of whom commented that Kauffman was only hands-off until it wanted a strategic change. My interviews with program directors at these schools revealed that they wanted much more support from the foundation. One director noted that they would have preferred more support earlier in the process. “Kauffman was hands-off until they did not like what we were doing, and then they engaged,” said D. Novick former director at University of Texas-El Paso (personal communication, September 18, 2014).

Moreover, aside from a few periodic opportunities for institutions to convene for programming and shared experiences, the schools were largely disconnected from one another. Many interviewees noted Kauffman’s impact would have been greater had they altered their process and spent more time working to connect the schools. Bruce Kingma, (personal communication, September 10, 2014) longtime entrepreneurship professor at Syracuse noted, “the campuses might have been more successful if Kauffman got us together more often to build a community of learning.” Others echoed this sentiment, including D. Novick (personal communication, September 18, 2014). The absence of community building might have stemmed from the departure of Cone in 2009. Duncan Moore, former Vice Provost for Entrepreneurship at Rochester noted that, “the annual meetings and collaboration with the other schools dried up” after she left Kauffman.

The schools also noted that they needed more support as they transitioned out of the grant period, whether from Kauffman or from connections with fellow grant recipients. According to Kenneth Kahn, former program director, at Purdue, “Kauffman provided good education and networking opportunities that created an ecosystem among the KCI schools; however, it is unfortunate Kauffman did not keep the ecosystem in place to keep the cross-campus perspective going" (personal communication, September 10, 2014). Moore at Rochester concurred that networking was important and could have provided value moving out of the grant period (personal communication, September 18, 2014).

Of course, Kauffman was necessarily more hands-on in its evaluation procedures. These consisted of regular audits throughout the grant period and of site and/or other follow-up visits. Thomas generally conducted the audits while Cone conducted the visits through 2008. Marjorie Smelstor and William Green conducted site visits in 2009 and 2010, respectively. John Courtin provided executive leadership for the grant in early 2008 and invested many hours on the phone and via email working with the institutions through the grant conclusion in 2012.

To conduct the financial audits, Kauffman first assessed progress on the matching funds by reviewing annual budget and fundraising reports submitted by each institution. Thomas and others at Kauffman evaluated each annual report based on the institutions' initial plans. If the annual reports showed a diversion from an institution's initial plan, they asked the institution to explain. If issues persisted, a follow-up site visit from foundation staff was likely. According to Green, Kauffman considered both quantitative data (financial reports) and qualitative data (site visits) in evaluating grant implementation (personal communication, January 21, 2015. Generally, Kauffman simply aimed to ensure the institutions met their matching funding requirements and followed their plans. According to Thomas, "most of the schools either followed their initial plans or made acceptable adjustments” (personal communication, October 3, 2014). A summary of data gathered through the annual reports is found in Table 4.

Some campuses complained about Kauffman’s method for evaluating their progress. At the University of Texas-El Paso, the pace of changes was the source of frustrations. “Forward movement was a struggle because Kauffman wanted it to happen right now, and on a college campus, things take time,” according to Frank Hoy, former program director at the initiation of the grant (personal communication, September 16, 2014). Allen Dines, long time (Wisconsin) entrepreneurship advocate and program director recalled that Wisconsin had a similar experience, “[We] did not have the numbers and physical center of gravity [that] Kauffman wanted to see; Kauffman wanted to see more happen in five years” (personal communication, September 17, 2014). Meanwhile, Kauffman cited both Howard and University of Texas-El Paso for lack of activity outside the business school according to 2009 Annual KCI Reports. The KCI recipients felt that site visits focused more on evaluation than on support. Cone admitted that Kauffman spent much of their time with the campuses that struggled.

Morgan: Hands-On

The Burton D. Morgan Foundation took a different approach to implementation and evaluation of the grants provided to the Ohio five. According to Hoover—who was promoted to President and CEO of the Foundation in 2006, just after the second round institutions received their funding—“the foundation staff were very much engaged with the colleges and the board dug in as well” (personal communication, October 6, 2014). Burton D. Morgan took advantage of the lessons learned from Kauffman’s work with the first round recipients; and, consequently, it took steps to provide support for the institutions individually and collectively. Burton D. Morgan staff spent time at Kauffman, and Hoover was on the judging committee for the KCI round two institutions. In addition, Elizabeth Gatewood, program director from Wake Forest, was on the judging committee for the NEOCEP process and provided guidance for a number of NEOCEP institutions.

The Burton D. Morgan foundation organized resources and shared them with the colleges, noting that the most successful schools were taking the time to define “entrepreneurship” for their campuses and engaging faculty champions to lead initiatives. Hoover and others from Burton D. Morgan spent hundreds of hours on the campuses, sorting through progress and providing support where necessary. They connected program directors with experts at Kauffman. In addition, they hosted the colleges at the foundation several times a year—a tradition that continues even after the grant funding was exhausted.

Burton D. Morgan’s evaluation approach was also different from that of Kauffman. According to Andrea Kalyn, Dean of Conservatory and KCI program director at Oberlin, “Deb [Hoover] was in tune with our plans and our challenges. It was really an ongoing conversation and partnership” (A. Kalyn, personal communication, September 24, 2014). Although Kauffman made periodic visits to the NEOCEP campuses and was in regular contact via phone and email, Burton D. Morgan provided the oversight because it was responsible for evaluating implementation at these five schools. Thomas noted that Program Officer John Courtin, who took over KCI grant administration for Kauffman in early 2008, was in regular contact with Deborah Hoover at Morgan. They shared experiences and resources throughout the grant period (N. Thomas, personal communication, October 3, 2014). Kauffman gave them full autonomy to lead the NEOCEP initiative. The Burton D. Morgan Foundation's evaluative focus at the small colleges was incremental changes, including ones that could be sustained after the grant funds were depleted. Hoover stated that, "they were in it for the long term" (personal communication, October 6, 2014). In my interviews with leaders at the NEOCEP colleges, all noted that Hoover and her staff were tough, but fair, and, above all, that they made great partners.

Success: Were the Institutions Successful in Implementing KCI?

Everyone interviewed at Kauffman agreed that the grant was successful to some degree. Kauffman characterized success in three ways:

1) Institutional matching of funds and execution of the KCI plan;

2) Impacts on cross-campus entrepreneurial education; and

3) Continuation of entrepreneurial efforts after the end of the grant period.

The following section summarizes the success of the grant in relation to these three measures.

1) Institutional matching of funds and execution of the KCI plan

KCI success is evident when it is defined simply as meeting fundraising goals and executing plans. Most of the recipients successfully matched the grant funds and executed their KCI plans (N. Thomas, personal communication, October 3, 2014).

Enrollment and curricular measures reveal success in executing the KCI plans at grant institutions. For example, figures such as the number of entrepreneurship courses, the variety of campuses and departments offering entrepreneurship courses, the total enrollment in entrepreneurship courses, and the number of full-time entrepreneurship faculty teaching entrepreneurship related courses all provide evidence about the relative success of the grant on particular campuses. Appendix L represents enrollment and curricular indicators before (2003) and after the grant (2012). In brief, total enrollment in entrepreneurship courses went up nearly 60,000, and schools increased the number of full-time faculty members who taught an entrepreneurship related course by 648. By any measure the KCI grantees were successful on this dimension.

Many KCI institutions faced significant fundraising challenges during the grant period; Thomas reminds us that the second round of grant funding occurred during a steep economic downturn. Annual reports reflected these challenges, with declining operating budgets and gifts. Thomas indicated that most schools were able to meet the match, but a few reduced their initial grant amounts when economic conditions worsened in the late 2000s (personal communication, October 3, 2014). Three institutions exceeded the match and raised additional endowment funds totaling nearly 14 million dollars: University of North Carolina raised over $300,000; University of Washington in St. Louis raised eight and a half million; and Syracuse raised five million (Green, 2011). All institutions took the grant and its funding requirements seriously at the time of implementation according to Thomas.

Additional challenges for fund raising arose with turnover in top administrative positions (such as a president, provost, or dean) and the departure of key leaders (such as KCI program directors). Disruptions in leadership continuity affected implementation of the grant programming, fund raising and, in the end, grant outcomes.

2) Impacts on entrepreneurial education

Success was also measured by the effects KCI had on the field of cross-campus entrepreneurship education. Before the grant distribution, few, if any, schools implemented entrepreneurship programming outside of the business school; there was "no rhetoric, no language or way to talk about it [. . .] before KCI" (W. Green, personal communication, January 21, 2015).

Thus, KCI succeeded most clearly in its granting of legitimacy to cross-campus entrepreneurship education. Thomas, Schramm, Cone, and Green all agree that KCI instigated this change. According to Cone, "KCI set a national trend. It made entrepreneurship out of the business school the thing to do" (personal communication, October 30, 2014). By the time the grant period ended in 2012, cross-campus entrepreneurship programs had moved from an idea to an integrated component at many institutions (N. Thomas, personal communication, October 3, 2014). Arizona State has appointed a dedicated staff member for entrepreneurship education; this person shares the models Arizona State used in implementing KCI (J. Smith, personal communication, October 28, 2014). Rochester and Syracuse continue to use—and benefit from—the Kauffman name, which now signals to faculty within and outside of the institution a focus on cross-campus entrepreneurship. New programming was even created at institutions that had not received a KCI grant, revealing the program's impact in higher education more generally.

The Burton D. Morgan Foundation also set an example in the area of entrepreneurship education; its NEOCEP schools model a variety of successful approaches for other schools in the region to emulate.

More details will be shared through the remainder of the findings chapter as well as the analysis chapter to illustrate strategies that have impacted entrepreneurship education. The strategies identified led to the development of a conceptual framework, which serves as evidence that KCI offers an empirical model for cross-campus entrepreneurship education.

3) Continuation of entrepreneurial efforts after the end of the grant period

Finally, Kauffman characterized success as sustainability of entrepreneurship (across campus) efforts after the grant funding ran out. This area is perhaps most difficult to assess in relation to success at the grant-receiving institutions. Schramm's own assessment is that the program was "a good thing with lots of good ideas and champions on college campuses, but success was a mixed bag." Some institutions were unable to maintain cross-campus commitments and "slipped back" to locating entrepreneurship education solely in their business schools (personal communication, January 24, 2015). The following provides a nuanced approach to understanding levels of success in sustaining cross-campus entrepreneurship at the KCI institutions.

University sustainability

Most institutions were able to successfully implement KCI and sustain initiatives after the grant period. KCI sustainability is obvious at 14 institutions, and some of those institutions have even demonstrated the ability to build on those efforts. Arizona State, University of North Carolina, Rochester, and Washington University in St. Louis had successful implementations, sustained KCI programming, and have elevated their cross-campus entrepreneurship efforts with new programs and investments.

- Entrepreneurship is a foundational concept in the *New American University* at Arizona State. Arizona State appointed a new vice president for entrepreneurship and innovation, and it is now working to “scale up” the initiatives begun under KCI. At the beginning of the grant, faculty champions and administrators pushed entrepreneurship programming across campus. Today, faculty and students are creating the demand to define the Arizona State entrepreneurial ecosystem (J. Smith, personal communication, October 28, 2014).
- University of North Carolina built a brand that continues today. Entrepreneurship has evolved to “focus on solving grand challenges using the entrepreneurial mindset.” Entrepreneurship is key to University of North Carolina’s strategic planning as it reports directly to the Chancellor with a special assistant assigned to manage innovation and entrepreneurship efforts. (J. Cone, personal communication, October, 30, 2014).
- Rochester uses entrepreneurship in its admissions materials and includes a focus on entrepreneurship in the strategic plans of every school within the university. (D. Moore, personal communication, September 18, 2014).

- Washington University in St. Louis has significantly invested in entrepreneurship with $8.5 million dollars of endowed funding (above the KCI matching requirement) to support sustainability. Entrepreneurship is an important part of its two billion dollar comprehensive campaign launched in 2012. “KCI had a great impact on entrepreneurial education and activity. It is still causing change to occur at the university level, ” according to Ken Harrington (personal communication, October 27, 2014).

Seven universities were able to implement KCI and have been able to sustain most of the KCI programing. Illinois, University of Maryland Baltimore-County, Purdue, Syracuse, Wake Forest and Wisconsin all had challenges, but experienced success during implementation and have sustained cross-campus entrepreneurship programing.

- Although Illinois has not been able to fund additional fellowships through the Academy for Entrepreneurial Leadership, they continue to fund 50 previously funded faculty fellows. (P. Magelli, personal communication, October 27, 2014).
- University of Maryland-Baltimore County has a dedicated entrepreneurship center and an endowment that funds ongoing programs. They have sixty full-time faculty members that continue to teach entrepreneurship related courses (V. Armor, personal communication, December 6, 2014).
- Most of the KCI programs are still in place at Purdue including their signature faculty program—Entrepreneurship Leadership Academy—as

well as their certificate programs (D. Kotterman, personal communication, October 28, 2014).

- Syracuse continues to use the Kauffman name through its faculty fellows program and has expanded its community outreach through the veterans start-up program, which was a result of KCI. Although, the Associate Provost for Entrepreneurship office was closed at the conclusion of the grant period, cross-campus entrepreneurship programming continues at Syracuse (B. Kingma, personal communication, September 10, 2014).
- Wake Forest's entrepreneurship minor is the largest on campus, drawing students from across campus, including the business school, and is located in the College (Arts, Humanities, and Science). The Center for Innovation, Creativity, and Entrepreneurship which provides seed grants and entrepreneurial internship to students from any discipline is now located in the Office of Career and Professional Development. Because of funding constraints the faculty seminar and course development grants are no longer offered; however, other programs are still in place and receive funding (E. Gatewood, personal communication, October 30, 2014).
- Kauffman was critical of Wisconsin at various points during the grant because they "did not have the numbers and physical center of gravity." However, entrepreneurship successfully moved out of the business school and most of their KCI programs are in place. One program, WISC Partners, was an outgrowth of KCI that is working to build a community

of investors to support Wisconsin entrepreneurs (A. Dines, personal communication, September 17, 2014).

Two universities—Florida International and University of Texas-El Paso—had more mixed results when it came to sustainability. Florida International had a solid implementation, but struggled when the recessionary period hit in 2009. University of Texas-El Paso stumbled with their implementation and although there is entrepreneurial activity on both campuses, the cross-campus effect is questionable.

- Florida International entrepreneurship faculty "out-published their colleagues" across campus during their implementation, but when the funding got tight, entrepreneurship retreated back to the business school (A. Carsrud, personal communication, November 26, 2014).
- University of Texas-El Paso was eventually able to increase courses outside of the business school (Appendix L). However, much of the work done today is in partnership with the College of Engineering and College of Business Administration. The Center for Research, Entrepreneurship and Innovative Enterprises now reports to the Vice President of Research. The Mike Loya Center for Innovation and Commerce, which is focused on research, was partially funded by a ten million dollar gift after the KCI grant period. The Loya Center was built upon the efforts started with the support from Kauffman. The Loya Center reports to the deans of Business Administration and Engineering (D. Novick, personal communication, September 18, 2014).

One university, Howard, struggled to meet the grant requirements. (N. Thomas, personal communication, October 3, 2014). After they lost their program director in 2010, any remaining programming slipped back into the business school.

Liberal arts colleges' sustainability

Post-grant entrepreneurial efforts at the five colleges in the NEOCEP reveal mixed success for sustainability of all programming, but the staying power of inter-campus community-building and support from the Burton D. Morgan Foundation lifted all institutions together. Although two colleges (Lake Erie and Wooster) continue to struggle to sustain KCI activity and cross-campus entrepreneurship programming, both continue to work with the Burton D. Morgan Foundation as part of NEOCEP.

- Lake Erie was able to create an entrepreneurship center and add curricular activity (Appendix L); however, according to current entrepreneurship director Jeff Eakin, "it did not stick." (personal communication, September 18, 2014). By 2012, there were no full-time faculty members teaching entrepreneurship across campus. In 2009 they had six full time faculty members teaching entrepreneurship education courses (Lake Erie College Annual Report, 2010). Lake Erie continues to support the unique Equine Entrepreneurship program and is now focused on engaging students. According to Eakin, the underlying assumption was that "faculty know how to release entrepreneurial thinking […] however, maybe the students know more than we do" (personal communication, September 18, 2014).

- Wooster struggled with implementation and according to current entrepreneurship director, Peter Abramo, “Wooster did not achieve a culture of cross-campus entrepreneurship” (personal communication, September 16, 2014). Current leaders on the Wooster campus are not vocal about entrepreneurship, and its future is uncertain. However the partnership with the Burton D. Morgan Foundation has helped to sustain the program at least to some extent. The foundation has provided over $300 thousand to support annual programing since KCI concluded in 2012. Students continue to be excited at Wooster, and Abramo remains committed to engaging the campus (D. Hoover, personal communication, October 6, 2014).

Three of the colleges (Baldwin Wallace, Hiram and Oberlin) had success beyond sustainability and continue to build on their KCI efforts.

- At Baldwin Wallace both program directors agreed that the NEOCEP community created through the grant helped changed their culture (P. Rea, personal communication, September 23, 2014). Since the grant, they partnered with the Burton D. Morgan Foundation and Blackstone Charitable Foundation, to fund the Blackstone LaunchPad. They have received over $200 thousand from the Burton D. Morgan Foundation since the grant to fund additional programming.
- Hiram saw a “cultural shift within its faculty” (K. Molkentin, personal communication, September 17, 2014). Thirty-two of Hiram’s eighty full-time faculty members teach entrepreneurship infused courses. Current

program Director, Kay Molkentin insists that NEOCEP will be the key to successfully sustaining cross-campus entrepreneurship. Hiram has received just over $100 thousand from the Burton D. Morgan to support cross-campus programming since the conclusion of KCI.

- Oberlin had a successful implementation starting with co-curricular initiations, "using an academic framework in a co-curricular setting" (A. Kalyn, personal communication, September 24, 2014). They have built on that successful initiation after the grant period ended. A full time director was hired after the conclusion of the grant and funding is in place within Oberlin's operating budget. The Creativity and Leadership Program at Oberlin was funded with a $500 thousand grant from the Burton D. Morgan Foundation in 2014. They have also received $80 thousand of program support from the Burton D. Morgan Foundation since the KCI grant period.

Program directors at all five colleges insist it is the ecosystem built through the Burton D. Morgan Foundation that led to sustainability. Most of the NEOCEP colleges had money left over after the grant period (dollars which have now been spent) and many initiatives across the network continue. According to Kay Molkentin, current director at Hiram, it is the "networking, regular meetings and a collaboration that includes shared experiences" that made a difference. The Burton D. Morgan Foundation gives Hiram a "fighting chance to continue growth across campus" (personal communication, September 17, 2014). The Burton D. Morgan Foundation has continued to support the schools since the grant ended with a total of just over one million dollars of programmatic and endowment funding.

According to Burton D. Morgan President and CEO Deborah Hoover, “The grant was an injection of new resources, but it was the community of colleges that made the difference” (personal communication, October 6, 2014). Andrea Kalyn who oversaw the grant at Oberlin added that although “NEOCEP was a big risk for Burton D. Morgan,” “it paid off” because of its creation of an entrepreneurial network in the region (personal communication, September 24, 2014). Hoover concurs that the partnership was a risk for Burton D. Morgan, “KCI came at the right time in our history; however, this was a big risk for us” (personal communication, October 6, 2014). In many ways the process transformed Morgan and influenced a region. According to Nancie Thomas, who provided support during and after the grant period at Kauffman, “we were looking for a partner who could make a regional impact. It was a great marriage” (personal communication, October 3, 2014).

The Burton D. Morgan Foundation has built an entrepreneurship ecosystem inspired by NEOCEP. The ecosystem has expanded and developed to serve more colleges in the Northeast Ohio region. The Entrepreneurship Education Consortium (EEC), a cluster of 11 Ohio colleges interested in entrepreneurship education was just a seed when KCI started in 2006. The EEC campuses jointly operate experiential entrepreneurship programs consisting of ideaLabs pitch competition and a student Immersion Week. JumpStart Higher Education Collaboration Council was also inspired by KCI efforts. JumpStart is a learning community made up of twenty campuses in Northeast Ohio.

Clearly, some institutions successfully implemented a greater degree of cross-campus entrepreneurship programming than others, while some initiatives survived beyond the grant period and others did not. What were the factors that enhanced or limited programming implementation and continuation? The data from KCI reveal six key factors: leadership's commitment, faculty engagement, definitions of *entrepreneurship*, organizational structures, economics, predisposition and ecosystem. The following sections engage with each of these factors in greater detail.

Leadership's Commitment

Through the KCI grant process, Kauffman learned that positively engaging collegiate leadership and maintaining stability in key leadership positions were significant components of success (Torrance, 2013). All seven foundation leaders interviewed (Torrance, Thomas, Green, Schramm, Cone, Hoover and Burner) mentioned the importance of top leadership support for KCI. In my interviews with program directors, I learned that the largest challenges facing institutions came with lack of presidential continuity—that is, departures of one president and arrival of a new one. Program director continuity and the reporting structure at the institutions also impacted the success of the KCI grant programs.

Two successful institutions—Washington University in St. Louis and University of Maryland-Baltimore County—maintained continuity in both presidential and program director positions before, during, and after the grant period. At Washington University in St. Louis, Chancellor Mark Wrighton has served since 1995, while KCI Program Director Ken Harrington served as Managing Director of the Skandalaris Center for

Entrepreneurial Studies from 2001 till retirement in 2014 (after the grant period). In the meantime, Wrighton also hired Holden Thorpe as Provost in 2013; Thorpe is a former University of North Carolina Chancellor and KCI advocate. University of Washington in St. Louis indicates its priorities in its reporting structure and financial commitments; all KCI programs report directly to Wrighton, while a two-billion dollar comprehensive fundraising campaign highlighted entrepreneurship as a goal (K. Harrington, personal communication, October 27, 2014). Additionally, endowment funding has enabled us "to sustain our KCI programs" (K. Harrington, personal communication, October 27, 2014), while a five-fold increase in entrepreneurship course enrollments (Appendix L) further supports the efforts.

University of Maryland-Baltimore County exhibits similarly strong commitments within its leadership, reporting structures, and financial resources. Its president, Freeman Hrabowski III, has led the university since 1992, while KCI Program Director, Vivian Armor, has led entrepreneurship efforts since 2000, when the Alex Brown Center for Entrepreneurship was founded. Armor reports directly to the Provost. University of Maryland-Baltimore County's entrepreneurial priorities are manifested in the founding of this center and in its current strategic plan, which emphasizes entrepreneurship and innovation throughout (UMBC, 2015). Armor concurs that the support for entrepreneurship efforts stems from these commitments, leadership priorities, and the success of raising endowed funds (personal communication, December 6, 2014). Like Washington University in St. Louis, University of Maryland-Baltimore County also increased annual enrollments in entrepreneurship courses from 109 to 3,000 (Appendix

L) and added 60 full-time faculty members who taught an entrepreneurship related course each year as part of the curriculum.

The stability of leadership at Washington University in St. Louis and University of Maryland-Baltimore County presents a useful point of comparison to those schools that experienced changes in leadership positions during the grant period. National economic challenges also played a role at many of these institutions.

Howard experienced the challenges of a presidential and program director transition, instability in reporting structure, and a weak economy. As Howard navigated a presidential transition, it also lost Program Director Johnetta Hardy, who had worked in that role from 2003 to 2010. With an interim president and provost, and without Hardy, the challenges mounted for Howard to sustain its cross-campus entrepreneurship initiatives. Howard's website has yet to catch up to these changes, revealing potentially deeper problems. As of January 11th, 2015, Hardy is still listed as the Executive Director of its Institute for Entrepreneurship, Leadership and Innovation (Appendix I), while the last date updated on the website is April 2010 (Appendix J) for the Black Marketplace, a signature KCI program. Further confusion is reflected in its reporting structure, as KCI programs initially reported to the business school, but mid-grant—due to a directive from Kauffman—shifted its reporting to the Provost's Office. Then, by the end of the grant period, KCI programs again reported back to the business school. Thomas states that Hardy did a nice job addressing challenges as the Institute went from three employees to just one director, "She [Hardy] raised funds for every initiative and carried them out" (N. Thomas, personal communication, October 3, 2014). The grant was implemented, but sustainability of initiatives is questionable.

In addition to these leadership and structural challenges, Howard also suffered deeply from the economic downturn. By its own admission, the school had made "aggressive commitments" to Kauffman as part of its grant agreement (Howard University Annual Report, 2009), but challenges in fundraising stemming from the weak economy prevented Howard from meeting its grant match and caused challenges meeting grant requirements.

At Wake Forest, persistence from Program Director, Elizabeth Gatewood, and commitment from faculty members involved with the program helped the KCI funded program survive amidst a presidential, provost, and dean transitions, and fundraising difficulties. When Wake Forest's president fell ill and retired, the new president hired new administrative leadership who wanted "to start new programs, and because they called the shots on fundraising, it created challenges" (E. Gatewood, personal communication, October 30, 2014). Meanwhile, the university needed to raise matching funds in order to retain the grant, even amidst a weak economy. According to Gatewood, Wake Forest was able to meet the match and execute on its plan because "we kept our heads down and were persistent" (personal communication, October 30, 2014). Although the faculty training and new course incentive program is no longer in existence, the cross-curriculum entrepreneurship minor is now the largest minor on campus. Donors provided endowment that funds a seed grant and internship program for student entrepreneurs, as well as an awards banquet to honor student and faculty achievement.

Other schools facing leadership changes also managed to successfully implement KCI programs, most likely due to their faculty engagement and existing (i.e., pre-grant) entrepreneurial efforts. At Illinois, which lost its president during the grant period and the program director at the conclusion of the grant, Paul Magelli and other engaged faculty members were critical to KCI grant success. As the grant author (and current director of the Academy for Entrepreneurial Leadership), Magelli aimed to engage senior faculty members and integrate entrepreneurship across the curriculum (P. Magelli, personal communication, October 27, 2014). The grant enabled Illinois to expand its entrepreneurship course enrollments across 44 departments (from 19) and to 40 additional faculty members who taught entrepreneurship related courses (Appendix L). Magelli's Academy remains operational; however, new fellows have not received additional funding. According to Magelli, "the place is different now" (P. Magelli, personal communication, October 27, 2014).

Purdue also experienced turnover at the presidential and program director levels, but the presence of entrepreneurship programs before the grant and retaining the focus on spreading entrepreneurship throughout the curriculum helped the KCI programs flourish. According to Dave Kotterman, Managing Director for Launching Centers and Programs, who provided oversight for the grant in its final year, "KCI helped build what was already strong" (D. Kotterman, personal communication, October 28, 2014). Indeed, Purdue already had "Discovery Park," an "interdisciplinary, entrepreneurial cluster of centers that bring faculty together to support the translation of research from campus to the community—local, national and global" (Purdue University Annual Report, 2008). With efforts from Kotterman and Program Director Ken Kahn, KCI brought a framework to more scattered campus projects. "We took what was a nebulous concept to most of the campus and added context and structure" (D. Kotterman, personal communication, October 28, 2014). Kahn concurred that working with faculty members provided the missing link; “Once we figured out that entrepreneurship and innovation were team sports, it really clicked” (personal communication, September 10, 2014). According to Kahn (personal communication, September 10, 2014), “Although program leadership struggled with ‘silos and turf’ issues, we worked hard to help faculty understand that academic entrepreneurship was an interdisciplinary pursuit.” (Most of the KCI-initiated programs at Purdue are still in place, including the Entrepreneurship Leadership Academy and academic entrepreneurship certificate programs.

Regardless of leadership *continuity*, leadership and faculty *engagement* were critical to KCI programming success. At Wooster, which lacked such engagement, the KCI vision struggled. According to William Green, a former Kauffman consultant, Wooster’s president “was not really committed” (personal communication, January 21, 2015). Multiple KCI program directors cycled through Wooster during the grant period, and none were faculty members. Moreover, faculty members had little interest in working on KCI initiatives. According to Peter Abramo, current program director, “Past leaders did not have academic credentials, which lessened their credibility with faculty” (personal communication, September 16, 2014).

Both past and current program directors at Wooster agree that lack of faculty interest, lack of leadership support, and lack of leadership continuity all hindered their ability to make an impact. Only three faculty members engaged to teach entrepreneurship courses, and only four courses in four departments were created (Appendix L). As a result, Wooster still had money left after the grant period in 2012, but has since spent all their funds. Abramo concludes that it “was not successful because it did not have an institutional impact” (personal communication, September 16, 2014). He even wonders whether “if I was not here would they keep the entrepreneurship initiative going?” (P. Abramo, personal communication, September 16, 2014).

As we have seen, while leadership is important to the successful implementation of KCI programming, full success depends largely on an institution’s faculty members. At Illinois and Purdue, which experienced turnover at both the presidential and program director levels, KCI experienced sustainable success because of faculty involvement. At Wooster, which had similarly unstable leadership, KCI struggled because faculty members were not involved. The next section will explore the role of faculty engagement in greater depth.

Faculty Engagement

Kauffman identified early “engagement of all faculty and administrators” as an important element of success (Torrance, 2013). Many KCI institutions initiated a “champions” or “faculty fellows” approach, which involved identifying faculty who were interested in engaging entrepreneurship in their area and across campus. Most institutions that used the “champions” approach saw broad support across campus.

Pre-grant buy-in

Early engagement was identified as a key factor in part due to the work of those institutions that engaged faculty champions even before they received their KCI grants. Illinois, Oberlin, University of Maryland-Baltimore County, University of North Carolina, Wake Forest, and Washington University in St. Louis all lined up faculty champions beforehand and engaged their assistance during the grant-writing process.

Even when University of Maryland-Baltimore County was rejected from Round One funding, it "decided to start working on cross-campus initiatives anyway with the full support of campus leadership." Its faculty fellows were instrumental to the leadership, which noted that it "went where the champions were" (V. Armor, personal communication, December 6, 2014). These early efforts paid off at University of Maryland-Baltimore County. Enrollment in entrepreneurship courses was nearly non-existent prior to KCI; today they enroll over 3,000 students in such courses. In addition, 60 full-time faculty members began teaching entrepreneurship related courses (Appendix L).

Others like University of North Carolina and Washington University in St. Louis leveraged the grant proposal process to get a head start. The proposal team at University of North Carolina was stacked with leaders from across campus, so the campus champions "were primed for implementation" by the time University of North Carolina received the KCI grant (R. Farrow, personal communication, January 15, 2015). Washington University in St. Louis engaged both faculty leaders and deans as part of the proposal process so that faculty champions had already identified their interests by the time the KCI funding came through. Both University of North Carolina and Washington University in St. Louis achieved broad participation in departments and faculty reach across campus (Appendix L).

Illinois did a study in advance of the grant. Their study showed high levels of interest from faculty in enterprising approaches to curriculum. Illinois organized these faculty champions into a newly created Academy for Entrepreneurial Leadership. The Academy engaged and funded fifty fellows from all thirteen degree-serving Colleges within the University. This resulted in academics teaching one hundred courses in forty-four departments across campus during the life of the grant. (P. Magelli, personal communication, October 27, 2014). Illinois continues to support the 50 fellows in the Academy but has not added new funding since the conclusion of the grant (Illinois Whitepaper, 2012). Wake Forest "anticipated the challenges at the time of the proposal and incorporated some buy-in before receiving the grant." Wake Forest faculty members were also surveyed prior to the grant application, and nearly 80% responded positively to the potential of cross-campus entrepreneurship, and many had ideas about the types of activities relevant to the Wake Forest campus (E. Gatewood, personal communication, October 30, 2014).

Faculty as risk-takers during implementation

In addition to engaging faculty early in the process, those institutions that experienced success with the KCI grants also gave their faculty members the flexibility to experiment and take risks with new ideas. At Arizona State, over 100 faculty members who were involved with the grant process were encouraged to "experiment and set loose to try things" to support both curricular and programmatic ideas (J. Smith, personal communication, October 28, 2014).

Similarly, Baldwin Wallace former Program Director Peter Rea noted that "KCI allowed us to fail fast and fail cheap," leaving room for faculty members to learn from mistakes and creating new programs that connected academics and future entrepreneurship (personal communication, September 23, 2014). Encouragement of risk-taking extended to faculty members modeling entrepreneurship themselves.

At Wisconsin, professors became seen as "the number one entrepreneurs. They sniff out grants, create new initiatives and model entrepreneurship for students" (A. Dines, personal communication, September 17, 2014).

Syracuse invested in faculty champions who planted seeds in the form of a "series of bets" (B. Kingma, personal communication, September 10, 2014). One faculty member at Syracuse started, *Entrepreneurship Bootcamp for Veterans with Disabilities*, which garnered over twenty million dollars of funding and is now licensed at ten college campuses across the United States.

Interdisciplinary success during implementation

Once faculty members—whether "champions" or otherwise—were engaged with entrepreneurial efforts, institutions experienced success when these professors moved entrepreneurship into departments across campus. Baldwin Wallace, Florida International, Hiram, Rochester, Syracuse, University of North Carolina, Illinois and Wake Forest all successfully implemented entrepreneurship courses in multiple disciplines. At Florida International, tenured faculty champions "seeded" the concept into curricula across campus (A. Carsrud, personal communication, November 26, 2014), while Hiram enlisted experts from Babson College to provide programming for its faculty about cross-campus entrepreneurship opportunities (K. Molkentin, personal communication, September 17, 2014).

Faculty acceptance of the concept of entrepreneurship as multidisciplinary, allowed institutions to create entrepreneurship curriculum that was innovative in design. Baldwin Wallace was able to integrate entrepreneurship into a campus-wide common course and to create a new interdisciplinary major in entrepreneurship (A. Kolp, personal communication, October 24, 2014). Both University of North Carolina and Wake Forest created new minors in entrepreneurship that are not housed in the business school (R. Farrow, personal communication, January 15, 2015; B. Connor, personal communication, September 17, 2014). According to a faculty member at Wake Forest, "it was critical" that the entrepreneurship minor "be interdisciplinary" (B. Connor, personal communication, September 17, 2014). The minors at both University of North Carolina and Wake Forest are the largest on campus.

Many of these new programs were possible because their faculty leaders came from colleges of arts and sciences rather than from business schools. At Baldwin Wallace, Program Director Alan Kolp's entrepreneurship influence was given increased legitimacy because of his position as chair of the Department of Faith and Life (A. Kolp, personal communication, October 24, 2014). University of North Carolina's Program Director, John Kasarda, similarly gave "instant credibility to the initiative since he did not come up through the business school" but rather worked as a professor of sociology (R. Farrow, personal communication, January 15, 2015). Biology professor Bill Connor led a curricular initiative at Wake Forest designed to identify opportunities for integrating entrepreneurship across the curriculum (B. Connor, personal communication, September 17, 2014). Rochester also tapped into its department of religion to find leadership for KCI. William Green, professor of Judaic Studies and Dean of the College was the KCI grant author. Deans served as the initial champions at Rochester for both the proposal and implementation (D. Moore, personal communication, September 18, 2014).

When faculty choke, so does the institution

When faculty across the campus did not "buy into" entrepreneurship initiatives, the initiatives failed. At Wooster, few faculty members supported the concept or the grant (P. Abramo, personal communication, September 16, 2014): according to past Program Director Reuben Domike, "Faculty did not request the grant, even in the economics department," which proved problematic for Wooster (personal communication, September 17, 2014). In 2013, current program director Peter Abramo attempted to pass three cross-campus entrepreneurship courses, but Wooster's Educational Policy Committee only passed one (P. Abramo, personal communication, September 16, 2014).

Faculty interest at Howard was similarly lackluster. For example, only 18 out of 900 faculty members responded to a survey intended to gauge interest in cross-campus entrepreneurship. The study concluded that Howard's faculty members would need "specific examples to help them understand how entrepreneurship is related to their course content" (Howard University Annual Report, 2008). Although a guide was created and faculty fellows program implemented, these proved to be ineffective because of lack of support outside of the business school (Howard University Annual Report, 2009).

Engaging faculty outside of business and engineering caused problems at University of Texas-El Paso as well. A 2009 University of Texas-El Paso Annual KCI Report documented the fact that they had "minimal awareness and participation in the entrepreneurship program outside the School of Business" (University of Texas-El Paso Annual Report, 2009). This outcome might have been avoided if University of Texas-El Paso had acted earlier to engage faculty champions across the colleges. Indeed, former program director, Novick shared that "Kauffman wanted to see us do more outside the business school" (personal communication, September 18, 2014).

Definitions of *Entrepreneurship*

The word *entrepreneurship* sparked resistance on many campuses. Faculty across the disciplines had preconceived notions and stereotypes about entrepreneurship programs that impeded immediate acceptance. Even though many schools eventually came to accept, if not embrace, the KCI programs, the initial resistance is evident in the naming of the entrepreneurial centers they founded:

Academy for Entrepreneurial Leadership (Illinois)

Center for Innovation and Growth (Baldwin Wallace)

Center for Research, Entrepreneurship, and Innovation (UTEP)

Institute for Entrepreneurship, Leadership, and Innovation (Howard)

New American University (Arizona State)

Office of Entrepreneurship and Liberal Arts (Wake Forest)

In "cushioning" entrepreneurship with other words—or omitting the word entirely—these schools reveal the skittishness around focusing attention primarily on entrepreneurial endeavors. Yet these names also reflect a broadening of the concept of entrepreneurship as well, and indeed, those institutions that defined entrepreneurship broadly also tended to have more success. Kauffman noted that a key factor in KCI success was whether schools and departments could "define entrepreneurship independently" (Torrance, 2013).

Why the initial resistance? Some felt that entrepreneurship itself was not "academic," that it was "vocational" or otherwise not an appropriate topic or field of study for colleges and universities. These attitudes were prevalent at Arizona State and Wooster. To combat this point of view at Arizona State, "focus was taken off of the actual word and placed on actions to show that entrepreneurship was a broad concept" (J. Smith, personal communication, October 28, 2014). Wooster was less successful in moving past this stereotype; in fact, it placed entrepreneurial programming in the same office as experiential learning and career services by the end of the grant period (P. Abramo, personal communication, September 16, 2014).

For other KCI schools, the primary challenge was decoupling entrepreneurship from business, profit, and competition. At Hiram, these associations meant that faculty members considered entrepreneurship a "dirty word" until college leaders reframed the concepts in faculty development meetings (K. Molkentin, personal communication, September 17, 2014). Illinois had similar resistance to the word, as many faculty members "had an antagonistic perception and attributed it to profit-making organizations." The Academy at Illinois provided information sessions for faculty and worked closely with faculty fellows to broaden the definition of entrepreneurship outside of venture creation and into more of a mindset which can be more easily applied in fields outside of business (P. Magelli, personal communication, October 27, 2014).

At other schools, humanities and arts faculty resisted a narrow definition of entrepreneurship but developing broader definitions, especially those that focused on innovation, aided the incorporation of entrepreneurial programs into liberal arts settings (D. Moore, personal communication, September 18, 2014). The debate at these schools focused on the traditional meaning of entrepreneurship as profit-making and business ventures. This was the case at Oberlin, Rochester, University of Maryland-Baltimore County, and Wake Forest in particular. At University of Maryland-Baltimore County, where there is no business school, faculty initially resisted incorporation of entrepreneurship into programs, but followed students' lead. Now, faculty members at University of Maryland-Baltimore County who were resistant are neutral, while those who were skeptical became supporters (V. Armor, personal communication, December 6, 2014).

At Baldwin Wallace and Washington University in St. Louis, faculty members had less outright resistance, but they also seemed to think of entrepreneurship as solely a purview of business schools and fields. Faculty at Baldwin Wallace broadened the definition to include innovation and integrity (P. Rea, personal communication, September 23, 2014). According to Program Director Alan Kolp at Baldwin Wallace, "the idea was to incubate students, not businesses" (A. Kolp, personal communication, October 24, 2014). Similarly, at Washington University in St. Louis, faculty champions worked to broaden the definition across campus. Early in the KCI process, "Many people [at Washington University in St. Louis] thought entrepreneur was just starting a commercial business. It took us a while for the term 'entrepreneurship' to be viewed more broadly as causing many types of positive change, whether commercial or social in nature." Eventually, faculty members accepted and even embraced the idea (K. Harrington, personal communication, October 27, 2014).

Resistance also came from business schools and departments; perhaps some saw their association with entrepreneurship slipping away as the definition broadened. At

Syracuse the business school faculty members felt like “entrepreneurship had been given away to the campus” (B. Kingma, personal communication, September 10, 2014). At Florida International, business faculty feared that everyone wanted “to control it and have their own version of it” (A. Carsrud, personal communication, November 26, 2014). Wisconsin and Purdue also struggled with “turf issues and silos.” Ken Kahn, Program Director at Wisconsin during the KCI grant period, noted that he and others tried to help faculty see entrepreneurship as an interdisciplinary pursuit. He tried to keep the business school connected to the non-business applications encouraged by KCI, emphasizing that it was not “us and them” but “us together” (K. Kahn, personal communication, September 10, 2014).

Organizational Structures

KCI institutions primarily used “radiant” rather than “magnetic” structures for entrepreneurship efforts on their campuses. These terms stem from a conceptual framework created by Deborah Streeter and John Jaquette at Cornell University in the 1990s; the “Cornell Model” illustrates how organizations can best structure entrepreneurship initiatives to achieve cross-campus results. In their published paper, Streeter, Jaquette, and their colleague Kathryn Hovis (2002) defined a “magnetic” structure as one that relies upon a central location, whether in a particular school, department, or independent interdisciplinary institute, such that people on campus gravitate toward it for all entrepreneurship-themed programming. A radiant approach may also involve a center, and often does, but entrepreneurship activity is spread throughout the campus in various schools and departments. This framework has been so influential in the field that the Kauffman foundation staff members participating in this study all mentioned the “Cornell Model” at some point during our interviews.

The radiant structure and its variants proved more successful than the magnetic structure for KCI grant participants. Three institutions used pure radiant structures opting to go without any type of center. Several used a hybrid model wherein they created centers but allowed activities to spread throughout campus. Two utilized existing campus centers, and one (Wooster) employed a magnet structure.

Arizona State, Oberlin, and Wisconsin relied solely on decentralized entrepreneurship efforts on their campuses without creating a special organization or center for entrepreneurship. While this structure meant that students and faculty could become truly interdisciplinary and could become embedded in multiple departments and schools, it also meant that there was no single point of contact on campus. Arizona State noted this potential drawback, as its students had multiple points of contact, but its faculty and staff did not (J. Smith, personal communication, October 28, 2014). Oberlin’s much smaller campus meant that using the radiant structure was not a problem; it employed a single entrepreneurship director as a point of contact for students, faculty, and staff (A. Kalyn, personal communication, September 24, 2014). Oberlin’s decentralized efforts worked well because they were focused on co-curricular efforts that built on existing programs. Finally, at Wisconsin, the radiant structure helped avoid the construction of another “silo” on campus. There, initiatives grew out of various schools, departments, and centers across the campus (A. Dines, personal communications, September 17, 2014).

Several institutions created organizations (offices, centers, academies) to organize resources but allowed activity to be decentralized across the campus in a radiant fashion. At Baldwin Wallace, Hiram, and Lake Erie, centers provided expertise and support for faculty who drove the activity at departments across the campus. As mentioned above, Illinois created the Academy for Entrepreneurial Leadership, which purposefully drew upon faculty from all 13 of the colleges within the university (P. Magelli, personal communication, October 27, 2014). Wake Forest created an Office of Entrepreneurship and Liberal Arts to coordinate resources, train faculty, and seed initiatives, including some focused programs in Applied Math and Apps for Disabilities, Biomimicry, and Creativity. In addition as an outgrowth of interdisciplinary faculty activity prompted by the Kauffman grant, the Provost Office provided $500,000 in seed funding for the Center for Enterprise Research and Education. (E. Gatewood, personal communication, October 30, 2014). Washington University in St. Louis created centers specifically for "seeding" initiatives across their campuses. According to Ken Harrington at Washington University in St. Louis, the goal of each center was to start and support entrepreneurial initiatives in their early stages: "after we work with them to get it started we gradually step back as others take ownership. This approach engages more people, changes culture and scales the volume of activity." (K. Harrington, personal communication, October 27, 2014). Syracuse created a center to play the role of ecosystem connector and barrier deflector. (B. Kingma, personal communication, September 10, 2014).

Two KCI institutions used a radiant structure that relied upon existing entrepreneurship organizations or centers: University of North Carolina utilized its Kenan Institute and University of Maryland-Baltimore County utilized its Alex Brown Center for Entrepreneurship. Founded in the 1990s to bridge the gap between private enterprise and the business school, the Kenan Institute was primed for facilitating KCI programs. During the grant period, University of North Carolina proposed 14 programs, and the Institute provided organizational support and resources for all; however, most of the work was done outside of the center (R. Farrow, personal communication, January 15, 2015). At University of Maryland-Baltimore County, the Brown Center served as an important hub—especially on a campus without a business school. Established in 2000, six years before University of Maryland-Baltimore County would receive the KCI grant, the center provided a location for organizing the otherwise autonomous, multi-disciplinary initiatives in entrepreneurship spread throughout the campus (V. Armor, personal communication, December 6, 2014).

The lone magnet structure was found at Wooster. The entrepreneurship center, funded in 2000 by Morgan, housed all related activities for students, faculty, and staff. Even with some faculty champions promoting entrepreneurship across the curriculum, little activity occurred outside the center. Unfortunately, entrepreneurship efforts at Wooster never moved beyond internships and career exploration (P. Abramo, personal communication, September 16, 2014).

In general, the radiant structure of the Cornell Model proved highly effective in embedding entrepreneurship into the life of a campus. Instead of residing solely within one physical building, entrepreneurship efforts had both a campus “home” and the freedom to grow and move beyond that home. The radiant model enabled “ownership” of entrepreneurship to emerge from multiple disciplines.

Economics Matter

The recession squeezed both public and private universities during the KCI grant period. Several institutions reported that the economic downturn challenged their continued support of new entrepreneurship initiatives, including Florida International, Purdue, Syracuse, University of Maryland-Baltimore County, and Wake Forest. Purdue summed up the competing demands on universities during this difficult economic environment, "Appropriations decreased while, conversely, expectations for universities to create jobs and add to the economy as entrepreneurs are increasing" (Purdue University Annual Report, 2009). University of Maryland-Baltimore County faced similar hurdles when the state of Maryland created mandatory hiring freezes, while donors remained difficult to find, and budgets necessarily decreased (V. Amor, personal communication, December 6, 2014). At Florida International and Syracuse, funding of faculty and staff ran out; Florida International was unable to embed an entrepreneurship faculty member in each college because of "political football and economic factors" (A. Carsrud, personal communication, November 26, 2014), while Syracuse could no longer fund the Associate Provost Office of Entrepreneurship and Innovation after the grant ran out (B. Kingma, personal communication, September 10, 2014).

Program directors and other administrators at many KCI institutions faced challenges in fundraising to meet the matching requirement established by Kauffman, including Florida International and Wake Forest. The recession brought challenges finding donors and reductions in operating budgets hindering many institutions' ability to find funds for KCI. The last four Florida International Annual KCI Reports, dated 2009-2012, state that its largest obstacle was "the economic downturn that the state of Florida currently faces" (Florida International University Annual Report, 2009). With a one-year extension from Kauffman, Florida International was eventually able to meet its matching obligation. The weak economy and shifting institutional fundraising priorities at Wake Forest meant that it struggled to raise the matching funds, and, thereafter, to find resources for continued entrepreneurship operations at the grant period level (E. Gatewood, personal communication, October 30, 2014). "We started with a lot of money, but eventually found ourselves in the 'valley of death' trying to figure out how to self-fund" (B. Connor, personal communication, September 17, 2014). In response to this fundraising crisis, the program was split into two initiatives. The co-curricular activities, under the new name of Innovation, Creativity and Entrepreneurship, are managed by a part-time director who also teaches. This position reports to the Vice President for Career Development. The academic director, a professor in the Biology Department, reports to the Dean of the College of Arts and Science. Gatewood, semi-retired, moved to be the associate director of the Center for Enterprise Research and Education (CERE). According to Gatewood, "we created a structure at Wake that worked for entrepreneurship but did not fit the traditional structure of the University, making administrators nervous and approval for fund raising more difficult" (E. Gatewood, personal communication, October 30, 2014).

Endowment levels at KCI-participating institutions played a role in securing the survival of entrepreneurship initiatives after the grant period, and, indeed, Kauffman used endowment funding and the prospect of increasing endowments as criteria in selecting its recipients. However, endowment funding did not guarantee sustainable success. Eight out of the 13 universities (Florida International, Howard, University of Texas-El Paso, Illinois, Wake Forest, Purdue, Syracuse, and University of Maryland-Baltimore County) raised endowment funds as part of their KCI match, while two (Baldwin Wallace and Oberlin College) of the five NEOCEP institutions did so (Appendix M). Illinois, Syracuse, University of North Carolina, and Washington University in St. Louis all raised endowed funds *over and above* the match.

Florida International and Howard, despite having raised endowment funding, have gone backwards. At Florida International and Howard, programming necessarily shifted back to the business school after the grant dollars ran out, as neither school could afford to fund the initiatives otherwise. In these cases, the KCI grant showed that even institutions with significant endowments and matching funds could not ensure the sustainability of the level and scope of cross-campus entrepreneurship activities created during the grant period.

The NEOCEP institutions, however, represent a compelling case for the importance of community in ensuring post-grant sustainability. Not one of these institutions mentioned the economic downturn or struggles to meet the match; in fact, several had money left over after the grant period. Baldwin Wallace has all of its KCI-funded programs in place after eight years since the grant began (P. Rea, personal communication, September 23, 2014). At Oberlin, a director is in place and long-term funding is secure through the operating budget (A. Kalyn, personal communication, September 24, 2014). The significant difference at these schools appears to be the network that KCI and Morgan established there. According to Hoover, “The grant was an injection of new resources, but it was the community of colleges that made the difference.” Alan Kolp and Peter Rea at Baldwin Wallace confirmed that while the grant dollars were important, it was the support they received from their consortium colleges and the foundations that changed their campus cultures (P. Rea, personal communication, October 6, 2014). In addition, for the NEOCEP schools Kauffman grant dollars were matched by Morgan, so they did not have to rely as heavily on other fundraising support.

Predisposition

Universities that had existing entrepreneurship programming had success. These included Illinois, Rochester, and University of North Carolina, all from the first round of KCI funding; and Arizona State, Purdue, Syracuse, and Wisconsin, all from the second round. These institutions had significant entrepreneurship course enrollments, curricular activity, and/or a dedicated center on campus prior to the grant funding (Appendix L). In the cases of Syracuse, University of Maryland-Baltimore County and Wisconsin, which had been rejected from the first round of funding, they had three years to prepare on campus for the second round.

University of North Carolina and Purdue had physical sites for entrepreneurship programs long before they received their KCI grants, at the Kenan Institute and the Burton D. Morgan Center for Entrepreneurship, respectively. As mentioned earlier in this chapter, Purdue's Morgan Center was designed to "bring faculty together" from across disciplines to "support the translation of research from campus to the community" (Purdue Annual KCI Report, 2009). Moreover, University of North Carolina's Kenan Institute had effectively operated as a cross-campus hub since the 1990s; the KCI grant, combined with University of North Carolina's location in the historically innovative

Research Triangle Park, set up its campus efforts for sustained success (R. Farrow, personal communication, January 15, 2015).

Existing cross-campus initiatives helped other campuses expand upon their strong foundations upon receipt of the KCI grants. For example, Rochester had active entrepreneurship programming prior to KCI, primarily in the areas of music and nursing. After KCI, the strengths in these areas serve as a model for other campus initiatives. Entrepreneurship is now a part of the admissions vernacular and has made its way into strategic plans for every school in the university (D. Moore, personal communication, September 18, 2014). Similarly, Syracuse made entrepreneurship one of four key priorities of a billion dollar comprehensive fundraising campaign (B. Kingma, personal communication, September 10, 2014), which built upon its existing cross-campus initiatives. And at Arizona State, the groundwork for a more entrepreneurial university was laid as early as 2002, with the launch of its "New American University" branding. This initiative cites entrepreneurship as a key "design aspiration," demonstrated by this quote, "To Value Entrepreneurship: Arizona State inspires action. We harness knowledge for innovation and create purposeful ventures. We are entrepreneurial as individuals and as an institution." "Entrepreneurship was something Arizona State would have done anyway" (J. Smith, personal communication, October 28, 2014).

At Illinois (first round) and Wisconsin (second round), existing entrepreneurship efforts were in traditional areas such as business, engineering, and science; however, the KCI grant helped them build upon these locations and make their efforts more inter- and multi-disciplinary. Prior to KCI, Illinois surveyed its faculty, finding support for cross-campus entrepreneurship (P. Magelli, personal communication, October 27, 2014) even though it was not yet implemented. Wisconsin's initial application for KCI was denied because it focused too much on the business school; its second-round application took on a cross-campus perspective that helped them win the funding. Wisconsin's Chancellor knew that such cross-campus efforts were necessary regardless of "whether [. . .] they got the grant" (A. Dines, personal communication, September 17, 2014). Both Illinois and Wisconsin were thus predisposed to focus their efforts on cross-campus entrepreneurship programming.

The least predisposed universities toward entrepreneurship programming before their KCI grants were Howard and University of Maryland-Baltimore County. Their mixed results do not enable us to draw strong conclusions about predisposition, since University of Maryland-Baltimore County successfully matched its grant and sustained KCI programs, while Howard struggled to sustain programming after the grant period. Prior to the grant, first-round recipient Howard had no entrepreneurship activity—no classes or a center (Appendix L). University of Maryland-Baltimore County's initial first-round rejection led them to start planning for its second-round application by seeding entrepreneurship activity around campus. "Although we did not receive funding in round one, we decided to start working on cross-campus initiatives anyway with the full support of campus leadership" (V. Armor, personal communication, December 6, 2014). Without a business school or full-time entrepreneurship faculty, University of Maryland-Baltimore County had a long way to go, even with a new center (founded in 2000). Its 100 enrollments in entrepreneurship courses constituted the lowest pre-grant enrollment numbers of all the universities in this study except for Howard. Yet University of

Maryland-Baltimore County was able to sustain its programming because of its commitment from leadership and buy-in of faculty.

The five liberal arts colleges that made up NEOCEP are a different story because as a consortium they had little entrepreneurship activity prior to KCI. In addition, what they did have prior to KCI was new. Only one of the five— Baldwin Wallace —had any significant entrepreneurship-related activity prior to the KCI grant period (Appendix L). Baldwin Wallace had an interdisciplinary undergraduate entrepreneurship minor and an MBA specialization in entrepreneurship, both of which sustained course enrollments in the field, as well as a chapter of "Students in Free Enterprise" (SIFE) and a campus business clinic (Baldwin Wallace Annual Report, 2009). In addition, Baldwin Wallace had a fully endowed Burton D. Morgan Entrepreneurship Chair. However, like the other NEOCEP schools, "Most of the faculty thought [entrepreneurship] was a business program," according to Rea (personal communication, September 23, 2014). Aside from Wooster having a single course as well as a Burton D. Morgan Center and Baldwin Wallace's minor, MBA and Endowed Chair, the other three schools had no curricular activity prior to KCI (Appendix Curriculum). What the five liberal arts colleges *did* have was a strong network and the commitment of the Morgan Foundation.

KCI was stacked with institutions that were ready for the grant. And in the case of NEOCEP, the Burton D. Morgan Foundation was ready for it and in some ways pulled along those schools that might not have been as ready. It seems institutions that had existing entrepreneurship programming (both curricular and co-curricular) had the fewest challenges and best success. This is especially apparent for institutions that had cross-campus collaborations of any kind. That is not to say that the incremental changes that occurred on those campuses were larger than the changes that occurred on the campuses with very little entrepreneurship activity before the grant.

CHAPTER FOUR

ANALYSIS AND DISCUSSION

Introduction

Kauffman, Burton D. Morgan and numerous others invested nearly a quarter of a billion dollars into entrepreneurship education at colleges and universities to encourage cross-campus entrepreneurship programming. This study concludes that their investments were worth the large sum. The focused resources showed us how and why the field of entrepreneurship—once held hostage by business schools—should be a cross-campus field of study. The investments set this field free, unleashing it to help students think about making their own jobs and faculty think about the applications of entrepreneurship to their own fields, whether in the arts, humanities, or sciences. The resources, made the institutions more innovative (some more so than others), and they did so during the worst economic period in the United States since the Great Depression. The KCI program allowed entrepreneurship education to move beyond awareness and into a part of the institutional DNA.

But this study goes beyond this particular movement of cross-campus entrepreneurship. It also captures the phenomenon of large-scale cultural change led by foundation grants. It proposes a model for better understanding the KCI "effect" that can also be used to understand the impacts of other foundation-funded initiatives at universities and other institutions. This model, seen in Figure 1, represents detailed efforts in researching questions; collecting, organizing, and coding data; and reporting and analyzing findings.

The model can be used to show what existed at each institution prior to the KCI grant. Then, it recognizes a combination of implementation and operations variables. Finally, it selects and measures outcomes variables as well as external variables impacting inputs, implementation/operations, and outcomes. The model provided an ideal way to organize thousands of pages of data, and, more importantly, to identify KCI institutions that experienced success, and to identify which efforts in particular succeeded and why they did so. As seen in Figure 2, “Cross-Campus Linchpins,” the study uncovered seven major themes that led to KCI success and sustainability: leadership, faculty, definition, structure, economics, predisposition, and ecosystem.

The “Cross-Campus Linchpins” conceptual framework has leadership and faculty at the center. KCI institutions that got those things “right” had better results. Leadership and faculty are surrounded by definition, structure, predisposition, and economics, which all affect success and sustainability. The ecosystem surrounding these factors supports the conceptual framework.

These findings revealed that no template currently exists for institutions that wish to follow the integration of entrepreneurship efforts outside of business schools on their campuses. I developed a conceptual framework that can be used as a template for other institutions of higher education interested in implementing cross-campus entrepreneurship initiatives.

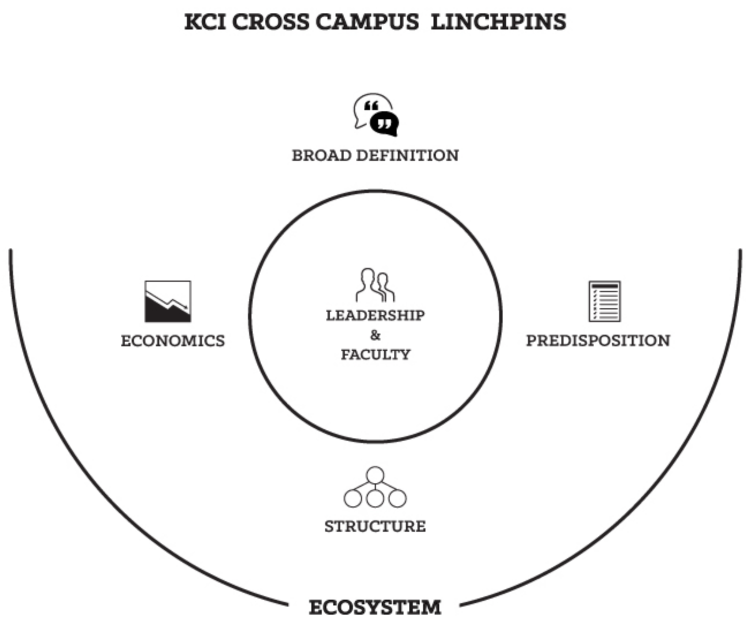


Figure 2. Kauffman Campuses Initiative: Cross-Campus Linchpins

The following is a narrative that explains how to use the conceptual framework. Based on findings from this KCI study, I also recommend future research areas and applications for cross-campus entrepreneurship education initiatives.

Leadership: Program Directors are Key to Sustainability

Kauffman knew that presidential leadership would matter during KCI, and, accordingly, it made presidential support mandatory to recipients of both rounds of funding. In fact, if a KCI institution transitioned mid-grant to new presidential leadership, Carl Schramm, former Kauffman President, said he made a point to “sit down with the new president to help them understand the significance [of KCI]” (personal communication, January 24, 2015). Yet some program directors who experienced leadership transitions indicated that Kauffman did not reach out to the new leaders.

However, Kauffman did not anticipate the importance of the on-campus KCI program directors, which this study uncovered. The institutions that changed presidents during the grant period but still retained their program directors experienced as much success on most criteria as those that retained both their presidents and program directors. Those that lost both had the least success.

Same presidents throughout the grant period and still in office today

The original presidents at Arizona State, University of Maryland-Baltimore County, Washington University St. Louis and Hiram who pitched at Kauffman's headquarters in Kansas City saw the grant through successful completion. They combined in 2012 to create over 37,000 new enrollments; 200 new courses, and nearly four hundred full-time faculty teaching entrepreneurship related courses (Appendix L). Their presidents were vocal supporters and integrated some form of entrepreneurship into their vision. Their implementations were smoother than many of the other institutions. In addition, they had high levels of sustainability based on KCI Annual Reports.

Different presidents and program directors during the grant period

Both Howard and Wooster struggled with implementation and sustainability, and both experienced leadership transitions during the grant period. Most of the activity occurred at Howard early in the grant period, and, when new leadership transitions brought an interim president and provost, the program struggled to maintain momentum.

Its leadership moved from the business school to the provost's office early in the grant period, under the insistence of Kauffman, but this transition did not go smoothly. By 2009, Kauffman recognized that "developing faculty outside the business department [at Howard] and getting them motivated to teach due to busy schedules and lack of awareness" was a challenge (Howard University Annual Report, 2009). Then, when in 2010 Howard lost its program director, Johnetta Hardy, KCI efforts stalled on that campus. Nancie Thomas at Kauffman states that Hardy did a nice job addressing challenges as the Institute went from three employees to just one director: "She raised funds for every initiative and carried them out" (N. Thomas, personal communication, October 3, 2014). However, after Hardy left, cross-campus entrepreneurship initiatives halted.

Wooster, too, experienced new leadership at the presidential and program director levels. With new leaders come new initiatives, and KCI was not a priority for the new leaders at Wooster; this lack of both support from campus leaders and continuity of those leaders hindered Wooster's ability to make an impact (P. Abramo, personal communication, September 16, 2014). Its challenges were many: its president was the only leader of the 18 KCI institutions not to champion the program, and thus "faculty members were not engaged early in the process, which in turn created implementation issues" (Levin, 2012). In addition, the KCI program directors brought limited academic experience, which put them at a disadvantage leading KCI with faculty.

Different presidents, same program directors

The most interesting stories came from those institutions that lost presidents but retained program directors. Six institutions weathered presidential transitions, but were able to retain their program directors: Oberlin, Rochester, Syracuse, University of North Carolina, Wake Forest, and Wisconsin. All faced challenges but found ways to persist to some level of success. All but Oberlin shared a common factor: their program directors were heavy hitters in the entrepreneurship education field known for their ability to lead and publish.

- Duncan Moore heads up programming at Rochester, one of the institutions that maintained the most of its KCI programs after the grant period. There, entrepreneurship has found its way into every school within the University, and the undergraduate admissions office has adopted entrepreneurship into its vernacular (D. Moore, personal communication, September 18, 2014).
- Bruce Kingma faced multiple problems at Syracuse, including an over-extended institution by the end of the grant period and new presidential leadership that closed his office. Nevertheless, he continues to sustain KCI integrating entrepreneurship into 21 departments across campus (Curriculum Appendix).
- Elizabeth Gatewood at Wake Forest lobbied for support from the new administration, and, after the grant period ended, she became the associate director of an interdisciplinary entrepreneurship research center on campus. (E. Gatewood, personal communication, October 30, 2014).

Although "semi-retired," she continues to be a champion on campus and an internationally known entrepreneurship researcher.

- Wisconsin continues its KCI curricular initiatives under the leadership of Alan Dines. Wisconsin did not have the volume (although they successfully implemented their KCI plan) Kauffman expected. Kauffman wanted to see more enrollments and faculty participation. However, Alan Dines kept moving forward and led Wisconsin to continue all KCI curricular initiatives. Entrepreneurship at Wisconsin continues to be a cross-campus effort (A. Dines, personal communication, September 17, 2014).

Each of these program directors had significant academic experience, and consequently, they understood that they needed to make faculty members a priority during the implementation process in order for it to succeed. Whether specifically committed to the faculty champion model, the early engagement of faculty in curricular initiatives, or other creative tactics, these program directors experienced success because they understood and had credibility within the academy.

At University of North Carolina, Kasarda's status as a faculty member gave credibility to the initiatives; Kasarda provided additional credibility because he did not come up through the business school but rather began in the Sociology Department (R. Farrow, personal communication, January 15, 2015). At Syracuse, Director Bruce Kingma—a tenured faculty member—planted entrepreneurial "seeds" in the form of a series of "bets" (personal communication, September 10, 2014). Investments were made in Syracuse faculty members (Kauffman Professors of Entrepreneurship and Innovation) who were willing to be entrepreneurial.

Under the leadership of Gatewood, Wake Forest prioritized faculty communication initiatives and the champion model. Early in the grant implementation, Wake Forest used a communication campaign to persuade faculty who were on the fence about cross-campus entrepreneurship by asking faculty members to identify and "Tell a Story" about someone in their field who was entrepreneurial (personal communication, October 30, 2014). Faculty members outside of the business departments provided initial leadership during the implementation phase: Professor Bill Connor in biology was responsible for initial curriculum planning, and Associate Professor of Theatre and Dance, Sharon Andrews, handled faculty communications. Gatewood's own status as a faculty member in entrepreneurship education prior to arriving at Wake Forest to lead KCI also led credibility to the initiatives.

Rochester followed a less faculty-centric model but still experienced success. Led by Vice Provost Moore, the KCI initiatives were overseen by a board of advisors made up of all of the Rochester deans. This board was involved in the proposal and implementation of the KCI programs (D. Moore, personal communication, September 18, 2014). Even though these programs were led by administrators and not faculty members, Moore did focused on involving key faculty leadership from the beginning.

Similar to University of North Carolina, Syracuse, and Wake Forest, both Hiram and Oberlin adopted faculty-centric models and experienced success. However, their status as small liberal arts colleges meant that hiring discipline-specific field leaders was not feasible. Nevertheless, program directors at both colleges had strong ties to the academy in their respective fields, and they persisted in support for the KCI initiatives. At Oberlin, Andrea Kalyn passionately endorses the parallels between liberal arts fields and entrepreneurship education. As Dean of the Conservatory of Music, she understands faculty needs, and her strategy of engaging professors in co-curricular programs within an “academic framework” won over many of them, eventually leading to curricular integration (personal communication, September 24, 2014). At Hiram, Kay Molkentin prioritized “faculty first” in KCI initiatives. In doing so, she brought in experts from Babson College to lead faculty development programming on the topic (personal communication, September 17, 2014). Her long track record in the development office helped her gain credibility with the faculty members as well.

At schools that experienced presidential transitions, KCI initiatives found the most success when their program directors remained stable and focused on faculty members’ needs. Program directors were able to maintain KCI programs by engaging faculty members and working within faculty cultures and campus curricula, which in turn co-opted new presidents. The directors worked with top leaders across campus to move initiatives into new departments and courses.

Thus, this study concludes that program directors were significant campus leaders on KCI initiatives. While presidential leadership was important at the start, strong program director leadership kept the efforts going, despite changes in leadership at some institutions. A credible program director is necessary to the implementation and management of entrepreneurship initiatives. This study also recognizes the support and involvement of appropriate deans to the success of these efforts.

Faculty Engagement: Sustainability Occurs when Integrated with Curriculum

Nearly every institution utilized faculty champions, which critically paved the way for other professors to join the efforts. Together, faculty members at the 18 KCI campuses created over 1,000 new courses with nearly 60,000 student enrollments (Appendix L). When faculty members integrate entrepreneurship throughout curricula, it has a chance to survive in the long term. Bruce Kingma said it best when he stated that “without faculty sustainability, the [entrepreneurship] programming will die” (personal communication, September 10, 2014).

Experiential learning is a strong pedagogical tool for entrepreneurship education, and faculty who implemented it in co-curricular initiatives later had increased success with academic curriculum initiatives. For example, ASU started with co-curricular experiences to engage students before taking on the curriculum changes (J. Smith, personal communication, October 28, 2014). Oberlin used faculty champions to “create co-curricular programs,” such as internships and student fellowships, “using an academic framework” before taking on the incorporation of similar initiatives into the curriculum (A. Kalyn, personal communication, September 24, 2014). However, when experiential learning occurs only in the form of co-curricular activities it also falls prey to the cycles of student interest. If students are not attracted to co-curricular activities over time, they will not be sustained. Experiential learning initiatives within or connected (like internships) to the curriculum has the best chance for sustainability.

In the end, experiential learning is just a tool; the real linchpin in this case is integration of entrepreneurship into the curriculum by faculty members. Even after the conclusion of the KCI grant period, those institutions that had engaged faculty members sustained curricular initiatives (Appendix L). Thus, those that desire such sustainability must successfully engage faculty members in their causes. The following examples from this study reveal the importance of faculty engagement:

- Even though Florida International moved its entrepreneurship center back to the business school after the grant period, most of its multi-disciplinary curricular programs remain intact because of the involvement of tenured faculty across campus (A. Carsrud, personal communication, November 26, 2014).
- Hiram linked its curriculum to collectively run businesses. French professor Ella Kirk established the Terrier Bakery, which is owned by the college but run by students and supported by faculty members via coursework (K. Molkentin, personal communication, September 17, 2014).
- Howard continues to offer entrepreneurship courses that it developed during the grant period, even when it is unclear whether it still has a director for its center and whether co-curricular initiatives are still operating.
- Lake Erie integrated entrepreneurship into its equine science program, and these initiatives are still going strong even when the college overall saw a reduction of entrepreneurship faculty during the grant and struggled to implement KCI (R. Trebar, personal communication, January 20, 2014).
- At Wake Forest, the entrepreneurship minor is still going strong, in large part due to student demand and the faculty champions across campus who

are still active today (E. Gatewood, personal communication, October 30, 2014).

- University of North Carolina engaged faculty early in the process. The proposal team was stacked with leaders from across campus. So, after they received the grant many of the champions across campus "were primed for implementation" and able to work together in support of the entrepreneurship minor according to Raymond Farrow, program director during the grant (personal communication, January 15, 2015).
- Arizona State engaged over 100 faculty members prior to the grant to share ideas and surveyed the campus. It became clear based on this data that the university had a broad perspective on entrepreneurship and a priority was given to a faculty champion's approach (J. Smith, personal communication, October 28, 2014).

Each institution that had strong faculty champion programs engaged faculty in development opportunities. Hiram and Wake Forest offered workshop or seminar sessions; and Wake Forest combined its faculty development sessions with course-creation seed grants. Florida International also offered sessions to tenured faculty members from each school at the university. Oberlin involved both students and faculty by creating a unique fifth-year experience, where students continue their education by getting credit for working on a start-up with the full support of faculty. University of North Carolina organized its interested faculty members and educated them in the field of entrepreneurship education. And at Arizona State, faculty members responded to funding opportunities that increased demands for programming. Smith at Arizona State describes the benefits of seeding faculty members:

> When we started we encouraged lots of new things. There was a lot of pushing outward to the campus through mini-grants and promotions. Since the grant concluded there is more pulling by students and faculty wanting to create and define the ecosystem. They are creating the demand now (personal communication, October 28, 2014).

While faculty members are important to the success of KCI initiatives, they alone cannot successfully implement and sustain cross-campus entrepreneurship efforts. They need the support of campus leaders, and they need other key tools, including a broad definition of entrepreneurship, funding to enact new programming, a radiant operational structure, and a predisposed campus culture. The following narrative discusses how these tools where utilized during the KCI grant period and what other institutions can learn about implementing cross-campus entrepreneurship initiatives.

Defining *Entrepreneurship*: Broad Definition Equals Broad Engagement

Presidents and program directors who enabled faculty members to create broad definitions for *entrepreneurship* had better results with implementation of cross-campus initiatives. Institutions like Wake Forest and the NEOCEP colleges had large liberal arts faculty bases that needed more than a definition focused on for-profit venture creation. These institutions instead involved faculty members in the creation of a new definition that fit the institution's culture. Broadening the definition gave these institutions the best chance of broad engagement across campus.

Wake Forest engaged its faculty champions to create a broad definition that would be (and was) widely accepted. They eventually defined *entrepreneurship* as "the process through which individuals and groups take advantage of their knowledge and resources to identify and pursue opportunities, initiate change, and create sustainable value in their lives and the lives of others. The value created can be economic value, as typically envisioned, but can also be social, intellectual, artistic, and scientific value." (Conner, Gatewood, & West, 2012). Universities like Rochester that took a broad approach to defining entrepreneurship allowed entrepreneurship to "become an institutional point of pride and an important facet of the University's identity. It has the potential to play a key role in how the University defines and presents itself to prospective students in the years to come" (Moore, 2012). According to Moore, this cultural change would not have been possible without a broad definition.

Washington University in St. Louis broadly defined *entrepreneurship* and used the following mission for its center: "Work with others to create environments that encourage ideas, develop entrepreneurs, and hand off ventures " (Harrington, 2012). Even Purdue, which had an interdisciplinary approach to entrepreneurship prior to the grant as part of its Discovery Park, needed a broad definition to enable KCI to cross campus boundaries. As program director Ken Kahn said, "Once we figured out that entrepreneurship and innovation were team sports, it really clicked" (personal communication, September 10, 2014).

Similarly, the NEOCEP schools—under the advisement of Morgan—took on the charge to "define entrepreneurship for the individual campus" (Burner & Hoover, 2012). Oberlin, for example, worked within the college's mission and liberal arts tradition to recognize creativity, innovation, action, and leadership as essential elements to its definition, which in turn became key components of the entrepreneurial mindset embraced on campus (Krislov, 2012).

To take a converse example, University of Texas-El Paso took a more narrow approach to defining entrepreneurship, centering its understanding on venture creation and leaving little room for other interpretations. This narrow definition likely contributed to the institution's struggle to move entrepreneurship initiatives out of the business school and across the broader campus (University of Texas-El Paso Annual Report, 2009). It seems simple, but starting with a common and broad understanding of the concept worked to set the stage for successful implementations.

Kauffman describes the act of creating institution-specific definitions for entrepreneurship as "democratizing ownership." This process enabled schools to adopt those understandings that best suited their institutions, thereby combating entrepreneurship stereotyping and inviting a broad constituency of supporters. Institutions showed "what entrepreneurship means in various contexts," and they discussed it using "terms such as 'innovation' and 'independence,' which might appeal to students in a range of disciplines" (Torrance, 2013).

To succeed, cross-campus entrepreneurship initiatives first need a language that can be understood by a given campus and its culture. This language also needs to provide enough space for the broader campus to engage with entrepreneurship principles. The KCI process provided solid examples of how institutions can define entrepreneurship for effective implementations.

Structure: A Radiant Organization is Ideal

This study found that the radiant model of operational structure facilitated the integration of entrepreneurship efforts across campuses; all but one KCI institution adopted this approach, and the outlier (Wooster) had less success than most of the others. As outlined by Streeter, Jaquette, and Hovis (2002), a radiant model assumes a decentralized organizational approach to implementing cross-campus entrepreneurship. Centering the operations outside of the business school with a program director who reported to either the provost or president was the optimal choice for most institutions. Although Kauffman did not specify the structure for implementing KCI-funded programs, it did ask its institutions to move entrepreneurship beyond business schools. Those institutions that initially failed to do so (Howard, University of Texas-El Paso) were urged by Kauffman to adopt a more decentralized approach. University of Texas-El Paso and Howard both created centers and were able to generate enrollments and add full time faculty who taught entrepreneurship (Appendix L).

Arizona State, Wisconsin, and Oberlin did not have physical centers and utilized a pure radiant approach. Leaders organized resources and KCI reported up through the natural chain of command. For example, at Wisconsin, KCI initiatives "grew out of different schools, departments and centers across campus," which allowed for entrepreneurship to stretch across campus outside the business school. An advisory committee led by the Chancellor met regularly to assess progress (A. Dines, personal communication, September 17, 2014).

Structure is the baseline for how the cross-campus work gets done at an institution. The radiant model forced institutions, both large and small, to spread entrepreneurship across campus. As discussed earlier, this approach also particularly empowered faculty, which is a key cross-campus entrepreneurship linchpin. Finally, this approach allowed for program directors to organize and support initiatives while empowering others from across campus to take ownership of them. This idea of ownership is significant, since those institutions that enabled faculty members and others to take ownership of programming were those that were able to sustain most of the programming. Courses developed by faculty, for example, are mostly still intact, as are many of the research centers. The radiant model proposed by Streeter, Jaquette, and Hovis (2002) proved effective for KCI and will prove effective for other institutions implementing cross-campus entrepreneurship initiatives.

Economics: Endowment Does Not Always Guarantee Sustainability

Kauffman encouraged endowment funding as part of the matching grants, and 12 of the 18 institutions raised endowment funds as part of KCI. However, not all of the institutions saw sustainable effects from their increased endowment funding. Three institutions— Florida International, Howard, and University of Texas-El Paso —raised endowment funding for the KCI initiatives with differing results after the close of the grant period. All three schools experienced leadership transitions and were hit hard by the economic downturn. Each admitted in annual reports to struggling to meet the fundraising match and saw reductions in budget dollars. Fundraising priorities changed and endowed funding was not enough to guarantee cross-campus entrepreneurship initiatives.

Florida International received four million dollars of funding for the Pino and Family Global Entrepreneurship Center, yet this center still does not have a full-time director. Its assistant director, Lauren Suarez-Diaz, resigned and moved to other employment nearly a year ago (Appendix K); however, she is still listed as a contact on the website. During the grant period, KCI entrepreneurship programs reported to the provost, but now they are embedded in the business school. While initially Florida International aimed to have an entrepreneurial faculty member embedded in each school at the university, it was unable to do so due to economic challenges and competing interests (A. Carsrud, personal communication, November 26, 2014).

Howard received a $500,000 endowment pledge, but it is unclear whether the funding was actually received. Nevertheless, efforts at Howard began quickly, and initial evidence from early annual reports was strong. But it soon stalled, and Howard struggled to meet the grant requirements (N. Thomas, personal communication, October 3, 2014). As mentioned above, Howard started its KCI efforts with entrepreneurship housed in the business school; it later decentralized them after a Kauffman site visit. Yet after the grant period closed, the efforts moved back to the business school (Howard University Annual Report, 2009). Howard had struggled to sustain its cross-campus efforts because of leadership transitions with the president, provost, and Program Director Hardy. By the time Hardy had left, the Institute that housed KCI was reduced from three support staff to just one (Hardy) because of budget changes. And even though Hardy left Howard in 2010, she is still listed on the Institute for Entrepreneurship, Leadership, and Innovation website as the director (Appendix I), while the last date for a Black Marketplace event, which was a signature program, was April 2010 (Appendix J).

Like Howard, University of Texas-El Paso also initially housed its KCI programs in the business school but moved them to a newly created center toward the end of the grant period. University of Texas-El Paso had received $1,300,000 in increased endowment funding, which enabled the hiring of a new director, Gary Williams, who came to University of Texas-El Paso in 2009 from private industry. Williams is making progress: research and invention disclosures are up considerably, and his center supports new venture creation. Yet University of Texas-El Paso struggles to maintain cross-campus efforts because it remains focused primarily on engineering, science, and business fields rather than spreading its efforts across campus. The institution is certainly fighting an uphill battle, as only 37% of its students graduate and only 25% of its engineering graduates secure jobs after graduation (G. Williams, personal communication, January 15, 2015).

In contrast, Wake Forest was a school well positioned to take advantage of KCI funding. However, because of difficulties in raising endowment or securing university funding to sustain the level of program during the grant period, Wake Forest has lost some momentum. Wake Forest began strong, by creating the Office of Entrepreneurship and Liberal Arts, headed by Betsy Gatewood, a veteran and well respected entrepreneurship director. Gatewood and others modeled ideal practices for other KCI schools: she began a faculty training program, provided new course grants, defined entrepreneurship broadly, created an interdisciplinary minor, and invested in strong experiential learning initiatives that were widely accepted in the College (Arts, Humanities, and Sciences). At the beginning of the grant they secured a $1,000,000 endowment gift from alum who was an entrepreneur to fund student seed grants, internships, and the annual awards banquet.

Yet new leadership and the financial downturn reversed some of these strides. The KCI funding ran out just as the recession was in full swing. Bill Conner, who currently leads the initiative, referred to this time as the "valley of death." Wake Forest could no longer afford a full-time director for the Office of Entrepreneurship and Liberal Arts, so Gatewood semi-retired and moved to an enterprise research center on campus. The provost reorganized entrepreneurship initiatives, placing the student-focused Center for Entrepreneurship (under the new name of Center for Innovation, Creativity, and Entrepreneurship) under the Vice President for Career Services and with a director from the corporate world. The academic direction of the minor was placed under Bill Connor, a Professor of Biology, an early champion of the program.

Although Wake Forest continues many of the initiatives started during the KCI grant period, and although its entrepreneurship minor continues to be the most popular on campus, its restructuring raises concerns. They no longer maintain the faculty-training program and seed new courses. As faculty from the grant period move on and retire the most innovative part of their programming may be lost. Wake Forest had the potential to be the most successful KCI institution, but it has not yet been able to re-gather the momentum it had at the beginning of KCI.

These four examples show that endowment funding does not always translate into sustainability at the level during the grant period. Few schools have retained all activities from the grant period. Kauffman had tried to build sustainable funding into its program by requiring endowment and matching funds, and indeed, 12 of the 18 schools managed to raise endowment funds for the KCI. However, when the KCI began in 2003, Kauffman could not anticipate the recession that would occur just as schools were gaining momentum in 2008. Schools that simultaneously faced transitions in presidential leadership faced additional challenges. Others simply struggled to meet the grant match during an economic downturn.

What can others learn from Kauffman's funding strategy? This study concludes that foundations should tie endowment funding directly to cross-campus efforts. Instead of funding centers or broad initiatives, connect the funds to the things that made a difference, such as faculty champions, program directors, or curricular initiatives.

Predisposition: Institutions with Initial Interest Struggled Less and Sustained More

Several of the KCI institutions seemed predisposed toward entrepreneurship, as evidenced by their existing programs, centers, and/or courses. These institutions were especially open and ready for the idea. For example, Wisconsin's Chancellor notes that it should do cross-campus entrepreneurship whether it got the grant or not (A. Dines, personal communication, September 17, 2014). Arizona State noted that it, too, "would have launched entrepreneurship programs anyway" (J. Smith, personal communication, October 28, 2014). Nevertheless, the funding and support from KCI brought Arizona State's efforts "to the national stage giving us confidence. [The KCI] endorsement and support took our momentum to another level" (J. Smith, personal communication, October 28, 2014). The University of North Carolina's Kenan Institute was already engaged entrepreneurship and engaging faculty from outside the business and engineering schools. In addition, the Center for Entrepreneurial Studies had recurring budget funding. Oberlin, too, noted that entrepreneurship was something "in the air" there: "Oberlin graduates often described a certain quality they get from their education, and now they have a word to describe it" (A. Kalyn, personal communication, September 24, 2014).

In contrast, those schools with few entrepreneurship initiatives prior to receiving the KCI grant struggled to implement programs and had limited success. For example, Howard had few faculty members engaged prior to the grant, and thus it had no curricular activity (Appendix L). Wooster did have a new center for entrepreneurship, but it only had one course in the area, and thus its efforts were in the infant stages (D. Hoover, personal communication, October 6, 2014).

Even without existing coursework or physical centers for entrepreneurship, predisposition could also be assessed via campus surveys; and several schools used such surveys to gauge faculty interest. These surveys at Arizona State, Illinois, and Wake Forest revealed a positive predisposition, and, in the end, these schools had successful implementation and sustainable initiatives. However, Howard struggled to get faculty to even take the survey: it received only 18 out of 900 possible responses (Howard University Annual Report, 2010). Basic surveys thus worked to gauge and predict success for KCI.

When schools have no obvious predisposition—as evidenced by physical centers, coursework, and positive survey results—they can still create successful entrepreneurship programming. Those institutions in this category can look to Oberlin, Rochester, and Washington University in St. Louis for exemplary models. These three schools show how less visible elements such as interdisciplinary cooperation, knowledge discovery, innovation, creativity, and liberal arts integration can all support entrepreneurship programming.

Oberlin connected the entrepreneurial mindset with its liberal arts tradition, recognizing that “entrepreneurship in fact encompassed a broad range of activities, many of which directly aligned with and would strengthen further” that tradition (Krislov, 2012). The college recognized that the qualities they wished to develop in its graduates were the same as those in entrepreneurs. Similarly, Rochester recognized a connection between the quality of entrepreneurship and its own collegiate history. It embraces entrepreneurship in its mission to “Learn, Discover, Heal, Create—And Make the World Even Better” (Moore, 2012). Washington University in St. Louis made a similar connection between its campus vision and entrepreneurship. Even though its campus had a seemingly “low IQ” for entrepreneurship (K. Harrington, personal communication, October 27, 2014), it did have a number of interdisciplinary collaborations and programs, which are crucial to entrepreneurship initiatives (Harrington, 2012). These three schools show how cultures of innovation, creativity, and interdisciplinary collaboration can lend themselves to successful cross-campus entrepreneurship programs.

As other institutions consider cross-campus entrepreneurship, they can learn from Kauffman’s hedge approach. Kauffman placed a series of smart bets on institutions that had a starting place for cross-campus entrepreneurship to grow. Institutions considering the development of these initiatives should look to their own campuses for places where such programs could take flight.

Ecosystem: The Liberal Arts Risk Pays Off

KCI institutions all worked to implement cross-campus entrepreneurship programming, but only at the NEOCEP colleges were these efforts united in a community-building ecosystem. The factors discussed elsewhere in this study—including leadership, faculty engagement, broad definitions, structure, and predisposition—did not seem to impact universities and the NEOCEP liberal arts colleges differently. However, the ecosystem model *did* make a difference.

Kauffman's partnership with the Burton D. Morgan Foundation is responsible for this outcome. Judith Cone, former Kauffman Executive Vice President, went looking for a partner to get Kauffman into the liberal arts game. That partner, intentionally worked to build an ecosystem in Northeast Ohio. In doing so, it also inaugurated important new developments for entrepreneurship education specifically and the venture philanthropy model more broadly. First, it showed the importance of networks in supporting cross-campus efforts. Second, it showed that foundations can experience significant returns on investments even on the smaller scale models of liberal arts colleges. Third, it gave liberal arts colleges another way to think about their missions. Finally, it showed that venture philanthropy organizations wishing to make impacts should focus on creating true partnerships over the long term.

Ecosystem model

The ecosystem model of NEOCEP worked because of the support the Burton D. Morgan Foundation provided to institutions implementing cross-campus entrepreneurship programming. This study showed that such a network is crucial to success. This work cannot be done in isolation, and real impact comes from sharing experiences and resources.

The most significant support for this claim comes from the two NEOCEP institutions that struggled the most in implementing KCI: Lake Erie and Wooster. These schools were some of the lowest performing in KCI initiatives among the other 18 institutions, yet they are still in the game because of the NEOCEP network that Burton D. Morgan created. Conversely, a school like Howard that did not have cohort support had little chance to make a comeback. The NEOCEP network provided a form of accountability and support that kept all the schools coming back to the table.

The Burton D. Morgan Foundation's investment in the NEOCEP colleges provides a model for entrepreneurship ecosystems. Since the KCI grant period ended, the Foundation has invested over one million additional dollars into the NEOCEP schools for cross-campus entrepreneurship programs.

Returns on investments

We have seen that many of the larger universities would have created cross-campus entrepreneurship anyway—several admitted as much. Kauffman provided these schools additional momentum by offering them funding. But the examples of the liberal arts colleges in NEOCEP raise the question of whether this funding—or at least the magnitude of funding—was in fact necessary at all. According to Burton D. Morgan, many of the NEOCEP schools had dollars left over after the grant period ended, and these schools arguably experienced the same or more success than the KCI universities did. This study thus suggests that investment in entrepreneurship programming at smaller institutions became less about the money than about fostering the idea. Supporting the NEOCEP schools' ideas about entrepreneurship programming led to change on their campuses and created a self-sustaining ecosystem.

As a result, the Burton D. Morgan Foundation may have been the best bet Kauffman has made to date, although admittedly it was a risk. The comprehensive return on investment in the NEOCEP schools has been exceptional: the return on investment from the five million dollar grant to NEOCEP vastly out-returns the $40 million awarded to the 13 other universities. To take just one example, Hiram received $500,000 and raised another million dollars; this $1,500,000 investment constituted 10 percent of its annual operating budget. Arizona State, on the other hand, received five million dollars from Kauffman and raised an additional $25 million; this $30,000,000 investment just barely constituted 1 percent of its annual operating budget. KCI was a rounding error for Arizona State. At Hiram it was a major gift. Yet both institutions experienced similarly positive results.

Large foundations want to make big impacts. They want to see grantees turn one dollar into a million dollar impact. Often they think the best places to scale are large institutions, but Burton D. Morgan and NEOCEP turned this philosophy on its head. The smaller liberal arts colleges showed the higher education world that small could scale. It was not the larger universities in Northeast Ohio making change during the recession. While everyone else in Ohio was bracing for the next wave of economic downturns, NEOCEP was building a model that would outlast the recession. In fact, these liberal arts schools have even inspired a larger consortium in Ohio, the *Entrepreneurship Education*

Consortium, which includes Kent State and Case Western Reserve University (Appendix H).

Entrepreneurship and the liberal arts mission at NEOCEP

The KCI grants made the 13 universities better, but they fundamentally transformed the liberal arts colleges. The cross-campus entrepreneurship programming at the NEOCEP schools emphasizes the value of the liberal arts rather than—as some feared—taking away from it. The grants also transformed the Burton D. Morgan Foundation. A foundation that was heavily focused on bricks and mortar grants is now an economic powerhouse. KCI allowed Burton D. Morgan to better understand collegiate grant-making. Burton D. Morgan has since become better at making connections and recognizing opportunities to build the ecosystem.

All five of the NEOCEP institutions experienced support for their liberal arts cultures through the partnership with Burton D. Morgan. Nearly half of Hiram's faculty members now teach entrepreneurship infused courses (K. Molkentin, personal communication, September 17, 2014). Oberlin has adopted entrepreneurship as its defining characteristic (A. Kalyn, personal communication, September 24, 2014). Baldwin Wallace—the only NEOCEP college to have a business school—approved a new entrepreneurship major, designed and approved not by business faculty members but by liberal arts professors (P. Rea, personal communication, September 23, 2014). And at Lake Erie, the faculty members integrated entrepreneurship with its equine programs, creating a signature academic program in equine entrepreneurship (B. Trebar, personal communication, January 20, 2015. Even at Wooster, which had little faculty support, hired a full-time director to meet student interest for extracurricular programming. This director has raised over $300,000 in additional entrepreneurship grants from Burton D. Morgan since KCI ended in 2012 (D. Hoover, personal communication, October 6, 2014). These changes all represent significant alterations in the way liberal arts colleges define and implement their visions.

Implications for venture philanthropists

Kauffman and Burton D. Morgan approached the KCI process differently, and their differing outcomes have broader implications for venture philanthropists. Kauffman's goal was to seed the initiative and then give it away; it has no plans at this time to work in collegiate entrepreneurship in any significant way (N. Thomas, personal communication, October 3, 2014). Its hands-off approach ended, though, at the time of evaluation, when it pressed for volume and significant change during the grant period.

While every KCI institution interview expressed appreciation to Kauffman for making cross-campus entrepreneurship a reality on their campuses, several of the 13 KCI universities expressed a wish that Kauffman would have built a community among grant recipients. Whether due to periodic turnover at the foundation or a lack of interest on a given campus, Kauffman failed to capitalize on using the momentum from KCI to build out an ecosystem with these universities.

Burton D. Morgan took another approach. It worked intentionally to build such a network through NEOCEP. This community-creation built momentum and inspired the five schools to develop their knowledge bases collaboratively as they moved through the grant period. While many at the NEOCEP colleges clearly saw the Foundation as tough, they also referred to the organization as a partner and a colleague rather than just as a grantor. Hoover and others at NEOCEP colleges used words like “sharing,” “trust,” and “support.” Burton D. Morgan measured success not by how much, but by how far, the individual institution came (D. Hoover, personal communication, October 6, 2014).

The Bill and Melinda Gates Foundation has defined the Venture Philanthropy model in the United States (Ramdas, 2011). In the Gates model, grantees tend to need the funding more than the Foundation needs the projects. The difference with the KCI grants—particularly with Burton D. Morgan’s collaborative model—is that both the colleges and the foundations needed one another. Morgan’s practical approach created a true partnership that takes a longer-term view of cross-campus entrepreneurship.

Lessons learned from the Morgan-NEOCEP partnership

Cultural changes take time in higher education; as a result, institutions desiring such changes require a long-term partner who will evolve with them. With strong leadership in its President and CEO, Burton D. Morgan provided this partner. And it is still doing so, as it parlayed NEOCEP into a regional network that brought in other colleges as well as organizations outside of higher education to create an ecosystem. Burton D. Morgan took a 360-degree view of entrepreneurship education and how it connected with economic activity in Northeast Ohio.

In the process of creating the NEOCEP network, Burton D. Morgan (and specifically Hoover) created a team that worked together by sharing ideas, resources, and lessons learned. These include the following:

- Liberal arts colleges aspire to mold their students to want to change the world; the entrepreneurial mindset shows them how to change the world.
- The power of an ecosystem led by a foundation and with colleges sharing similar missions can unleash new, big ideas.
- Entrepreneurship is not a unique initiative anymore; as a group, NEOCEP can keep momentum to scale entrepreneurship across campus and take it to the next level.

Indeed, Morgan has no plans to slow down. One NEOCEP college proclaimed that Morgan "unleashed" something excellent at each of the five colleges (A. Kolp, personal communication, October 24, 2014). NEOCEP and Morgan continue to discover the next thing to unleash.

Conclusions

Carl Schramm articulated an ambitious vision of entrepreneurship that would permeate all areas of a college campus; to realize this vision, Kauffman funded 18 schools and led an investment of nearly a quarter of a billion dollars. A summary of the research questions and my conclusion based on this study follows.

Was the KCI program successful in creating a culture of cross-campus entrepreneurship education? If so, what made it successful? Why?

KCI was successful on three levels. First, the institutions were able to meet the Kauffman matching gift requirements and execute their KCI plans. Second, KCI had a profound impact on entrepreneurship in higher education. Today, cross-campus entrepreneurship is a best practice on many college and university campuses. And, finally, KCI had mixed results in relation to sustainability, but much of what was started (particularly from a curricular perspective) is still in place today. The different levels of success were based on the *KCI Cross-Campus Linchpin* Framework (Figure 2) covered earlier in this chapter. Institutions that understood and addressed leadership support/continuity, instituted faculty champions, created a shared definition of *entrepreneurship* that fit the campus culture, utilized a radiant organizational structure, were predisposed to the concept of *entrepreneurship education*, and had financial commitments to the programs had the highest levels of success and sustainability. The Ohio liberal arts colleges leveraged their abilities to develop and sustain an ecosystem that led not only to successful implementations, but also to future cross-campus entrepreneurship success.

Did the KCI-funded initiatives create specific, lasting effects within each institution and across the 18 participating institutions? Have the KCI-funded initiatives continued on campuses after the Kauffman funding ran out in 2012? If so, how and why?

All KCI institutions managed to create some level of change, some greater than others. Much of what was started during KCI, especially in curricular programming, is still active today. The NEOCEP ecosystem was the most impactful change that occurred across the five Ohio liberal arts colleges.

What are the characteristics of sustainable cross-campus entrepreneurship education initiatives?

The characteristics of sustainable cross-campus entrepreneurship education initiatives are represented in the *KCI Cross-Campus Linchpins* Framework (Figure 2). Institutions that had support from leadership and faculty, allowed the campus to define entrepreneurship, used a radiant organizational structure, balanced and prioritized economic needs, were predisposed to the idea, and built an ecosystem were successful and had high levels of sustainability.

What were the barriers to creating these new programs and how were they overcome?

Each of the characteristics listed in the *KCI Cross-Campus Linchpins* Framework (Figure 2) presented barriers. Presidential and senior leadership at some institutions lacked continuity. Those institutions that had continuity and persistence with program director leadership were able to overcome this barrier.

Faculty members at nearly every institution were slow to come around to the idea. However, those institutions that involved faculty members early in the application process, and those institutions that created robust Faculty Champions programs (particularly those involving tenured and senior faculty), received successful faculty support. The term *entrepreneurship* had negative connotations at most campuses. Institutions that allowed stakeholders on their campuses to define entrepreneurship education and use words like *creativity, innovation,* and *mindset* as part of their definitions got past initial hesitation or resistance.

The traditional location for the study of entrepreneurship is the business school or department. Schools that used a radiant organizational model to allow for ownership of initiatives across the campus were able to move entrepreneurship education outside of their business schools or departments.

The Great Recession started in 2008 just as the first KCI round was concluding and the second KCI round was gaining momentum; as a result, institutions described themselves as being distracted with the Kauffman match. Institutions that incorporated KCI into their comprehensive campaign were able to raise the match without distraction. In addition, institutions that were persistent with earmarking annual operating budget dollars have kept programs going.

Some institutions were more predisposed toward the idea of entrepreneurship. Many of the successful universities had entrepreneurship centers and existing programming in place before the grant period. The ones that did not—primarily the Ohio liberal arts colleges—relied on building an ecosystem and leaning on others to gain shared experiences as well as best practices.

What roles did the foundations and the institutions play in developing specific programs? Did these differing roles affect program success? How and why?

Kauffman brought a national spotlight to entrepreneurship education and made it possible for the field to continue its evolution out of the business school and across campus. Kauffman also pushed each of the 18 institutions to raise significant funds to support ambitious plans. The institutions rose to the challenge and executed their plans. Generally, though, Kauffman took a hands-off approach: it focused primarily on assessment and on supporting those institutions that were struggling with implementing grant-related programming.

Burton D. Morgan was more engaged with program development; it helped build an ecosystem within the five Ohio liberal arts colleges. Indeed, the real pearl that surfaced during this study was the NEOCEP partnership. Individually, the five Northeast Ohio liberal arts institutions did not particularly stand out from the other institutions, and there was no evidence (prior to KCI) that they would be successful. However, their success and the sustainability of their programs are evident on each campus and across all of the campuses, which now constitute a region focused on entrepreneurship. The Burton D. Morgan Foundation was transformed and created a model for entrepreneurship education.

To conclude, Kauffman spurred a movement in entrepreneurship education. Cross-campus entrepreneurship education now has a place in higher education. The effects of KCI went beyond the 18 institutions. This study provides empirical data as well as a conceptual framework for institutions to use as they implement cross-campus entrepreneurship programming.

CHAPTER FIVE

IMPLICATIONS FOR FUTURE RESEARCH AND PRACTICE

This study revealed three major areas that require future attention: first, a closer look at how foundations affect cultural change in higher education; second, a greater understanding about cross-campus entrepreneurship programming outside of KCI institutions following the grant period; and third, a deeper exploration of the connection between entrepreneurship and the liberal arts. The following are recommendations in regard to these new avenues for research.

A Model for Foundations and Higher Education

One suggestion for future research is to investigate two or three other cross-campus initiatives funded by major foundations. Such research would help us to understand the cross-campus initiative phenomenon and potentially create a model for foundations interested in higher education. It could also test the conceptual framework developed by this research project of the KCI. Does the same model apply to other cross-campus initiatives? The model as outlined in this study could serve as a model for other research to understand major grant effects on institutions and on the granting foundations. It could be applied to other cross-campus phenomena (aside from KCI) where a foundation was involved as the funding source. The framework could help higher education and philanthropists answer questions such as whether a campus can create a sustainable new program because someone outside of the campus funds them to do it, whether a foundation can really steer the ship, and how to do it so that the program remains a part of the institution's culture beyond the grant period.

This study's conceptual framework allowed for a two-way understanding of the grant—that is, from both grantor and grantee. The grantors, Kauffman and Burton D. Morgan, are able to better understand what happened with KCI from an empirical standpoint, while the institutions receive a broader perspective on what happened outside of their campuses aside from what they hear from colleagues at other institutions. The framework also enables a comparison of multiple institutions. It provided a common language so that foundations and institutions can understand and communicate the same story as it relates to KCI.

Is KCI Operating in a Vacuum?

In 2006, the University of Illinois completed a study in conjunction with Kauffman that measured entrepreneurship activity at universities and colleges across the United States. I recommend a follow-up study to understand whether schools outside of KCI benefited from the grant program. Did KCI spur entrepreneurial activity at other campuses? Or was KCI just a passing fad in higher education?

One perspective suggests that cross-campus entrepreneurship continues to benefit from the lessons of KCI. A "where are they now" story about KCI shows that a group of primary investigators and directors left in order to establish cross-campus programs at other institutions. Frank Hoy left University of Texas-El Paso to apply his style of cross-campus entrepreneurship at Worchester Polytechnic Institute. Alan Carsrud moved to Ryerson University in Toronto to continue research in the field. Reuben Domike left

Wooster and now leads the center of entrepreneurship at the University of Prince Edward Island. Ken Kahn, who formerly led KCI at Purdue, is now leading the da Vinci Center at Virginia Commonwealth University. Most of the primary investigators who left their institutions stayed in entrepreneurship education and several continue planting cross-campus seeds.

There was also a phenomenon of cross institution-foundation pollination. Judith Cone who started at Kauffman as Executive Vice President during KCI ended up at University of North Carolina leading the initiative through the Chancellor's office. Tony Mendes—who directed collegiate entrepreneurship and KCI at Kauffman through the initial award in 2003—left Kauffman to lead the KCI effort at Illinois, then left Illinois to direct a program at North Texas State, and now is at University of Missouri-Kansas City. Bill Green, the author of the Rochester proposal, left to become the Senior Vice-Provost for undergraduate education at the University of Miami as well as a special consultant to Kauffman. Green was a key member of the team that evaluated the KCI institutions.

Top leadership also had a tendency to stay within the network. Nancy Cantor championed KCI at Illinois as Chancellor in 2003 and then moved to Syracuse, where she championed it for them in 2006. Holden Thorpe came up through the ranks at University of North Carolina during KCI, serving on the faculty, as a dean, and later as the Chancellor. Thorpe left in 2012 to become the Provost at Washington University in St. Louis. Many speculate that Thorpe will replace long-time Chancellor Mark Wrighton when he eventually steps down. And in 2011, Kauffman President Carl Schramm, the man with the KCI vision, resigned and in 2012 was appointed to the faculty at Syracuse University.

Liberal Arts and Entrepreneurship

NEOCEP was one of the great successes of KCI. A deeper dive into the NEOCEP colleges is recommended. Is there a correlation between liberal arts and entrepreneurship? The Burton D. Morgan Foundation continues to support the five liberal arts colleges. Since the grant they have awarded over one million dollars in entrepreneurship grants. Is the NEOCEP ecosystem something that can be replicated or modeled in other regions within a liberal arts setting?

Appendix A
Interview Protocol: KCI Current Entrepreneurship Directors

Time:

Date:

Place:

Interviewer:

Interviewee:

Position of Interviewee:

Questions:

1. Did KCI accomplish its goal to create a culture of cross-campus entrepreneurship education?
2. How was it successful or not successful?
3. What initiatives have been sustained? Why?
4. Do you have evidence that the KCI process worked on your campus?
5. Evidence around curriculum, enrollment, faculty, co-curricular/experiential learning, new venture creation?
6. Does current leadership support entrepreneurship education across campus? Why?
7. What new cross-campus entrepreneurship objective have you set since the grant?
8. What new cross-campus entrepreneurship initiatives have been started?

Appendix B
Interview Protocol: KCI Entrepreneurship Directors During the KCI Grant Period

Time:

Date:

Place:

Interviewer:

Interviewee:

Position of Interviewee:

Questions:

1. Did KCI accomplish its goal to create a culture of cross-campus entrepreneurship education?
2. How was it successful or not successful based on your institutions goals?
3. Evidence around curriculum, enrollment, faculty, co-curricular/experiential learning, new venture creation?
4. What strategies did you use to implement the grant? What was the process like?
5. What barriers existed and how did you deal with them?
6. How did the foundations support your efforts?

Appendix C
Interview Protocol: Foundation Interviews

Time:

Date:

Place:

Interviewer:

Interviewee:

Position of Interviewee:

Questions:

1. Describe the process working with the KCI schools?
2. What role did the foundation play in implementing the initiatives?
3. Did KCI accomplish its goal to create a culture of cross-campus entrepreneurship education?
4. What characteristics did you see in the schools that were successful or unsuccessful?
5. How did you access progress?
6. What can other schools learn from the process?

Appendix D
Foundation Participants

Carl Schramm, former President at the Kauffman Foundation
Carl served as president at Kauffman from 2002 through 2011. In addition to practicing law and studying economics he is also an entrepreneur. He is currently a professor at Syracuse University.
http://my.ischool.syr.edu/People/cschramm

Judith Cone, former Vice President of Entrepreneurship at the Kauffman Foundation
Judith was the Vice President for Entrepreneurship at Kauffman during the grant. She was instrumental in the creation of KCI, provided oversight for the grant operation and visited all the campuses periodically. Judith left the foundation in 2009 before the grant period ended. She is currently special assistant to the Chancellor at the University of North Carolina Chapel Hill for innovation and entrepreneurship.
http://www.linkedin.com/pub/judith-cone/5/3b3/bb7

Wendy Torrance, current Vice President of Entrepreneurship at Kauffman
Wendy saw the grant to its conclusion in 2012 and collected much of the secondary data used in this study. Wendy does not have an entrepreneurial background rather she is a researcher and historian. She is the primary contact at Kauffman working to support this study.
http://www.linkedin.com/in/wendytorrance

Nancie Thomas, current Manager for Higher Education Initiatives at Kauffman
Nancie oversaw most of the data collection for KCI and currently runs all collegiate initiatives at Kauffman. Nancie is the source providing most of the secondary data for the study and a secondary contact at Kauffman for this study.
http://www.kauffman.org/who-we-are/leadership-and-associates/associates/nancie-thomas

William Green, Sr. Vice Provost and Dean for Undergraduate Education, University of Miami and Special Consultant to the Kauffman Foundation
Bill initially was involved in KCI as the author of the University of Rochester KCI proposal. He soon moved to Miami in 2006 and was hired by Kauffman to access and audit progress on the KCI campuses.
http://www.miami.edu/index.php/university_administration_biographies/university_administration_vice_and_associate_provosts/william_scott_green_biography/

Deborah Hoover, the current CEO of the Burton D. Morgan Foundation
Debra worked as a program director at Morgan when they became a part of KCI. She was instrumental in developing the entrepreneurship consortium that resulted from KCI. She has served as CEO since 2007.
http://www.bdmorganfdn.org/staff

Alison Burner, former Program Officer at the Burton D. Morgan Foundation
Alison was instrumental in launch and coordinating NEOCEP as part of the Kauffman Campuses Initiative.
https://www.linkedin.com/pub/alison-burner/8/689/702

Appendix E
KCI Participants: Current Program Directors

Peter Abramo, Entrepreneurship Director, Wooster College

Vivian Armor, Director, Alex. Brown Center for Entrepreneurship, University of Maryland-Baltimore County

Judith Cone, Special Assistant to the Chancellor for Innovation and Entrepreneurship, UNC University of North Carolina Chapel Hill

Bill Conner, Faculty Director, Program for Innovation, Creativity & Entrepreneurship, Wake Forest University

Allen Dines, Venture Designer, Hybrid Zone X & Assistant Director, New Ventures at the Office of Corporate Relations, University of Wisconsin-Madison

Jeff Eakin, Entrepreneurship Center Director, Lake Erie College

Ken Harrington, Managing Director, Skandalaris Entrepreneurship Center, Washington University in St. Louis

Andrea Kalyn, Dean of the Conservatory of Music, Oberlin College

Bruce Kingma, Professor of Entrepreneurship, Syracuse University

Dave Kotterman, Managing Director for Launching Centers and Institutes, Purdue University

Paul Magelli, Director, Academy of Entrepreneurial Leadership, University of Illinois at Urbana-Champaign

Kay F. Molkentin, Director, Center for Integrated Entrepreneurship, Hiram College

Duncan Moore, Vice Provost for Entrepreneurship, University of Rochester

Jacqueline Smith, Executive Director of University Initiatives and Advisor to the President for Social Embededness, ASU

Peter Rea, Director of the Burton D. Morgan Chair for Entrepreneurial Studies and founding director for the Center for Innovation and Growth, Baldwin Wallace College

Gary Williams, Director of Center for Research Entrepreneurship and Innovative Enterprises, University of Texas at El Paso

Appendix F
KCI Participants: Program Directors During the Grant Period

Vivian Armor, Director, Alex. Brown Center for Entrepreneurship, University of Maryland-Baltimore County

Alan Carsrud, former Founding Executive Director, Pino Global Entrepreneurship Center, Florida International University

Allen Dines, Venture Designer, Hybrid Zone X & Assistant Director, New Ventures at the Office of Corporate Relations, University of Wisconsin-Madison

Reuben Domike, former Director, Center for Creativity and Innovation, College of Wooster

Raymond Farrow, Former Director of Kenan Institute, University of North Carolina Chapel Hill

Johnetta Boseman Hardy, Executive Director, Institute for Entrepreneurship, Leadership and Innovation, Howard University

Elizabeth Gatewood, former Director of the Office of Entrepreneurship and Liberal Arts and current Director of the Center for Enterprise and Research, Wake Forest University

Ken Harrington, Managing Director, Skandalaris Entrepreneurship Center, Washington University in St. Louis

Frank Hoy, former Director of the Collaborative for Entrepreneurship and Innovation, University of Texas at El Paso

Kenneth Kahn, former Director, Burton D. Morgan Center for Entrepreneurship, Purdue

Andrea Kalyn, Dean of the Conservatory of Music, Oberlin College

Bruce Kingma, former Associate Provost for Entrepreneurship and Innovation, Syracuse University

Paul Magelli, Director, Academy of Entrepreneurial Leadership, University of Illinois at Urbana-Champaign

Kay F. Molkentin, Director, Center for Integrated Entrepreneurship, Hiram College

Duncan Moore, Vice Provost for Entrepreneurship, University of Rochester

David Novick, Chair in Engineering, University of Texas at El Paso

Colleen Post, former Associate Director, Pino Global Entrepreneurship Center, Florida International University

Peter Rea, Director of the Burton D. Morgan Chair for Entrepreneurial Studies and founding director for the Center for Innovation and Growth, Baldwin Wallace College

Kimberly de los Santos, former Associate Vice President and Executive Director of University Initiatives, ASU

Robert Trebar, Dean, School of Business, Lake Erie College

Appendix G
KCI Institutional Caselets

CASELET FINDINGS: KCI ROUND ONE

1) FLORIDA INTERNATIONAL UNIVERSITY (FIU)

"Now we know that you need something to entrepreneur—
other fields outside of business are critical to the effort today."
Alan Carsrud, former professor and initial leader of KCI at FIU

FIU is a four-year public university categorized by Carnegie as a research university. Total enrollment at FIU is 41,000 with nearly 1,200 FTE faculty. In- state tuition is $6,500. The undergraduate graduation rate is 43% (US Department of Education, 2014).

FIU Inputs

Prior to receiving a $3 million (2:1 match) grant as part of KCI in 2003, FIU did not have an entrepreneurship center on campus. However, as part of the grant, it was able to solicit and receive a $4 million endowed gift to start the Eugenio Pino and Family Global Entrepreneurship Center. FIU was able to meet the $6 million KCI match with a one-year extension because of delays from matching dollars from the state and private donors. Based on data submitted in annual reports, the business school contributed $25,000 annually to the effort. There was little activity outside the business school and faculty members were not predisposed to the idea of cross-campus entrepreneurship. Leadership at FIU can be characterized as top-down with various silos across campus.

However, at the time of the KCI grant proposal the president was supportive of the effort (Florida International University Annual Report, 2009).

FIU Implementation and Operation

FIU's primary strategy for implementing the KCI grant was finding and compensating tenured faculty champions. These champions, or "faculty fellows," as they were called on campus, worked together to seed the concept into curriculum across campus. Most of the work was done with degree-seeking students at the undergraduate level. In conjunction with the champions approach, leadership at FIU used several other mechanisms for implementing the KCI grant. According to past FIU Program Director Alan Carsrud, KCI faculty fellows "out-published their colleagues" in other areas on campus (personal communication, November 26, 2014).

Research was an important part of getting the large university on board with the idea. Paul Reynolds, an established scholar from Babson, was brought in early as part of the grant. He came with an existing $500,000 research grant around the study of family business and entrepreneurship. Senior faculty involvement from different schools was critical to buy-in. Co-curricular programs were important; these included a webinar series, guest lectures, conferences, and mentoring services. The most significant co-curricular program was the business plan competition. Programs also reached out into the community. A virtual Entrepreneurship Incubation Network was created as well as a program to expose high school students to entrepreneurship at FIU. In addition, FIU had a strong communication campaign, titled "I am an Entrepreneur." This campaign focused on telling alumni entrepreneurship stories from schools across campus. The communications were an important strategy to broadening the campus's perspective on entrepreneurship (FIU KCI Annual Report, 2009).

The KCI effort at FIU was organized using a radiant structure (Streeter, Jaquette, & Hovis, 2002) allowing faculty and students to gravitate toward various programs. The effort reported to the Provost's office at the onset and was led by Alan Carsrud, a senior faculty member. Although the Pino Center organized the initiatives, the work was decentralized across schools using the faculty champions. Faculty members outside of the business school were integrated entrepreneurship in their work with support from the center.

The radiant structure presented a challenge around ownership: "Everyone wanted to control it and have their own version of it," Carsrud said (personal communication, November 26, 2014). Another challenge at FIU revolved around leadership. The university experienced leadership changes throughout the grant, namely at the presidential level and also in the advancement department, both of which control fund-raising. There was also turnover at the dean's level. At the end of the grant, Carsrud and colleague Colleen Rob left, and the Center now reports to the business school. By 2009, the economic downturn challenged endowment levels, fund-raising support, and overall budget shortfalls. The last four annual reports dated 2009-2012 stated that the largest obstacle "continues to be the current economic downturn that the state of Florida currently faces." A transition was eventually made to a more magnetic structure within the business school (A. Carsrud, personal communication, November 26, 2014).

FIU Outcomes

Annual reports, white papers, and dissertation interviews all suggest that FIU achieved a high level of success integrating entrepreneurship across campus outside the business school as well as in and out of the classroom. As represented in the table below, enrollment in entrepreneurship courses grew from 635 prior to the grant to 5,591 in 2012. Most of the activity was at the undergraduate level, which experienced an increase of nearly 5,000 enrollments.

Florida International Entrepreneurship Curriculum Highlights

	BEFORE	**AFTER**
Under Grad Enrollments	440	5,372
Masters Enrollments	195	209
PHD Enrollments	-	10
Total Entrepreneurship Enrollments	*635*	*5,591*
Campuses Offering Entrepreneurship	1	3
Departments Offering Entrepreneurship	1	12
Campus Wide Entrepreneurship Courses	-	12
Full Time Entrepreneurship Faculty	1	7

Entrepreneurship programming expanded beyond the main FIU campus to two additional campuses that added courses and programs. Entrepreneurship was only located in the business department prior to the grant, but emerged in 11 other departments by the time the grant period concluded. There were no classes offered campus-wide prior to the grant, and by the end of the grant, there were 12 classes offered campus-wide. Finally, prior to the grant, there was one full-time faculty member in the entrepreneurship area; now there are seven. One major goal of the grant was to embed one faculty member in each college within the university. This did not occur according to Carsrud because of "political football and economic factors. When the money ran out, FIU moved the Center to the business department; however the culture was changed enough in spots that it is now engrained." Many of the initial programs continue, especially on the curricular side (A. Carsrud, personal communication, November, 26 2014).

The Center is currently in between directors. FIU is working on its next strategic plan and recently announced nine actions required as part of the plan. The groundwork laid with KCI is evident, as the second recommendation in this strategic plan is to prepare graduates for career integration and entrepreneurial success in the global marketplace.

2) HOWARD UNIVERSITY (HOWARD)

"ELI has experienced the typical life-cycles and stages
[of development] of a start-up. As an organization that is
less than 5 years old, [it] has been going through growing pains.
Priorities are now moving toward the most critical needs."
from the 2010 Howard Annual Report to the Kauffman Foundation

Howard is a private Historically Black College and University (HBCU) categorized by Carnegie as a research university. Total FTE enrollment is 9,300 students. Eighty-six percent of the students are black or African American. The six-year graduation rate is 63%. Howard employs 931 full-time faculty members. Tuition is listed at $23,000 (US Department of Education, 2014).

Howard Inputs

Howard received a \$3.1 million (2:1) matching grant from Kauffman in 2003. As part of the match, Howard raised a \$500,000 pledge for endowed purposes. Other fundraising as part of the match supported annual and in-kind needs. However, Howard struggled to meet the matching requirements, as noted in KCI Annual Reports and in participant interviews with Kauffman Foundation staff.

Before receiving the grant, Howard had no campus-wide entrepreneurial activity and only minimal activity within the business school. There was no entrepreneurship center on campus prior to the grant. The president, provost, and dean of the business school were all supportive of the grant at the time of application. In addition, the deans from all the schools were involved in the grant proposal process.

Howard Implementation and Operation

As part of its grant implementation, Howard surveyed its faculty members to gauge interest in entrepreneurship education. Only 18 out of 931 faculty participated in the study. The study concluded faculty members need “specific examples to help them understand how entrepreneurship is related to their course content,” according to 2008 annual report to Kauffman. An entrepreneurship guide was created and a faculty fellows program implemented. An online certificate program, minor, and co-curricular activities were created to engage students. Faculty members were provided grants to do research as fellows. Many of the initiatives were centered on the work Howard does as an HBCU. They hosted an HBCU Entrepreneurship Conference, which got wide participation from schools across the country. Students with support from the grant founded the Black

Marketplace to promote student, faculty, staff, and alumni businesses. Professor Sherman Rogers also published the book, *The African American Entrepreneur: Then and Now.* Leadership also created entrepreneurial living/learning spaces in campus residence halls, started a business plan competition, founded a student-run Entrepreneurship Society where students work to create solutions for social and community change, and integrated an entrepreneurship "boot camp" into the first-year seminar experience.

The Institute for Entrepreneurship, Leadership, and Innovation was created as the center for KCI at Howard. Initially it reported to the business school, but after Kauffman discouraged an institute within the business school, the Institute reported to the Provost with heavy direction from the Dean of the Business School, Barron Harvey. The Institute operated using a radiant model (Streeter, Jaquette, & Hovis, 2002) to attract students and faculty. Executive Director Johnetta Hardy, who was not on the faculty at Howard, led it throughout much of the grant period.

Implementation of the grant was challenged in two ways. First, there was a presidential change early in the grant period. Although leadership at the executive director level stayed consistent within the institute, there were changes at the dean level and above including an Interim President and Provost. Delays in implementation led to slow progress and major challenges with faculty support. According to a 2009 Annual Report to Kauffman, a nettlesome challenge included "developing faculty outside the business department and getting them motivated to teach due to busy schedules and lack of awareness." In addition, Howard admittedly made "aggressive commitments" to Kauffman as part of its grant agreement (Howard University Annual Report, 2009). The university struggled to meet the grant requirements (N. Thomas, personal communication, October 3, 2014). Although Johnetta Hardy is still listed as the Executive Director of the institute on Howard's website (Appendix I), she left shortly after the grant period in 2010 to start her own business and now leads the University of Baltimore's Center for Entrepreneurship and Innovation. Currently, leadership for the institute falls under the Dean of the School of Business.

Howard Outcomes

Annual reports indicate some areas of success for Howard. Highlights included several co-curricular activities that continue today. There is significant secondary data to illustrate there were seeds planted at Howard. As the following table shows, enrollments were non-existent outside of the business school prior to the grant.

Howard University Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	-	1,567
Masters Enrollments	-	60
PHD Enrollments	-	-
Total Entrepreneurship Enrollments	-	*1,627*
Campuses Offering Entrepreneurship	-	1
Departments Offering Entrepreneurship	4	16
Campus Wide Entrepreneurship Courses	-	5
Full Time Entrepreneurship Faculty	3	22

Full-time entrepreneurship faculty increased from three to 22 in 2012. In addition, post grant Howard infused the initiative into 12 additional departments across campus by 2012. The online certificate program in combination with other programs has trained over

650 community-based entrepreneurs. The minor is still active as well as the business plan competition. Although it is still listed on the Institute's website, Black Marketplace's last advertised date was April 2010 (Appendix J). It is unclear whether much of what was started through KCI is sustained today.

3) UNIVERSITY OF TEXAS-EL PASO (UTEP)

"Entrepreneurship is exciting, but a hard place to get faculty."
David Novick, UTEP Associate Provost

UTEP is a public institution classified by Carnegie as a high research activity university. Total enrollment at UTEP is 18,000 students; 75% of these students are Hispanic. There are 685 full-time faculty members and the four-year graduation rate is 37%. Undergraduate in-state tuition is $7,300 (US Department of Education, 2014).

UTEP Inputs

UTEP received $2 million as part of KCI with a $4 million match stipulation in 2003. Part of the match included $1.3 million toward endowment. Prior to the grant, UTEP had established the Center for Entrepreneurial Development, Advancement, Research, and Support (CEDARS) within the business school in 1992. However, there was little activity outside the business and engineering schools prior to the KCI grant. The president and provost at the time of the grant awards were both supportive (D. Novick, personal communication, September 18, 2014).

UTEP Implementation and Operation

UTEP initially attempted to model itself after Rensselaer Polytechnic Institute, according to the first primary investigator and former chair of the business school, Frank Hoy. The Center for Research, Entrepreneurship, and Innovative Enterprises (CREIE) was created to support faculty, staff, students, and local entrepreneurs in commercializing technology they might develop. CREIE established some major community outreach opportunities including technology and energy incubators, a program to support women entrepreneurs in the region, a student intern program, a Hispanic entrepreneurship conference, and various workshops. The core of the outreach was the Urban Student Entrepreneur Corps, whose goal was to connect the campus entrepreneurship activity to the greater El Paso region. In addition, co-curricular programming included business plan competitions and starting a UTEP chapter of Collegiate Entrepreneurs Organization.

Much of the research around entrepreneurship at UTEP is around Hispanic entrepreneurs. A key element connecting entrepreneurship with the university's Hispanic roots was the creation of the Center for Hispanic Entrepreneurship. One professor included students in studying Hispanic immigrants and their rise from construction laborers to small business owners (University of Texas-El Paso Annual KCI Report, 2010).

Curricular programing included a certificate and a major in the business department. Various classes were also developed in the College of Business Administration. Courses and curricular changes occurred in the liberal arts and sciences specifically in the areas of African American Studies, Chicano Studies, and Women's

Studies. Entrepreneurship was also infused in UTEP's Entering Student Program, which was required of all first-year and transfer students.

Hoy stepped down from his position as Dean of the College of Business Administration in 2001 to lead CEDARS, and, later, to lead the KCI effort in 2003. There was a change in provosts early on and a change in leadership at Kauffman. According to the 2009 Annual Report and Marjorie Smelstor, the new Kauffman representative responsible for KCI, UTEP experienced the following challenges in 2007:

- Lack of vigorous and visible championship of entrepreneurship by senior administrators;
- Minimal awareness of and participation in the entrepreneurship program outside of the School of Business Administration;
- Lack of incentives for faculty to participate in the entrepreneurship program;
- Lack of entrepreneurship curricula that permeate the University;
- No marketing plan for the program; and
- No assessment of the program.

(University of Texas-El Paso Annual Report, 2009)

This feedback was taken and used to make changes. According to David Novick, who was then serving as UTEP's associate provost, "Kauffman wanted to see us do more outside of the business school" (personal communication, September 18, 2014). The most significant change was that the program began to report directly to the Provost's Office rather than to the College of Business Administration. Next, an effort was launched to make KCI more visible across campus and to create CREIE. Faculty champions were utilized to rally support for the initiative outside of the business school. Resources were used to fund retreats with the champions.

UTEP utilized a radiant model (Streeter, Jaquette, & Hovis 2002) in creating CREIE. Initially the center was associated with the College of Business Administration, but later it reported directly to the Provost's Office. Much of the activity was leveraged through the business administration and engineering colleges. The faculty champions were organized through UTEP's Kauffman project but engaged in work within their respective schools. Unfortunately, economic challenges hampered the operation, and university budget issues flowed down to the project. After the grant period, a $10 million gift led to a joint venture between the Colleges of Engineering and of Business Administration to develop curricula around innovative technology. As a result, UTEP now offers an accelerated joint-degree program that awards a B.S. in an engineering major and an MBA. The gift also enabled creation of the Mike Loya Center for Innovation and Commerce, which built upon the efforts started with the support from Kauffman. The Loya Center sponsors, conducts, and promotes three main avenues of research: innovation and commerce, commercialization of innovation, and entrepreneurship education (D. Novick, personal communication, September 18, 2014).

Evaluation was a sticking point during the grant period. Initially, Kauffman was supportive of the work at UTEP, but after a leadership change at Kauffman, "forward movement was a struggle because Kauffman wanted it to happen right now, and on a college campus things take time" (Hoy, personal communication, September 16, 2014). Novick added, "Kauffman was hands-off until they did not like what we were doing, and then they engaged." According to Novick, Kauffman could have leveraged its grant support by providing opportunities from the other Kauffman campuses to learn from one another through shared experiences (personal communication, September 18, 2014).

UTEP Outcomes

Both Hoy and Novick agree that KCI succeeded in some respects and was limited in others. The following table shows that most of the enrollment activity occurred at the undergraduate level with an increase of over seven hundred enrollments by 2012.

UTEP Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	347	1,070
Masters Enrollments	3	227
PHD Enrollments	-	13
Total Entrepreneurship Enrollments	*350*	*1,310*
Campuses Offering Entrepreneurship	-	1
Departments Offering Entrepreneurship	1	32
Campus Wide Entrepreneurship Courses	-	129
Full Time Entrepreneurship Faculty	1	9

Although Hoy and Novick noted challenges in implementing the grant, there was a significant increase in both colleges and courses outside of business offering an entrepreneurial focus. CREIE, the Loya Center, and many of the community outreach and economic development programs are still operating at UTEP. CREIE is led by Gary Williams, who continues to support new venture creation across the university, and the

Loya Center is co-directed by David Novick, from the College of Engineering and Gary Frankwick, from the College of Business Administration. In addition, UTEP has a new Director of Technology Transfer, which is a direct result of the work done during KCI. Since 2009, both research dollars and patent disclosures have increased (G. Williams, personal communication, January 20, 2015). Frank Hoy continues to work in the area of cross-campus entrepreneurship programming, now at Worchester Polytechnic Institute.

4) UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN (ILLINOIS)

"The culture of the University of Illinois, in short, has been dramatically altered. And there is no going backwards."
Illinois Whitepaper, 2012

Illinois is a public institution classified by Carnegie as a very high research activity university. Enrollment at Illinois is 49,000 students with an 82% graduation rate. In-state undergraduate tuition is $14,750. There are 2,200 full-time faculty members (US Department of Education, 2014).

Illinois Inputs

Illinois was poised to receive the Kauffman grant in 2003, and, accordingly, it initiated a study in advance of the grant to gauge faculty interest in enterprising approaches. There was a significant amount of entrepreneurial activity at Illinois before the grant, specifically in the traditional areas of business, engineering, and science. Illinois received $4.5 million from Kauffman, with a $10.4 million matching requirement. Most of the matching dollars, or $10.2 million, was for endowment to support the ongoing annual needs. During the grant they spent nearly $17 million, in addition to the $4.5 million Kauffman grant, on KCI (P. Magelli, personal communication, October 27, 2014).

Illinois Implementation and Operation

Illinois transformed its magnet model (Streeter, Jaquette, & Hovis, 2002) into a radiant model with the creation of the Academy for Entrepreneurial Leadership. The Academy is made up of 50 funded fellows from all 13 degree-seeking colleges at Illinois, allowing Illinois to create a more institution-wide approach to entrepreneurship. These fellows, or champions, were the primary implementation strategy. The Academy, which reports to the Provost's office, was led by a faculty member and was supported by the president.

Initially, the president formed a campus-wide advisory group with all the deans to ensure buy-in. The biggest challenge during implementation was around "the word" entrepreneurship. According to Paul Magelli, author of the initial KCI grant proposal and current Director of the Academy, some faculty "had an antagonistic perception of the word and attributed it to profit-making organizations." The Academy provided information sessions for faculty and worked closely with faculty fellows to broaden the definition of entrepreneurship outside of venture creation and into more of a mindset (P. Magelli, personal communication, October 27, 2014). A balance of curricular additions outside of business with enhancements to research and economic development highlight the mechanisms Illinois used to seed entrepreneurship across campus. In addition to courses, they added a cross-campus entrepreneurship minor.

On the co-curricular side, Illinois launched a student-led consulting organization as well as a student-led social organization focusing on international issues. Over 120 Illinois researchers from every college produced scholarly work in the entrepreneurship area. EnterpriseWorks was created in the Illinois Research Park to incubate start-ups, and over 128 firms have cycled through the program. Illinois Launch was also started to create a pipeline of student entrepreneurs: it supported 50 new ventures, of which 34 received funding (University of Illinois, Urbana-Champaign Annual Report, 2010).

Illinois Outcomes

Although Illinois was not immune to economic challenges, most of what KCI left persists. The institution provides $750,000 to $1 million in annual support. According to a white paper at the conclusion of the grant, Illinois's priority is to fund each faculty fellow, and it plans to find resources to add more fellows in the future (University of Illinois, Urbana-Champaign White Paper, 2013). The following table illustrates the curricular story at Illinois. Most of the enrollments come from undergraduates.

Illinois Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	4,429	6,730
Masters Enrollments	1,399	1,551
PHD Enrollments	-	122
Total Entrepreneurship Enrollments	*5,828*	*8,403*
Campuses Offering Entrepreneurship	1	1
Departments Offering Entrepreneurship	19	44
Campus Wide Entrepreneurship Courses	69	186
Full Time Entrepreneurship Faculty	38	78

Illinois was able to integrate entrepreneurship deeply across the curriculum expanding from 19 to 44 departments and adding 40 new entrepreneurship faculty members by 2012 long after the grant period. According to Magelli, "the place is different now." The Academy is firmly in place with funding and all of the significant initiatives started during KCI are still operational (personal communication, October 27, 2014).

5) UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL (UNC)

"The ground was tilled by KCI and barriers removed.
Today we are focused on solving grand challenges
using our entrepreneurial mindset."
Judith Cone, Special Assistant to the Chancellor
for Innovation and Entrepreneurship

UNC is a highly selective public institution classified by Carnegie as a very high research activity university. UNC enrolls 29,000 students with an 89% graduation rate. There are 2,000 full-time faculty members at UNC. The in-state undergraduate tuition is $8,300 (US Department of Education, 2014).

UNC Inputs

UNC received $3.5 million from Kauffman with a $7.2 million matching requirement in 2003. It met the match and raised an additional $340,000 in additional endowed funds. UNC did have an entrepreneurship presence on campus prior to the grant: the Kenan Institute was founded in the 1990s to connect UNC to private enterprise outside the business school. Primary funding for the Institute came from a private foundation. The Kenan Institute team was tasked with creating the KCI proposal. Prior to the KCI grant, UNC leadership from across campus was supportive of entrepreneurship (Farrow & Kasarda, 2009). In addition, UNC is positioned geographically to be entrepreneurial inclined, as it is located near Research Triangle Park, which has a long history of innovation and high-tech development.

UNC Implementation and Operation

UNC used the proposal process to start preparing the campus for KCI. The proposal team was stacked with leaders from across campus. Consequently, after it received the grant, many of the champions across campus “were primed for implementation,” according to Raymond Farrow, program director during the grant (personal communication, January 15, 2015).

The KCI initiative was branded as the Carolina Entrepreneurial Initiative (CEI) with 14 proposed programs centrally organized through the Kenan Institute. UNC utilized a radiant model (Streeter, Jaquette, & Hovis, 2002) to structure their operation. Kenan saw themselves as facilitators of the effort, with most of the work done outside the

Institute by champions. Leading CEI was John Kasarda, a faculty member who had started his work at UNC in the sociology department but moved to the business school. He gave instant credibility to the initiative since he did not come up through the business school. Although the official reporting structure of Kenan was through the business school, Kauffman was comfortable with this organizational structure because of Kenan's track record of prior cross-campus initiatives (R. Farrow, personal communication, January 15, 2015).

Faculty champions were organized and educated on the topic. The campus was given multiple opportunities for engagement within CEI. In addition to creating multiple courses, UNC created a minor that was housed in the College of Arts and Sciences. The minor includes experiential learning elements like a speaker series as well as internships with start-ups. Students from multiple disciplines are engaged in entrepreneurship initiatives, including a student-run business plan competition. The Carolina Challenge includes information sessions, workshops, and a competition. *Launching the Venture* supports CEI's outreach goals by helping commercial and social ventures through the start-up phases (Farrow & Kasarda, 2009).

Communication was critical to UNC's implementation strategy. Indeed, UNC used part of its grant to hire a communications consultant. As a result, UNC crafted consistent messages and images to share with the campus and region. It also created a website, placed advertisements strategically, hosted notable speakers, and used the chancellor to publicize efforts. Early in the grant, UNC was named the most entrepreneurial campus in the United States by the Princeton Review.

Leaders often referred to CEI as the most assessed program in UNC history. A key strategy for evaluating its success was utilizing the Office of Institutional Research and Assessment. Data were collected regularly and impact was assessed. UNC used data to drive efforts in the Kenan Institute for CEI (Farrow & Kasarda, 2009).

UNC Outcomes

Enrollments at UNC were primarily focused on undergraduates, as seen in the following table.

UNC Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	430	1,241
Masters Enrollments	196	594
PHD Enrollments	52	47
Total Entrepreneurship Enrollments	*678*	*1,882*
Campuses Offering Entrepreneurship	1	1
Departments Offering Entrepreneurship	2	10
Campus Wide Entrepreneurship Courses	28	89
Full Time Entrepreneurship Faculty	20	33

Numbers of departments and campus-wide courses also saw significant increases long after the grant conclusion in 2012. Most of the major initiatives are still in place today. The entrepreneurship minor is the largest on campus. UNC also used CEI to test different ways of implementing and organizing initiatives. Its focus on assessment during CEI has allowed UNC to apply the strategies that worked into other areas of campus. Zero budgeting, communications, organizational structure, and entrepreneurial principles were examples of seeds planted for future internal innovation (Farrow & Kasarda, 2009).

UNC created an entrepreneurial brand that is still in existence today; this brand continued to develop through chancellor and dean transitions. It still remains a priority today, as the current chancellor continues to inspire interest in the initiative through a Special Assistant to the Chancellor for Innovation and Entrepreneurship. Judith Cone was hired by then chancellor Holden Thorpe to lead entrepreneurship initiatives. Thorpe was an early faculty champion who was hired into the Dean of Liberal Arts and Sciences position at UNC and quickly promoted to the Chancellorship. Thorpe, an external seed himself, has since moved on to Washington University in St. Louis, where he serves as Provost. Much of what was started at UNC during KCI is still in place today.

6) UNIVERSITY OF ROCHESTER (ROCHESTER)

"[Entrepreneurship] momentum and culture are strong,
so when new people come in, they embrace who we are."
Duncan Moore, Vice Provost for Entrepreneurship

Rochester is a private, not-for-profit institution classified by Carnegie as a very high research activity university. It enrolls 11,000 students with an 83% graduation rate. There are 2,000 full-time faculty members. Undergraduate tuition is listed at $45,000 (US Department of Education, 2014).

Rochester Inputs

Rochester had an active entrepreneurship program prior to the 2003 grant. According to Duncan Moore, Professor and Vice Provost, who provided leadership and oversight for the grant, Rochester had robust entrepreneurship programs in music and nursing. He added, “We were a good fit.” Rochester received $3.6 million from Kauffman and matched another $7.2 million. Leadership was supportive from the beginning by actively soliciting the grant (D. Moore, personal communication, September 18, 2014).

Rochester Implementation and Operation

Rochester also involved key faculty leadership from the beginning. The architect of the proposal was Bill Green, Professor of Religion, who would later consult and evaluate KCI for Kauffman. All deans served as a Board of Advisors for the grant. The board was involved in the proposal as well as the implementation, thereby serving as the initial “champions” for the effort. Moore, who reports through the research arm of the institution, led KCI at Rochester. According to Moore, “we wanted a tighter connection with practitioners, so it reports up through research.”

In the beginning, the humanities were apprehensive. The word “entrepreneurship” was controversial, so broadening the definition to include innovation was important. Faculty members were able to participate in regular entrepreneurship education development opportunities through the center (D. Moore, personal communication, September 18, 2014).

A radiant model (Streeter, Jaquette, & Hovis, 2002) was used to organize efforts by creating the Center for Entrepreneurship, which reported to the Vice Provost for Entrepreneurship. The Center utilized deans and champions to not only develop curricula but also to create some signature programs across campus. Some of these included the Kauffman Entrepreneurial Year program, which provided students with a fifth year, tuition-free, to engage in an entrepreneurial venture. The Youth Entrepreneurs Academy (YEA) provides a year-long program to middle and high school students. YEA has since been replicated in Illinois, Florida and South Carolina.

Faculty members from across the curriculum were publishing work on entrepreneurship with some incentive from the creation of the Kauffman Faculty Research Grants. Technology transfer enhancements are evident, especially in the schools of business, medicine, engineering, and applied sciences. In addition, technology transfer increased during the grant (University of Rochester Annual Report, 2010).

Rochester Outcomes

As seen in the table below, the most significant increase in enrollments came at the Ph.D. level. Departments offering entrepreneurship increased from four to 16 by 2012 after the grant period. The only school within the university not to participate in a significant way was the School of Medicine; according to Moore, this school “needs more work” (personal communication, September 18, 2014).

Rochester Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	102	450
Masters Enrollments	224	296
PHD Enrollments	3	163
Total Entrepreneurship Enrollments	*329*	*909*
Campuses Offering Entrepreneurship	3	3
Departments Offering Entrepreneurship	4	16
Campus Wide Entrepreneurship Courses	21	63
Full Time Entrepreneurship Faculty	10	24

Rochester has been able to retain much of its programing and was able to create post-Kauffman funding as well as space for the Center for Entrepreneurship. According to Moore, the increase in Ph.D. activity is important to produce future scholars. Although Rochester had a presidential transition and changes at the dean level, it was able to continue gaining momentum because of the continuity in leadership at the Center for Entrepreneurship and because of continued support from the Board of Trustees (personal communication, September 18, 2014).

Moore noted that after Judith Cone left Kauffman, “the annual meetings and collaboration with the other schools dried up” (personal communication, September 18, 2014). He added that the networking and ecosystem were important and could have provided value moving out of the grant. Bill Green, former Dean and Professor of Religion, moved on to work as a consultant to help support Kauffman in evaluating KCI and currently continues sharing the entrepreneurial mindset at the University of Miami as Vice Provost for Undergraduate Education.

Entrepreneurship is now a part of the admissions vernacular at Rochester. It has also made its way into the strategic plans for every school within the university. Recently, Rochester completed a draft of its next strategic plan for the Center for Entrepreneurship. Its mission is "generating and transforming ideas into enterprises that create economic and social value." According to Moore, KCI laid the groundwork for future growth and improvement (personal communication, September 18, 2014).

7) WAKE FOREST UNIVERSITY (WAKE FOREST)

"KCI legitimized cross-campus entrepreneurship. Before KCI, there was no broad focus. It cemented future leadership in entrepreneurship education[,] and [it] models the phenomenon of cross-campus entrepreneurship at colleges and universities in the United States. Wake was a grand experiment proving that entrepreneurship and liberal arts fit together."
Elizabeth Gatewood, Founding Director Office of Entrepreneurship and Liberal Arts

Wake Forest is a private, not-for-profit institution classified by Carnegie as a high research activity university. It enrolls 7,400 students with an 88% graduation rate. There are 1,600 full-time faculty members. Undergraduate tuition is listed at $45,000 (US Department of Education, 2014).

Wake Forest Inputs

Prior to KCI, Wake Forest had little entrepreneurial activity outside of the business school. Activity in the business school included a single undergraduate course as well as courses and a center in the MBA program. Wake Forest received $2.2 million as part of KCI. It matched an additional $5.6 million of which $1.6 million was designated for endowment. The President and senior leadership were supportive of KCI at the time of the grant (E. Gatewood, personal communication, October 30, 2014).

Wake Forest Implementation and Operation

Wake Forest had implementation in mind when making the proposal for the KCI grant. According to Elizabeth Gatewood, former Program Director, “we anticipated the challenges at the time of proposal and incorporated some buy-in before we received the grant.” In a survey conducted prior to the grant application, nearly 80% of faculty members who responded to the survey thought there was potential for entrepreneurship across campus and many had specific ideas (personal communication, October 30, 2014).

Implementation was largely focused on faculty champions. Faculty members outside the business department provided initial leadership during the implementation phase. Biology Professor Bill Connor was responsible for initial curriculum initiatives, and Sharon Andrews, Associate Professor of Theatre and Dance, handled communications. Early in the grant implementation, Wake Forest used a communication campaign to persuade faculty who were “on the bubble” about the idea. The campaign encouraged faculty members to tell a story about an entrepreneur in their field, and it publicized the best stories. A multi-year communication plan spurred awareness across campus about the function of entrepreneurship within the liberal arts setting (E. Gatewood, personal communication, October 30, 2014). Leadership worked with faculty members to develop a broad definition of entrepreneurship that included both venture creation and entrepreneurial mindset.

Faculty champions were engaged in development opportunities to better understand the field and identify opportunities to integrate entrepreneurship into the curriculum. Interested faculty members participated in workshops and were provided seed grants to design new courses. A cross-campus minor was created; according to Connor, “it was critical for the minor to be interdisciplinary.” Wake Forest created a number of experiential learning opportunities, including seed grants for entrepreneurial student ideas, a fifth-year program for liberal arts students to pursue a venture while still in college, and internships (B. Connor, personal communication, September 17, 2014).

Wake Forest also created the Office of Entrepreneurship and Liberal Arts, which was led by Elizabeth Gatewood. The office utilized a radiant model (Streeter, Jaquette, & Hovis, 2002) and seeded the initiative across campus by providing technical and logistical support. Programs were created in Biomimicry, Applied Math, and Apps for Disabilities. In addition, the Center for Enterprise Research and Education (CERE) was founded to organize research and training in the developing economies of Benin, Kenya, Uganda, Tanzania, Nicaragua, and Mexico, making Wake Forest a leader in “entrepreneurial research practice and education in developing countries” (Wake Forest University Annual Report, 2010).

Most of the challenges for implementation and operations revolved around transitions in leadership. The President was active and supportive when Wake Forest received the grant, but soon thereafter, he fell ill and retired. With a new president came a new provost and new deans. “New leadership wants to start new programs, and because they called the shots on fundraising it created challenges,” said Gatewood. And with a down economy and shifting institutional fundraising priorities, the program’s sustainability was called into question. Wake Forest was so focused on raising the matching funds, it struggled to find resources to continue operations (E. Gatewood, personal communication, October 30, 2014). “We started with a lot of money, but eventually found ourselves in the valley of death trying to figure out how to self-fund,” said Connor (personal communication, September 17, 2014).

In response to this fundraising crisis, the program was split into two initiatives. First, the co-curricular activities, were reorganized under the new name of Innovation, Creativity, and Entrepreneurship. These are now managed by a part-time director who also teaches. This position reports to the Vice President for Career Development. The part-time academic director, a professor in the Biology Department, reports to the Dean of the College of Arts and Science. Gatewood, semi-retired, became the Associate Director of the Center for Enterprise Research and Education (CERE). According to Gatewood, “we created a structure at Wake that worked for entrepreneurship, but [it] did not fit the traditional structure of the University, making administrators nervous” (personal communication, October 30, 2014).

Wake Forest Outcomes

Most of the enrollment activity at Wake Forest (created by KCI) occurred at the undergraduate level, as illustrated in the following table.

Wake Forest Entrepreneurship Curriculum Highlight

	BEFORE	AFTER
Under Grad Enrollments	28	597
Masters Enrollments	224	203
PHD Enrollments	-	-
Total Entrepreneurship Enrollments	*252*	*800*
Campuses Offering Entrepreneurship	1	2
Departments Offering Entrepreneurship	2	23
Campus Wide Entrepreneurship Courses	11	68
Full Time Entrepreneurship Faculty	7	52

The most significant increases came in the number of courses offered and the number of entrepreneurship faculty members. By 2012, Wake Forest increased the number of full time faculty members teaching an entrepreneurship course by 45. Funding is currently in place for the Office of Innovation, Creativity, and Entrepreneurship. The interdisciplinary entrepreneurship minor is the largest minor on campus. KCI inspired the business school to create one option, New Business Development, for business students majoring in Business and Enterprise Management. Faculty members are still teaching entrepreneurship classes across campus. Over 85 faculty members continue to be involved at some level. However, the faculty champions program is no longer in existence.

8) WASHINGTON UNIVERSITY IN ST. LOUIS (WUSTL)

"We got more entrepreneurial as a university.
People started to take risks working together in new ways . . ."
Ken Harrington, Managing Director of the Skandalaris
Center for Entrepreneurial Studies

WUSTL is a private, not-for-profit institution classified by Carnegie as a very high research activity university. It enrolls 14,000 students with a 93% graduation rate. There are 1,500 full-time faculty members. Undergraduate tuition is listed at $45,000 (US Department of Education, 2014).

WUSTL Inputs

WUSTL had little entrepreneurial activity across its campus prior to the KCI grant. According to Ken Harrington, Managing Director of the Skandalaris Center for Entrepreneurial Studies and KCI Program Director, "Wash U entrepreneurial IQ was low when we started." WUSTL received $3 million from Kauffman in 2003 and met the $5.8 million match. In addition, it raised another $8.5 million of endowment outside the match to ensure the sustainability of the program (K. Harrington, personal communication, October 27, 2014).

WUSTL Implementation and Operation

Administrative leadership at WUSTL leveraged the proposal period to engage deans and faculty leaders around the idea of cross-campus entrepreneurship. Implementation started with identifying faculty champions; these champions then identified their interests and connections with entrepreneurship. Incentives provided faculty members with resources to build curricula and participate in research.

The first major challenge revolved around the word "entrepreneurship." According to Harrington, "many people thought *entrepreneur* was just starting a commercial business. It took us a while for the term 'entrepreneurship' to be viewed more broadly as causing many types of positive change, whether commercial or social in nature." The faculty champions modeled a broad definition to the campus, and, eventually, faculty members from across campus embraced the idea (K. Harrington, personal communication, October 27, 2014).

WUSTL created an undergraduate major and masters program in entrepreneurship and entrepreneurship courses across the curriculum. Courses were organized into the following categories: Perspective Courses, which expand understanding of the self and the role of entrepreneurship in the world; Skills Courses, which teach analytical techniques and tools in core disciplines; Simulated Experience Courses, which apply perspective and skills to test abilities and comfort in a project-based setting; and Action and Outcome Courses, which test students' abilities by having teams accomplish meaningful results on applied projects.

Co-curricular programs strengthened the focus on entrepreneurship by engaging students, faculty, and alumni. The Skandalaris Center for Entrepreneurial Studies offered grants for faculty doing entrepreneurial research, involving faculty at all schools within the university. Skandalaris also hosted conferences around research and entrepreneurship (Washington University in St. Louis Annual Report, 2009). Other co-curricular initiatives focused on students, including an idea competition known as *IdeaBounce*, a preorientation program for incoming first-year students called *IDEA*, an internship program, and a social entrepreneurship and innovation competition.

The Skandalaris Center reports directly to the Chancellor. It was created with a radiant model (Streeter, Jaquette, & Hovis, 2002) in mind. According to Harrington, the idea is to plant the seed, help it grow, and then hand it off. The Center's goal is thus to help start and support entrepreneurial initiatives. Harrington added that "after we worked with them to get it started, we gradually step back as others take ownership. This approach engages more people, changes culture, and scales the volume of activity." By operating under this model, the institution became more entrepreneurial (K. Harrington, personal communication, October 27, 2014).

WUSTL Outcomes

As seen in the following table, increases in enrollment were seen at all levels but were particularly pronounced at the undergraduate and Ph.D. levels:

Washington Entrepreneurship Curriculum Highlights

	BEFORE	**AFTER**
Under Grad Enrollments	135	709
Masters Enrollments	128	217
PHD Enrollments	1	176
Total Entrepreneurship Enrollments	*264*	*1,102*
Campuses Offering Entrepreneurship	1	2
Departments Offering Entrepreneurship	1	26
Campus Wide Entrepreneurship Courses	3	53
Full Time Entrepreneurship Faculty	7	36

There were also significant increases in numbers of departments, courses, and faculty by 2012 after the grant concluded. The campus is still fully engaged after the conclusion of the grant. In fact, Holden Thorpe (the current Provost), was a KCI champion at UNC as a faculty member, administrator, and President. Seeds are still growing because of the perpetual funding provided by the endowment. According to Harrington, “Kauffman had a great impact on entrepreneurial education and activity.” He contends that Kauffman is still causing change to occur at the university level: “Momentum and progress is [sic] a great way to measure how a culture is changing in higher education.” The groundwork laid by KCI is an important element of the ongoing $2.2 billion comprehensive campaign launched by WUSTL in 2012 (K. Harrington, personal communication, October 27, 2014).

CASELET FINDINGS: KCI ROUND TWO, RESEARCH UNIVERSITIES

1) ARIZONA STATE UNIVERSITY (ASU)

"ASU would have launched entrepreneurship programs anyway. However, KCI changed our trajectory and brought the effort to the national stage, giving us confidence. Their endorsement and support took our momentum to another level."
Jacqueline Smith, Executive Director for University Initiatives

ASU is a public institution classified by Carnegie as a very high research activity university. It enrolls 62,292 students with a 55% graduation rate. There are 2,670 full-time faculty members. Undergraduate in-state tuition is listed at $12,383 (US Department of Education, 2014).

ASU Inputs

Prior to participating in KCI, President Michael Crow had already introduced his vision for the "New American University" at ASU, laying the groundwork for a more entrepreneurial university. The third of this new mission's design aspirations is "To Value Entrepreneurship: ASU inspires action. We harness knowledge for innovation and create purposeful ventures. We are entrepreneurial as individuals and as an institution." Crow and ASU were all-in for Round Two of KCI. They received $5 million, the largest grant of all 18 institutions. ASU successfully completed a 5:1 match raising $25 million (Arizona State University Annual Report, 2010).

ASU Implementation and Operation

ASU's implementation strategy combined using champions to affect the culture and a major communication initiative to promote entrepreneurship across campus. Entrepreneurship was embedded into the mission of the university, into communications from the University and the president, across multiple disciplines, and through a co-curricular pipeline. ASU engaged over 100 faculty members to share ideas, and it surveyed the campus. It became clear based on these data that the University had a broad perspective on entrepreneurship.

This conclusion led to ASU adopting a pure radiant model (Streeter, Jaquette, & Hovis, 2002) for operating. It did not create a center; rather, it took an approach that was highly decentralized to ensure entrepreneurship was interdisciplinary and embedded throughout the university. KCI was a presidential initiative with multiple centers across campus. Jacqueline Smith, who provides oversight through the President's office as the Executive Director for University Initiatives, stated that, "we seeded a lot of experiments and set people loose to try things. Champions were very important as we worked to change the culture." Champions were also provided Pathways to Entrepreneurship Grants as incentives to seed curricular and programmatic ideas (J. Smith, personal communication, October 28, 2014).

Majors, minors, and certificates were created at almost every level. In addition, entrepreneurship was incorporated into the ASU first-year experience. Central hubs for entrepreneurship were initially located in the College of Nursing and Health Innovation, College of Liberal Arts and Sciences, Walter Cronkite School of Journalism and Mass Communication, Herberger Institute for Design and the Arts, and the W.P. Carey School of Business. ASU Skysong was opened in 2008 as a place to bring together a global perspective on technology, research, education, and entrepreneurship. In addition, champions with Pathways to Entrepreneurship Grants created hubs in the Sandra Day O'Connor College of Law, College of Technology and Innovation, Mary Lou Fulton Teacher's College, Fulton Schools of Engineering, and the New College of Interdisciplinary Arts and Sciences (Arizona State University Annual Report, 2009).

A significant investment was also made on the co-curricular side. The Sun Devil Entrepreneurship Network provided students with jobs and internships at start-ups. Changemaker Central integrated entrepreneurship with civic engagement, service learning, and community service in an experiential learning environment. In addition, the Edson Student Entrepreneur Initiative provided funding, space, and advice to students pursuing ventures (ASU Annual KCI Report, 2009).

Faculty members from across the curriculum are engaged in entrepreneurial research. For example, one group of interdisciplinary faculty conducted the Phoenix Innovation Study, which explored how to support venture creation and growth in the greater Phoenix region. Research was also integrated into the work of Skysong. Technology transfer initiatives were existing and ongoing throughout the grant period (Arizona State University Annual Report, 2010).

Among the seemingly endless number of initiatives and programs, there were challenges. The biggest challenge was the perception of the word: to some faculty, "entrepreneurship" did not belong in the academic world. Early on in the grant, ASU focused on entrepreneurial actions broadly rather than on the word itself. ASU also faced problems with communication: without an official center, communication across the various programs was complicated. ASU addressed these communication issues by creating networking opportunities for the multiple points of contact across campus. Changemaker Central and Career Services were identified as single points of contact for students interested in entrepreneurship. In addition, the newly formed Entrepreneurship and Innovation Group will serve as the hub for entrepreneurship resources for faculty and staff (J. Smith, personal communication, October 28, 2014).

ASU Outcomes

Most of the increases in enrollment came at the undergraduate level, as illustrated in the table below.

ASU Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	955	33,168
Masters Enrollments	298	1,122
PHD Enrollments	10	66
Total Entrepreneurship Enrollments	*1,263*	*34,356*
Campuses Offering Entrepreneurship	3	4
Departments Offering Entrepreneurship	19	39
Campus Wide Entrepreneurship Courses	30	85
Full Time Entrepreneurship Faculty	29	324

There were significant increases in department and course offerings, but the largest gain was in the number of faculty engaged. ASU increased its faculty engaged in entrepreneurship by 300 by the time the grant had concluded in 2012. Annual reports, white papers, and interviews all suggest a high level of success. Smith describes it this way, “When we started, we encouraged lots of new things. There was a lot of pushing outward to the campus through mini-grants and promotions. Since the grant concluded, there is more pulling by students and faculty wanting to create and define the ecosystem. They are creating the demand now” (personal communication, October 28, 2014).

According to a white paper published after the grant, ASU admitted that its next challenge is not only to sustain, but also to scale entrepreneurship across campus (Burch & de los Santos, 2012). To that end, ASU now has a new vice president position to advance the strategic direction of its entrepreneurial and innovation initiatives. The Vice President of Entrepreneurship & Innovation is responsible for building a campus-wide, trans-disciplinary entrepreneurial spirit, maintaining ASU as a national leader in the growing maker movement and developing public-private partnerships to advance higher education. In total, ASU received more than just the money from KCI: according to Smith, the grant funding established a culture that values ideas and an entrepreneurial ecosystem, and that has made the greatest impact (personal communication, 2009).

2) PURDUE UNIVERSITY (PURDUE)

“Purdue’s enhanced entrepreneurial culture will remain a key ingredient not only for the success of our students and faculty but the future endeavors of the University.”
France A. Cordova, former President, Purdue University

Purdue is a public institution classified by Carnegie as a very high research activity university. They enroll 39,800 students with a 68% graduation rate. There are 1,800 full-time faculty members. Undergraduate in-state tuition is listed at $10,000 (US Department of Education, 2014).

Purdue Inputs

Purdue was no stranger to entrepreneurship by the time it received $1.5 million. It raised another $7.5 million as part of the agreed match. Nearly $4.5 million of the match was earmarked for endowment. The Burton D. Morgan Center for Entrepreneurship was founded in 2001. It was created as part of Discovery Park, which is an “interdisciplinary, entrepreneurial cluster of centers that bring faculty together to support the translation of research from campus to the community—local, national, and global,” according to Purdue’s 2008 KCI Annual Report. Both the outgoing and incoming Presidents were supportive of the effort (K. Kahn, personal communication, September 10, 2014).

Purdue Implementation and Operation

Implementation at Purdue took a three-pronged approach: Entrepreneurship and Curricula; Entrepreneurship and Faculty; and Entrepreneurship and Infrastructure. The centerpiece for the Entrepreneurship and Curricula element was the creation of an interdisciplinary undergraduate certificate program. An important element of the certificate program is the Global Entrepreneurship and Innovation Study Abroad Program, which allows students to experience global markets and fulfill the capstone requirement for the certificate program. Complementary programs were started at the Masters and Ph.D. levels (Purdue University Annual Report, 2010).

Entrepreneurship and faculty were centered on the Entrepreneurship Leadership Academy, which identified faculty members who were serious about starting a venture, commercializing technology they had developed, or leading an interdisciplinary initiative. One main goal of the program was to create a network of faculty champions. In addition, many faculty members integrated their graduate assistants into the work they do with the Academy. According to Ken Kahn, former center director and primary investigator, “once we figured out that entrepreneurship and innovation were team sports, it really clicked” (personal communication, September 10, 2014).

Entrepreneurship and Infrastructure connected the campus with a system of specialized knowledge, which included patent lawyers, tax accountants, and marketing experts. Purdue found an obvious home for entrepreneurship in the existing Discovery Park, a series of nine integrated interdisciplinary centers that connect research with new ventures. In addition, Discovery Park is home to the Purdue Research Park and Purdue’s Office of Technology Commercialization both of which have a global reach. Much of the KCI activity within Discovery Park was housed in the existing Burton D. Morgan Center for Entrepreneurship (Cordova, 2012).

The Center initially reported to the Provost, but with the change in leadership, it now reports to the Vice President of Research. A radiant model (Streeter, Jaquette, & Hovis, 2002) was used to operate the center, with Discovery Park providing support to the various initiatives across campus.

The program weathered presidential and provost transitions. Campus leaders worked to broaden the way other constituents thought about entrepreneurship. Although leadership struggled with “silos and turf issues, we worked hard to help faculty understand that academic entrepreneurship was an interdisciplinary pursuit,” according to Kahn. The leadership team worked with the business school to develop the certificate curriculum and approved instructors, but had the courses taught outside the business school. According to Kahn, Purdue found that keeping the business school connected was important: “They should not be driving it, but should be involved. Some schools did not want the business school involved. We realized it is not ‘us and them’; rather, it is ‘us together’” (personal communication, September 10, 2014).

As outlined in annual reports and Kauffman white paper, Purdue experienced the economic downturn that started at the onset of the grant as a significant challenge. “Appropriations decreased while, conversely, expectations for universities to create jobs and add to the economy as entrepreneurs are increasing. Faculty, too, must be entrepreneurial in their search for funding for research programs” (Purdue University Annual Report, 2009). Limited staffing to manage the growing initiatives across campus also complicated the effort. Kahn said that Kauffman provided “good education and networking opportunities that created an ecosystem among the KCI schools.” However, he noted that “it is unfortunate Kauffman did not keep the ecosystem in place to keep the cross-campus perspective going” (personal communication, September 10, 2014).

Purdue Outcomes

Enrollment increases came primarily on the undergraduate side, as seen in the following table. The other notable increase in entrepreneurial curricular activity was the increase from four departments offering entrepreneurship to 32 by 2012 after the grant.

Purdue Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	100	900
Masters Enrollments	16	50
PHD Enrollments	-	10
Total Entrepreneurship Enrollments	*116*	*960*
Campuses Offering Entrepreneurship	1	1
Departments Offering Entrepreneurship	4	32
Campus Wide Entrepreneurship Courses	2	8
Full Time Entrepreneurship Faculty	5	9

Annual reports, white papers and interviews all point to success integrating entrepreneurship across campus at Purdue. Most of the programs are still in place, including signature programs like the Entrepreneurship Leadership Academy and certificate programs. According to Dave Kotterman, Managing Director for Launching Centers and Programs who provided oversight for the grant in its final year, "KCI helped build what was already strong." He continued by saying that, "we took what was a nebulous concept to most of the campus and add[ed] context and structure" (D. Kotterman, personal communication, October 28, 2014). Kahn moved on to apply cross-campus strategies at Virginia Commonwealth University, where he works as their center director.

3) SYRACUSE UNIVERSITY (SYRACUSE)

"The university-wide program funded by the Kauffman Foundation provided the catalyst needed to grow entrepreneurship education and community engagement at Syracuse University."
Bruce Kingma, former Associate Provost of Entrepreneurship and Innovation

Syracuse is a private, not-for-profit institution classified by Carnegie as a high research activity university. They enroll 21,400 students with an 80% graduation rate. There are 1,500 full-time faculty members. Undergraduate tuition is listed at $40,500 (US Department of Education, 2014).

Syracuse Inputs

Syracuse had some cross-campus entrepreneurship initiatives in the business school before the grant. They received $3 million with a $15.2 million matching requirement. Syracuse raised over $30 million towards the match, and, according to Bruce Kingma, Professor of Entrepreneurship and Program Director for the KCI grant, "entrepreneurship was one of four key priorities of a billion dollar comprehensive fundraising campaign. We actually raised more toward entrepreneurship and stopped counting at $100 million." The President at the time of the grant proposal was supportive of the effort (B. Kingma, personal communication, September 10, 2014).

Syracuse Implementation and Operation

Implementation at Syracuse was focused on experiential learning and connecting with the community. The initiative was branded as *Enitiaive* and was led by tenured faculty member Kingma, who was promoted soon after receiving the grant to form the Office of the Associate Provost for Entrepreneurship and Innovation. This focus was led by faculty champions who planted seeds in the form of a series of "bets," according to Kingma. Investments were made in faculty members who were willing to be entrepreneurial; these were named Kauffman Professors of Entrepreneurship and Innovation. One faculty member started a program for veterans with disabilities called *Entrepreneurship Bootcamp*, which garnered over $20 million in funding and is now licensed at 10 other college campuses across the United States (B. Kingma, personal communication, September 10, 2014).

Students were at the center of experiential learning in the form of co-curricular programs. Programs included a student club and a learning community for creativity. Students were also placed in the center of ventures with the creation of *RvD IDEA,* connecting them with start-ups in an incubator setting. In addition, student competitions popped up across campus in different schools (Syracuse University Annual Report, 2010).

Community outreach was also important during the implementation. Key partnerships were established with area groups including the Connective Corridor, which focused on the promotion of historic landmarks, cultural institutions, and private development within the city; the Near Westside Initiative, a partnership with local foundations, corporations, and neighborhood groups to revitalize one of the poorest sections of Syracuse; the South Side Innovation Center, specializing in women- and minority-owned enterprises and startups on Syracuse's South Side; and the Center of

Excellence, which focused on entrepreneurship and innovation in environmental and energy systems.

Scholarship was promoted in various new courses, and, by the end of the grant, Syracuse had degree programs at every level. According to Kingma, “without faculty sustainability, a program will die.” Faculty members published research and connected the curriculum to work students were doing to start ventures (B. Kingma, personal communication, September 10, 2014).

The Office of the Associate Provost used a radiant model (Streeter, Jaquette, & Hovis, 2002) to structure the initiative. The office was in the middle of a growing ecosystem and played the role of connector and barrier deflector. It often took heat from faculty. In particular, some business school faculty felt like “entrepreneurship had been given away to the campus.” Business faculty wanted to do research and publish, while the focus of the grant was on experiential learning and venture creation. The Dean of the business school wanted control and struggled with the initiative. After the grant concluded, the Associate Provost’s Office of Entrepreneurship and Innovation was shut down (B. Kingma, personal communication, September 10, 2014).

Syracuse Outcomes

There were strong enrollment increases at the undergraduate and masters level by the time the grant concluded in 2012, as illustrated in the following table:

Syracuse Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	1,767	6,628
Masters Enrollments	59	1,105
PHD Enrollments	-	10
Total Entrepreneurship Enrollments	*1,826*	*7,743*
Campuses Offering Entrepreneurship	1	6
Departments Offering Entrepreneurship	1	21
Campus Wide Entrepreneurship Courses	27	164
Full Time Entrepreneurship Faculty	18	89

Although the Associate Provost office was closed, entrepreneurship is still strong in the disciplines because faculty members have embedded it in the different schools and campuses. Enitiative included six regional campuses, including two community colleges, two private institutions, and two public institutions. According to Kingma, "the campuses might have been more successful if Kauffman got us together more often to build a community of learning."

But the focus on faculty champions across campus has helped Syracuse weather leadership and economic challenges. (B. Kingma, personal communication, September 10, 2014). Curricular programming went deep into the university by expanding to 21 departments: 137 new courses were added and 71 new faculty members were engaged across campus. Students and faculty members continue to be engaged across campus (B. Kingma, personal communication, September 10, 2014). Currently, 100 student ventures are started each year; 40 student ventures have so far been sustained, receiving $2 million in funding from outside investors. Most of the community outreach programming is still intact. Syracuse continues to support over 200 veteran and 50 community start-ups each year.

4) UNIVERSITY OF MARYLAND—BALTIMORE COUNTY (UMBC)

"In attempting to create entrepreneurial programs
for students, we became more entrepreneurial ourselves."
Vivian Armor, Alex. Brown Center for Entrepreneurship

UMBC is a public institution classified by Carnegie as a high research activity university. It enrolls 11,200 students with a 57% graduation rate. There are 505 full-time faculty members. Undergraduate in-state tuition and fees are listed at $7,500 (US Department of Education, 2014).

UMBC Inputs

Outside of the Alex. Brown Center for Entrepreneurship, there was little entrepreneurial education at UMBC before Kauffman arrived on the scene. In fact, UMBC does not have a business school. Initially, UMBC wanted to be in the first round of KCI schools; however, Kauffman indicated it was not ready. UMBC received approximately $1.4 million and matched $6.9 million, the vast majority of which was endowed funding. According to Vivian Armor, director of the Alex. Brown Center for Entrepreneurship and KCI Program Director, "although we did not receive funding in Round One, we decided to start working on cross-campus initiatives anyway with the full support of campus leadership" (V. Armor, personal communication, December 6, 2014).

UMBC Implementation and Operation

Campus champions known as faculty fellows were instrumental in the implementation of KCI. “We went where the faculty champions were,” said Armor (personal communication, December 6, 2014). Key initiatives according to the final Kauffman report included enhancements to the Alex. Brown Center for Entrepreneurship, the creation of a cross-campus Entrepreneurship and Innovation Minor, hiring three new faculty who could influence entrepreneurship teaching and programming, funding innovation sub-grants for faculty and departments to develop new courses or to infuse existing courses with a strong entrepreneurial emphasis, and expanding and disseminating ACTiVATE, a community outreach training program that supports mid-career women interested in starting technology companies. In addition, co-curricular activity included business plan competitions, idea competitions, expansion of the Entrepreneurship Speaker Series, social entrepreneurship opportunities, and entrepreneurial internships. Faculty institutes were created and implemented to support faculty program development (University of Maryland-Baltimore County Annual Report, 2009).

The Alex. Brown Center operated in a true radiant structure (Streeter, Jaquette, & Hovis, 2002) with autonomy granted to cross-campus initiatives. The Center reports to the Provost, and the Provost serves as Chair of the Center’s Advisory Board. Challenges for the center were two-fold. First, the word “entrepreneurship” was a struggle, particularly for the arts faculty. Students got on board first; then, faculty followed. In the end, those faculty members who were resistant are now neutral, and those who were skeptical became supporters. Second, funding was a struggle. Donors were hard to find in the economic downturn of the late 2000s. In addition, the state created mandatory hiring freezes, while budgets shrank, which both created major obstacles (V. Armor, personal communication, December 6, 2014).

UMBC Outcomes

The enrollment in entrepreneurship programming increases came mainly at the undergraduate level, as seen in the following table:

UMBC Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	109	3,285
Masters Enrollments	-	138
PHD Enrollments	-	10
Total Entrepreneurship Enrollments	*109*	*3,433*
Campuses Offering Entrepreneurship	1	1
Departments Offering Entrepreneurship	3	22
Campus Wide Entrepreneurship Courses	3	74
Full Time Entrepreneurship Faculty	-	60

It is clear that before the grant there was little cross-campus activity. The most significant increase came with faculty champions, as there are 60 full-time faculty members involved with cross-campus entrepreneurship since the grant concluded in 2012. Leadership continues to support the initiative and endowed funds allow for sustainability (V. Armor, personal communication, December 6, 2014). Armor, the founding center director, has provided strong continuity for the program, leading entrepreneurship on campus from an isolated location to an initiative across campus.

5) UNIVERSITY OF WISCONSIN—MADISON (Wisconsin)

"Connecting the real world to the academy
is a powerful concept—especially for students."
Allen Dines, Executive Partner WISC Partners and former KCI Director

Wisconsin is a public institution classified by Carnegie as a very high research activity university. It enrolls 27,700 students with an 82% graduation rate. There are 3,300 full-time faculty members. Undergraduate in-state tuition is listed at $10,400 (US Department of Education, 2014).

Wisconsin Inputs

Wisconsin was approached in the first round to apply for a grant. The grant was written out of the business school and turned down. It was re-written with more focus on cross-campus entrepreneurship and received $3.4 million with a $17.1 million matching requirement. Allen Dines was the author of the accepted grant and served as Program Director throughout the grant period starting in 2006, although he did not serve on the faculty. The President's perspective was that Wisconsin should be doing it whether or not they got the grant (A. Dines, personal communication, September 17, 2014).

Wisconsin Implementation and Operation

Implementation was seen as a series of experiments. According to Dines, “we used a try, learn, and adjust mentality.” Because KCI was led by business-minded individuals, it was critical to broaden the definition and make it clear that, according to Dines, “faculty are the number one entrepreneurs. They sniff out the grants, create new initiatives, and model entrepreneurship for students.” Courses and programs were developed to give students and faculty outside the business school access to entrepreneurship (A. Dines, personal communication, September 17, 2014). Key champions included the College of Agricultural and Life Sciences, School of Human Ecology, School of Music, and Department of Art. The School of Business developed cross-disciplinary entrepreneurship certificates.

Wisconsin used student interest to drive faculty interest. Many of the initiatives were aimed at students through a seed grant program. There were also various competitions created for students. All initiatives were branded as part of a Wiscontrepreneur communication campaign. In addition, Wisconsin established an entrepreneurship residential learning community. Experiential learning programs were started in the School of Law through an entrepreneurship clinic, which gave free advice to potential entrepreneurs, and through a student business incubator, which supported student ventures.

However, broad awareness of entrepreneurship was a challenge throughout the grant. According to Dines, the natural silos of the large university setting presented a particular challenge (University of Wisconsin-Madison Annual Report, 2010).

Wisconsin utilized a pure radiant structure (Streeter, Jaquette, & Hovis, 2002) to organize entrepreneurship efforts on campus. Dines led KCI through the Office of Corporate Relations. However, initiatives grew out of different schools, departments, and centers across campus and reported up through the natural structure of the organization. An advisory committee led by the Chancellor met regularly to assess progress.

Wisconsin Outcomes

Many of the key initiatives started through KCI continue to receive funding even though there have been multiple chancellor transitions. Although enrollment increases and depth of engagement across campus were limited (as illustrated in the table below), program quality was high, and ownership across campus was strong (A. Dines, personal communication, September 17, 2014).

Wisconsin Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	221	947
Masters Enrollments	249	259
PHD Enrollments	-	-
Total Entrepreneurship Enrollments	*470*	*1,206*
Campuses Offering Entrepreneurship	1	2
Departments Offering Entrepreneurship	6	9
Campus Wide Entrepreneurship Courses	18	50
Full Time Entrepreneurship Faculty	12	15

Kauffman was critical of Wisconsin at different points during the grant. Dines states that "Wisconsin did not have the numbers and physical center of gravity Kauffman wanted to see." Kauffman wanted more to happen in five years. Despite this criticism from Kauffman, entrepreneurship has successfully moved out of the business school and across campus, giving students access to a mindset that starting something is as valuable as getting a job (A. Dines, personal communication, September 17, 2014).

The idea behind Wiscontrepreneur was to plant quality seeds that can be sustained. Dines has moved into a program spawned from KCI called *WISC Partners* that is working to build a community of investors and entrepreneurs in Wisconsin. Since the conclusion of the grant, a not-for-profit consortium called Advocacy Consortium for Entrepreneurs was created to support initiatives across campus and in the community. A number of other initiatives took root, including Wi2, a seed fund to support commercialization of research; Madworks Seed Accelerator, a business accelerator; Physic's Garage, a maker space; and Badger Startup Summit, an entrepreneurship conference hosted annually to support the ecosystem of entrepreneurial Wisconsin alumni (A. Dines, personal communication, September 17, 2014).

CASELET FINDINGS: KCI ROUND TWO, LIBERAL ARTS COLLEGES

1) BALDWIN WALLACE UNIVERSITY (BWU)

"Creating a culture that embraces entrepreneurship or recognizes the link between entrepreneurship and the liberal arts is the foundation on which all Center for Innovation and Growth programs and financial stability is built."
Peter Rea, Former Program Director, Baldwin Wallace University

Baldwin Wallace is a private, not-for-profit institution classified by Carnegie as a masters college and university with larger programs. It enrolls 3,700 students with a 70% graduation rate. Most of the students are undergraduates. There are 177 full-time faculty members. Undergraduate tuition is listed at $28,000 (US Department of Education, 2014).

BWU Inputs

Prior to the grant, 10% of Baldwin Wallace students who enrolled in *Introduction to Entrepreneurship* were non-business students. In addition, there were several curricular and co-curricular initiatives in place, including an entrepreneurship minor, an MBA in Entrepreneurship, a local chapter of Students in Free Enterprise, Burton D. Morgan Entrepreneurship Chair, Coleman Foundation Faculty Fellows Grant, and a campus business clinic. However, prior to the grant, most faculty members viewed entrepreneurship as a business program.

The President and administration were supportive of the grant throughout the application process. Baldwin Wallace received $825,000 from Kauffman and matched

$1.7 million—of which $825,000 came from the Burton D. Morgan Foundation. Over $1.2 million of the match was for endowment (P. Rea, personal communication, September 23, 2014).

BWU Implementation and Operation

A faculty fellows program was created to champion KCI across campus. The fellows program provided education and idea-sharing about how entrepreneurship could be applied outside of the business school. The faculty fellows program was paired with the student fellows program, which allowed students to recognize opportunity, manage risk, and invest in social capital, rather than simply to select a singular career objective. Faculty—specifically in the liberal arts—broadened the definition to include innovation and integrity (P. Rea, personal communication, September 23, 2014).

The Center for Innovation and Growth was organized in a radiant structure (Streeter, Jaquette, & Hovis, 2002), which reported up to the President. It was led by Peter Rea during the grant. In addition, long-time humanities faculty member Alan Kolp provided leadership for many of the KCI programs. Kolp was seen as a legitimizing presence since he came from the liberal arts. According to Kolp, the idea was to "incubate students, not businesses—that is how we looked at our programming" (personal communication, October 24, 2014).

On the curricular side, BWU created required courses for Conservatory students; integrated entrepreneurship into a campus-wide common course; created a new major in innovation and entrepreneurship; and initiated seminars for MBA students. Co-curricular programs included a student internship program, innovation summits, speaker series, student fellows program, student-athlete fellows program, and faculty fellows program (Baldwin Wallace College Annual Report, 2009). Baldwin Wallace was able to experiment with new programs because of the freedom that the KCI grant provided. According to Rea, “KCI allowed them to fail fast and fail cheap.” As BWU learned from its mistakes, it created other programs that allowed students to connect their majors with what they planned to do for a living (P. Rea, personal communication, September 23, 2014).

The Burton D. Morgan Foundation was critical in the implementation and operation of KCI. According to Rea and Kolp, Morgan was hands-on and supportive, providing valuable knowledge along the way. Rea said, “It took courage for Morgan to partner with Kauffman and take on this project. Deb Hoover and others at the Burton D. Morgan Foundation were trusted partners and colleagues” (personal communication, September 23, 2014).

BWU Outcomes

Although enrollment gains and other curricular indicators were small (as seen in the following table), a cultural shift occurred on the Baldwin Wallace campus. For example, a comprehensive campaign enabled the construction of a new building to house campus entrepreneurship and innovation programs. The liberal arts faculty designed and unanimously approved an entrepreneurship major within the business department.

Baldwin Wallace Entrepreneurship Curriculum Highli

	BEFORE	AFTER
Under Grad Enrollments	116	234
Masters Enrollments	16	38
PHD Enrollments	-	-
Total Entrepreneurship Enrollments	*132*	*272*
Campuses Offering Entrepreneurship	1	1
Departments Offering Entrepreneurship	1	2
Campus Wide Entrepreneurship Courses	9	14
Full Time Entrepreneurship Faculty	3	5

All of the programs are still in place after eight years, and the new center is working with its third director. The work at BWU continues around cross-campus entrepreneurship through the Northeast Ohio Collegiate Entrepreneurship Program (NEOCEP) sponsored by Burton D. Morgan. Burton D. Morgan has funded over $200,000 in projects since the grant completion, including Blackstone Launchpad. Both Rea and Kolp agree that the grant dollars were important, but that it was the entrepreneurship ecosystem and support that changed the culture.

2) HIRAM COLLEGE (HIRAM)

"Once our liberal arts faculty were convinced entrepreneurship was adding value, they were able to embrace it."
Kay Molkentin, Director for the Center for Integrated Entrepreneurship

Hiram is a private, not-for-profit institution classified by Carnegie as a baccalaureate college—arts and sciences. It enrolls 1,300 students with a 66% graduation rate. Most of the students are undergraduates. There are 80 full-time faculty members. Undergraduate tuition is listed at $30,000 (US Department of Education, 2014).

Hiram Inputs

Hiram was not engaged in entrepreneurship education prior to the grant. The president at the time of the grant application came from the business world and understood the impact entrepreneurship could have across campus. However, faculty on campus considered "entrepreneurship a dirty word" and aligned it simply with business, profit, and competition. According to Kay Molkentin, Director of the Center for Integrated Entrepreneurship and Program Director for KCI during most of the grant period, leadership at Hiram was starting from scratch (K. Molkentin, personal communication, September 17, 2014). Hiram received $500,000 and was challenged to match $1 million of which $500,000 was from the Burton D. Morgan Foundation. Hiram met the match.

Hiram Implementation and Operation

Kay Molkentin was working in the development office when the grant was awarded, and she was appointed Director in the second year of the grant. According to Molkentin, "she saw an opportunity to improve the entire campus." The implementation strategy had three key elements: first, academic programs; second, experiential learning and co-curricular programming; and third, faculty involvement. To implement programming across these three areas, Hiram built a minor and created a number of other courses across campus; it engaged students outside of the classroom with lectures, workshops, internships, idea competitions, and a student-run ventures program; and it engaged faculty with opportunities for professional development (K. Molkentin, personal communication, September 17, 2014). Hiram used a “faculty first” approach to help its professors see entrepreneurship as a way for students to apply skills learned in liberal arts courses. According to Molkentin, in the end, “faculty just wanted to call it something else.”

One key to overcoming the challenge with the concept was finding the right people to work with faculty. Heidi Neck, a tenured faculty member from Babson College, worked “with faculty to transform the way they perceive entrepreneurship” during the planning portions of grant. Hiram also hosted other faculty form Babson to support summer faculty workshops (K. Molkentin, personal communication, September 17, 2014).

The center was created with the radiant model (Streeter, Jaquette, & Hovis, 2002) in mind. Because Hiram is small, students and faculty do not tend to fall into disciplinary silos, which helps cross-campus efforts. The center organizes and supports these efforts, while the faculty members drive the cross-campus change.

Hiram Outcomes

Hiram had no curricular activity prior to the grant. As you can see in the following table, nearly half of its faculty members engaged in cross-campus entrepreneurship by the conclusion of the grant in 2012:

Hiram Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	-	303
Masters Enrollments	-	38
PHD Enrollments	-	-
Total Entrepreneurship Enrollments	-	*341*
Campuses Offering Entrepreneurship	-	1
Departments Offering Entrepreneurship	-	11
Campus Wide Entrepreneurship Courses	-	38
Full Time Entrepreneurship Faculty	-	32

Although the numbers are small based on Kauffman standards, Molkentin asserts "that the success of our program can be measured in the quality of programs and cultural shift within the faculty." Most of the KCI programs have been sustained beyond the grant period.

According to Molkentin, though, the most significant aspect of the KCI funding was the relationships it fostered with the other NEOCEP colleges. This consortium provided "networking, regular meetings, and a collaboration that includes shared experiences" (K. Molkentin, personal communication, September 17, 2014). Morgan gives Hiram a fighting chance to continue growth across campus (K. Molkentin, personal communication, September 17, 2014). Since the grant completion, Morgan has funded over $100,000 in entrepreneurship projects at Hiram.

3) LAKE ERIE COLLEGE (LAKE ERIE)

"Why do we continue to do it if it did not stick?
Because of the students."
Jeff Eakin, Director for the Center for Entrepreneurship

Lake Erie is a private, not-for-profit institution classified by Carnegie as a Masters college and university—smaller programs. It enrolls 1,100 students with a 53% graduation rate. Most of the students are undergraduates. There are 41 full-time faculty members. Undergraduate tuition is listed at $27,400 (US Department of Education, 2014).

Lake Erie Inputs

There was no entrepreneurial activity at Lake Erie before Kauffman awarded the school $650,000 and challenged it to raise $1.3 million of which $650K was matched by the Burton D. Morgan Foundation. Lake Erie met the match.

Faculty members at Lake Erie were not predisposed to the idea, especially those outside of the Department of Management. The President of Lake Erie was non-traditional with an entrepreneurial background. He was supportive of the grant (J. Eakin, personal communication, September 18, 2014).

Lake Erie Implementation and Operation

The grant was executed across campus by identifying "ultimate champions" starting with the President, Vice President for Academic Affairs, Chair of the Department of Management, and several Board members. Curricular programs included both an undergraduate major and minor. An entrepreneurs-in-residence program was created to bring entrepreneurship to campus. Co-curricular activities included internships, idea competitions, student organizations, workshops, and field trips. In addition, a student advisory board was created to solicit student feedback (Lake Erie College Annual Report, 2009).

A Center for Entrepreneurship was created under the radiant model (Streeter, Jaquette, & Hovis, 2002), with leadership from a director as well as a full-time visiting professor. The goal of the center was to provide expertise across campus and support initiatives.

Lake Erie Outcomes

Lake Erie Entrepreneurship Curriculum Highlights

	BEFORE	**AFTER**
Under Grad Enrollments	-	93
Masters Enrollments	-	7
PHD Enrollments	-	-
Total Entrepreneurship Enrollments	-	*100*
Campuses Offering Entrepreneurship	-	1
Departments Offering Entrepreneurship	-	6
Campus Wide Entrepreneurship Courses	-	11
Full Time Entrepreneurship Faculty	-	-

Although there were some modest increases in curricular activity through the grant as seen in the table above, the initiative "did not stick," according to current director Jeff

Eakin. In 2009, there were six full-time faculty members teaching entrepreneurship, according to a 2010 Kauffman Annual Report submitted by Lake Erie. By 2012, there were no full-time faculty members left teaching entrepreneurship across the campus (J. Eakin, personal communication, September 18, 2014). The underlying assumption "was that faculty know how to release entrepreneurial thinking—however, maybe the students know more than we do." The current effort to gain back momentum is centered on the students, who continue to be engaged (J. Eakin, personal communication, September 18, 2014).

According to Bob Trebar, Dean of the School of Business at Lake Erie, "KCI changed the way faculty and students thought about entrepreneurship, but it is not a unique concept anymore." The most notable feature of KCI still left over is the Equine Entrepreneurship program. There is support from administration with a commitment toward the center. When you pair this support with the NEOCEP relationship, entrepreneurship at Lake Erie is moving forward (B. Trebar, personal communication, January 20, 2015).

4) OBERLIN COLLEGE (OBERLIN)

"The Creativity and Leadership initiative
highlights and expands a culture that has long existed
at Oberlin but had not been directly supported or actively encouraged."
Marvin Krislov, President, Oberlin College

Oberlin is a private, not-for-profit institution classified by Carnegie as a baccalaureate college—arts and sciences. It enrolls 3,000 students with an 88% graduation rate. Most of the students are undergraduates. There are 340 full-time faculty members. Undergraduate tuition is listed at $47,000 (US Department of Education, 2014).

Oberlin Inputs

There was little obvious entrepreneurial activity at Oberlin before KCI. As part of the grant application process, Oberlin hosted a campus-wide symposium with the goal of defining entrepreneurship broadly within their liberal arts and conservatory environment. But according to Andrea Kalyn, Dean of the Conservatory and KCI Program Director, “it was already in the air” at Oberlin.

The college was awarded $563,000 and matched $1.7 million of which $563,000 thousand was matched by the Burton D. Morgan Foundation. Over $1.2 million was endowed funding. The President laid comprehensive groundwork for receipt of the grant by engaging a large cross-section of campus (A. Kalyn, personal communication, September 24, 2014).

Oberlin Implementation and Operation

Oberlin started to build interest in cross-campus entrepreneurship by starting with co-curricular programming first and then moving into the curricular side. A faculty advisory panel was used to drive programming. According to Kalyn, “an academic framework was used in a co-curricular setting” (personal communication, September 24, 2014). A major focus of KCI was creating initiatives like internships, fellowships, Conservatory Initiative Grants, a Creativity Fund, guest speakers, and a strong partnership with career services. Coursework was developed on an “as-needed basis” depending on student needs and entrepreneurial pursuits. The KCI initiative was branded as "Creativity and Leadership," putting the emphasis on experiential learning (Oberlin College Annual Report, 2010).

Oberlin used a radiant model (Streeter, Jaquette, & Hovis, 2002) for organizing the effort, as initiatives were decentralized across campus. There was no physical center for entrepreneurship on campus, and the initiative was housed in the Office of Career Services with leadership from an assistant director for entrepreneurship. The effort received strong support from the deans across campus, especially from the Conservatory of Music. Most of the focus was on building from existing programs, so Oberlin did not need to invest in new infrastructure to achieve its goals.

Oberlin Outcomes

The programming left by KCI survived a Presidential transition, and curricular outcomes were evident in all applicable areas, including courses offered across campus as illustrated in the following table:

Oberlin Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	11	222
Masters Enrollments	-	-
PHD Enrollments	-	-
Total Entrepreneurship Enrollments	*11*	*222*
Campuses Offering Entrepreneurship	-	1
Departments Offering Entrepreneurship	-	6
Campus Wide Entrepreneurship Courses	2	51
Full Time Entrepreneurship Faculty	-	4

Oberlin created a President's Advisory Council to provide perspective, and funding is secured in the operating budget. The College employs a director to manage related initiatives. In addition, the initiative has resonated with alumni. According to Kalyn, Oberlin graduates often described a certain quality they received from their education, "and now they have a word to describe it."

KCI was bigger than just Oberlin. According to Kalyn, "NEOCEP was a big risk for Burton D. Morgan, and it paid off, as it led to an ecosystem in our region." Kalyn credits Morgan and strong leadership from President Deborah Hoover for the NEOCEP schools' continued commitments to entrepreneurship: "Deb was in tune with our plans and our challenges. It was really an ongoing conversation and partnership" (personal communication, September 24, 2014). Oberlin received a $500,000 endowment gift from Morgan to support the Creativity and Leadership Center as well as $80,000 of program support since the grant's conclusion.

5) COLLEGE OF WOOSTER (WOOSTER)

"Other than a single social entrepreneurship course, there would not be entrepreneurship on campus without the KCI grant. Wooster is still in the infant stages and will be until progress can be made with faculty."
Peter Abramo, Director of Entrepreneurship

Wooster is a private, not-for-profit institution classified by Carnegie as a baccalaureate college—arts and sciences. It enrolls 2,000 students with a 75% graduation rate. Wooster does not have graduate programs. There are 176 full-time faculty members. Tuition is listed at $42,000 (US Department of Education, 2014).

Wooster Inputs

Prior to the grant, Wooster had a single course in entrepreneurship and a new Burton D. Morgan Entrepreneurship Center. This center had been established in 2002 with a gift of $8 million from Morgan. According to past Director of Entrepreneurship and Primary Investigator Reuben Domike, "faculty did not request the grant, even in the Economics Department" (personal communication, September 17, 2014). However, Wooster did prepare a full proposal and accepted a $10,000 planning grant to assemble a plan. Faculty had input into that process, and they initially thought about incorporating entrepreneurship into the Wooster independent study program, which had recently gained traction. Kauffman granted Wooster $781,000 and they matched $1.6 million toward the effort of which $781,000 came from Morgan. The remaining dollars came from the Wooster operating budget and some endowment resources (D. Hoover, personal communication, October 6, 2014).

Wooster Implementation and Operation

Since faculty members were not totally invested in the beginning, KCI struggled to make its way across campus, particularly within Wooster's academic curriculum. Three faculty members were brought in to embed entrepreneurship within academic programming, but very few long-standing faculty members supported the idea. According to Peter Abramo, current Director of Entrepreneurship, "faculty view entrepreneurship as a vocation [rather than an academic pursuit,] and it just was not accepted." In addition, past directors had no academic experience, which made the initiative difficult for faculty members to accept. Aside from a few courses, Wooster did not create a major, minor, or certificate program.

However, faculty members did embrace experiential learning. Internships and career exploration became hallmarks of the program. Support for new student ventures came in the form of a venture fund that provided seed funding. Also, an idea competition and student organization was created with broad student interest (P. Abramo, personal communication, September 16, 2014).

Wooster also created a center with a director who reports to the Vice President of Academic Affairs. The center operates using a magnet approach (Streeter, Jaquette, & Hovis, 2002): students and interested faculty gravitate to programming run by the center but not distributed all over campus.

Wooster Outcomes

Although there were positive increases in curricular indicators as seen in seen in the following table according to Abramo, “Wooster did not achieve a culture of cross-campus entrepreneurship” (personal communication, September 16, 2014).

Wooster Entrepreneurship Curriculum Highlights

	BEFORE	AFTER
Under Grad Enrollments	17	332
Masters Enrollments	-	-
PHD Enrollments	-	-
Total Entrepreneurship Enrollments	*17*	*332*
Campuses Offering Entrepreneurship	-	1
Departments Offering Entrepreneurship	1	4
Campus Wide Entrepreneurship Courses	1	5
Full Time Entrepreneurship Faculty	-	3

Wooster experienced a presidential transition in 2007, the first year of the grant. However, its major struggles appear to stem from lack of faculty engagement. The College employed multiple program directors throughout the grant, but none of them had academic ties: “Past center leaders did not have academic credentials, which lessened their credibility with faculty” according to Peter Abramo, current program director (personal communication, September 16, 2014). Both past and current program directors at Wooster agree that lack of leadership support and continuity hindered their ability to make an impact.

Consequently, senior faculty leaders lacked interest in the entrepreneurship initiatives. This lack of interest made course development difficult. In 2013, Abramo attempted to pass three cross-campus interdisciplinary courses, but the College's Educational Policy Committee only passed one. There are some seeds still blooming, such as internships and other co-curricular programs, but according to Abramo, there was not a significant institutional impact.

Wooster had funding left after the grant expired in 2011, but it has since used all the grant resources. Only four courses were created. In addition, only three faculty members engaged to teach courses. Current leaders are not vocal about entrepreneurship and its future is uncertain. Abramo "wonders if I was not here, would they keep entrepreneurship?" (personal communication, September 16, 2014).

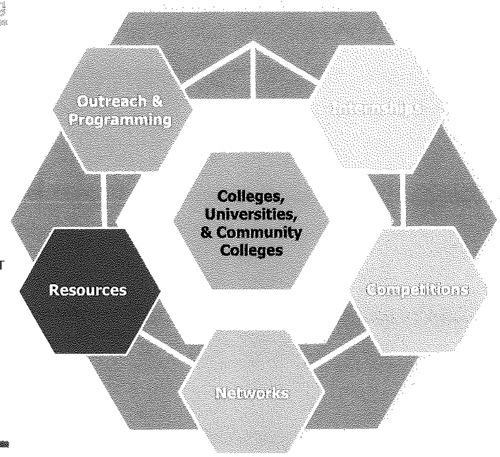
However, the partnership with the Burton D. Morgan Foundation is strong. This partnership provides some added insurance that Wooster will sustain programs, as Morgan recently provided $300,000 to support annual programming. Students continue to be excited and Abramo remains committed engaging the campus (D. Hoover, personal communication, October 6, 2014).

Appendix H
Northeast Ohio's Collegiate Entrepreneurial Ecosystem

Northeast Ohio's Collegiate Entrepreneurial Ecosystem

More than 50% of people 18-34 indicate they are planning to or have started a business. And, even if they don't become entrepreneurs, they may go on to get a job with a young, venture-backed company or work for an established corporation taking cues from startups and acting entrepreneurially. The good news? There is a lot of support and many good reasons for students to start a business or work for an innovative company in Northeast Ohio.

Our ecosystem is always growing, so this list will be updated regularly. If you or your organization would like to be included, please let us know at ask@jumpstartinc.org.



Outreach & Programming

- Akron Global Business Accelerator
- Blackstone LaunchPad
- Entrepreneurship Education Consortium (EEC)
- Great Lakes Innovation and Development Enterprise (GLIDE)
- JumpStart
- Shaker LaunchHouse
- TECHudson
- The Incubator at MAGNET
- Youngstown Business Accelerator (YBI)

Internships

- Austen BioInnovation Institute in Akron
- BioEnterprise
- Entrepreneurs EDGE
- NOCHE/NEOintern
- Purdue University (Northeast Ohio interns)
- The Innovation Fund
- Campus programs

Competitions

- Entrepreneurship Immersion Week (EEC)
- IdeaLabs (EEC)
- LaunchTown
- TiEQuest (TiE Ohio)
- Campus competitions

Resources

- BDMorganFdn.org E-Spirit Newsletter
- JumpStartInc.org
- IdeaCrossing.org
- Kauffman.org

Networks

- Blackstone LaunchPad
- Entrepreneurship Education Consortium (EEC)
- JumpStart Higher Education Collaboration Council
- Northeast Ohio Collegiate Entrepreneurship Program (NEOCEP)

The Members of the JumpStart Higher Education Collaboration Council

Ashland University
Baldwin Wallace University
BGSU – Firelands
The Burton D. Morgan Foundation
Case Western Reserve University
Cleveland State University
College of Wooster
Entrepreneurial Engagement Ohio
Entrepreneurs EDGE
Hiram College
John Carroll University
JumpStart Inc.
Kent State University
Kent State, Stark
Kent State, Tuscarawas
Lake Erie College
Lakeland Community College
Lorain County Community College
Malone University
Northeast Ohio Medical University (NEOMED)
NorTech
Northeast Ohio Council on Higher Education (NOCHE)
Notre Dame College
Oberlin College
Ohio State University - OARDC
Stark State College
Walsh University
University of Akron
University of Mount Union
Youngstown State University

The Burton D. Morgan Foundation
Committed to the Free Enterprise System
www.bdmorganfdn.org

jumpstart
www.jumpstartinc.org

as of May 1, 2012

Appendix I
Howard University ELI Institute Website: “Our Team”

Search...

HOME | STUDENTS | FACULTY | BUSINESS/COMMUNITY

About the ELI Institute | Getting Started | Media & Press | Start a Business | Innovation | Business & Community

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About the ELI Institute
Our Team
Governance

Our Team

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Johnetta Boseman Hardy
Executive Director

Johnetta Boseman Hardy has over 20 years of experience and expertise in business development; marketing/public relations and fundraising. She is currently the Executive Director for Howard University’s Institute for Entrepreneurship, Leadership and Innovation (ELI) which focuses on stimulating entrepreneurial behavior on campus and throughout the extended community. She is also the Founder and President of the Hardy Management Group, a business consulting firm that provides strategic planning, business development, management, coordination and fundraising for special events to corporations, small businesses, organizations, associations, and academic institutions; President of Satin Dreams which produces satin hair products such as satin pillowcases, hair bonnets and more. “Our products make women feel like they are floating on a cloud, and make them look good when they go to bed at night,” stated Ms. Hardy. She is currently writing two books - one that will focus on African American women in entrepreneurship and the other will provide a forum for mothers to learn from other mothers.

Stephanie Nance-Plater
Executive Programs Assistant

Stephanie Nance-Plater is the Executive Program Assistant for the Howard University Institute for Entrepreneurship, Leadership and Innovation (ELI). She received her education in the Washington, DC metropolitan at the University of the District of Columbia. Her professional career includes, Physical Security Specialist/Administrator for FBI in DC, Administrative Assistant, DocVersion in DC, and Advertising Coordinator for Long and Foster Realtors in McLean, Virginia.

Anestine Theophile-Lafond, Ph.D.
Director of Academic Programs

Anestine Theophile-LaFond, Ph.D., is a thinker, a doer who is passionate about being fair, firm and consistent. She is a teacher’s teacher always seeking new ways to add value to a project or to maximize an opportunity. As a part time employee at the Howard University Institute for Entrepreneurship, Leadership and Innovation, Dr. LaFond coordinates faculty entrepreneurship education programs including the Symposium on Entrepreneurship in Health and Wellness, the Annual HBCU Faculty Entrepreneurship Conference and workshops on -infusing entrepreneurship themes into courses regardless of discipline.

Lawrence Elliott Ball
Undergraduate Fellow

Lawrence Elliott Ball, now a senior candidate for a degree in Supply Chain Management at the historic Howard University in May 2010, is one of the best representations of ambitious and talented young adults focused on changing their self and their community for the better. As an entrepreneur and child of business, at 22 he has over of a decade of entrepreneurial training and education under his belt. Ball has achieved national recognition on numerous occasions for his ability to “deliver comprehensive solutions and services more reminiscent of a 40 year old executive,” Kim Wills, Director, Howard University MBA Program. During his time at Howard, he has been dubbed a “business prodigy” and the “personification of entrepreneurship,” states mentor Eldridge Allen, Associate Director, Institute for Entrepreneurship, Leadership and Innovation (ELI) at Howard University.

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Appendix J
Howard University ELI Institute Website: "Black Marketplace"

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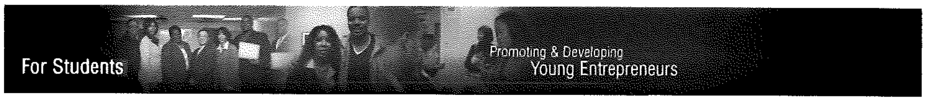

For Students
Entrepreneurship at Howard
Student Business Development
Business Plan Counselling
Entrepreneur Toolbox
Courses in Entrepreneurship
Case Competitions
Outreach & Activites

Black Marketplace

What Is Black Market Place?
Black Market Place was created to showcase businesses owned by Howard students, alumni, faculty, and staff. All members of the Howard University community are encouraged to participate. Black Market Place provides an opportunity for Howard University's entrepreneurs to promote and sell their goods and services. Black Market Place vendors will have the chance to meet potential customers, network with other student business owners, and gain first-hand sales experience. The ELI Institute hosts this event the first Friday of each month. The event will take place in the Blackburn Center on the ground floor plaza level (in front of the Cafe and The Punch Out). The ELI Institute will continue to serve the campus of Howard University with the entrepreneurial resources necessary for success.

- **Download Application**

The Mission of Black Market Place:
"Providing Opportunities through the Power of Entrepreneurship"

The Application Process

1. Fill out an application: this will include an ELI Institute application and a short-term vending license form.
2. Read the ELI Institutes terms and conditions for vending for Black Market Place. Sign that you have received and will read the terms and conditions.
3. Read and agree to the Howard University conditions for vending on this campus. Sign that you have.
4. 10- 15 interview session. You will need to bring the application, student id, and a sample of the product or marketing materials for the service that you want to promote.
5. This 10- 15 minute interview session will be to make sure that you meet all the requirements for vending at Howard University. You will need to bring a sample so that we know what you will be promoting and/or selling at Black Market Place.

Vending Terms and Conditions:

Eligibility: You must be a Howard University student, alumni, faculty, or staff to participate. All vendors are required to attend all mandatory vendor meetings prior to The Black Marketplace to eligible to participate. **Every meeting mayor may not* be *considered mandatory. **

1. *Must submit* a *copy* of your *Howard University Identification.*
2. *Schedule* a 10- 15 *minute interview with staff. At interview*
3. *bring* a *sample* of *product* or *brochure* of service.

Applications: All vendors are required to re-apply each time. Vendors must turn applications in three weeks prior to each Black Market Place. This is to give adequate time to collect all of the necessary information from each vendor.

Unaccepted Applications: All applications must be complete; any incomplete applications will not be accepted! This includes not filing out a particular section or failure to providing requested information.

Vendor Area: Two chairs and a skirted eight-foot table will be split and provided for each vendor. Vendor must arrange any other booth furnishings and equipment. Vendors must fit within the confines of their assigned space so as not to impede traffic flow, infringe on the space of other vendors, or violate the emergency exit routes set forth by the Blackburn facility. Any

Set-Up/Removal: Vendors agree to abide by the installation and dismantling times set and to have at least one person staffing their table from 12 - 5pm. Set up times are from 10:30 to 11 :30. By 11 :45 we have the right to adjust the floor accordingly.

Floor Plan: Vendors will have an opportunity to pick their space, only at the attendance of a vendor meeting. We reserve the right to rearrange the floor plan based on unoccupied vendor space by 11 :45. All vendors will be notified of any changes or this event.

Liability: The vendor shall be held liable for any damage to the building and/or furniture and fixtures contained therein, which shall occur through acts of omission of sponsor. No children under the age of 12 are allowed in the vendor area at any time.

1. NO MUSIC is allowed to be played during The Black Market Place.
2. Insurance Requirements: Any vendor selling and/or distributing food or health care products must obtain the right certifications, licenses, and insurance to participate.
3. Revenue Reporting: Vendors are requested to report revenue earned at the end of their respective Black Market Place session.
4. Complete the required application paperwork and attend scheduled meetings as necessary.
5. Read, sign and agree to the Howard University Vending Terms and Conditions.
6. Sign in and out upon arrival and departure. Greet staff to let them know you have arrived and before you leave. Also a survey is to be completed.
7. Be prompt and dependable. If possible, please call at least one day in advance to let staff know you will not be there at your scheduled time and what time you will arrive for Black Market Place.
8. Cancellations. If you have signed up for Black Market Place and know that you will not participate you need to let the coordinator know at least a week in advance. No-show vendors will not be eligible to participate for the next two Black Market Places.
9. Communicate. Ask questions, share ideas, get to know the staff and other vendors. Don't hesitate to call, leave a note, or ask for a meeting with the management staff or the Black Market Place Coordinator to discuss any problems or concerns that may arise. Every problem

Market Place Coordinator to discuss any problems or concerns that may arise. Every problem can be solved with respect and honest open communication.
10. Clean up your work area. Please make sure that the vending area is free of trash and leftover items from the day.
11. Uphold Expectations. Please uphold to the following expectations, but also the terms and conditions.

Location
The location for each of these Black Market Place dates will be the Blackburn Center in the ground floor plaza level. The ground floor plaza level is the area in front The Cafe and The Punch Out

Note: *ELI Institute is mandated* to report to *their funding organization the impact* of its *programs, services.* or *activities* as *it relates* to *Its target audiences. Information provided is kept private and solely* used *for statistical analysis and reporting. Revenue* earned *Information shared with ELI Institute through Black* Market *Place is not* a *criterion for determining* an *applicant's'* status *(I.e. approval* or *decline)* as it pertains to *vending.*
Vendor Expectations

Black Market Place Dates
The application due date is non-negotiable; these are the final dates for submission of applications.
Late applications are subject to fees.

Date	Application Due
1/29/2010	**Rolling**
2/12/2010	**2/1/2010**
2/26/2010	**2/12/2010**
3/19/2010	**2/26/2010**
4/9/2010	**3/23/2010**
4/23/2010	**4/9/2010**

Late Fee: $15.00
There will be a late fee of $15.00 charged to anyone turning in applications during the Late Application Grace Period.

Space Reservation - $10.00
There will be a $10.00 deposit fee for anyone to reserve space for vending. The deposit will be returned upon timely arrival to Black Market Place. Late arrival or non-attendance will result in remission of this $10.00 deposit. If you do not reserve your space, you will not be eligible to participate. This must be done at least three business days before Black Market Place. Late arrival is vendor arriving after 11 :45.

No Sub-vending
It is UNACCEPTABLE to change your vending status the week of Black Market Place, without prior approval. You are not permitted to give your space to another vendor that hasn't signed up or reserved space for Black Market Place. This action will result in immediate dismissal of all vending privileges for this day and two consecutive Black Market Place dates.

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Appendix K
Florida International Pino Entrepreneurship Center Website: "Our Staff"

Business
Florida International University

Our Staff

Who We Are

Contact Us

May 10

STAFF

Lauren Suarez-Diaz, MIB, Assistant Director

Karyne Bury, MBA, Marketing & Events Manager

Megan Lunsford, CAPM

Appendix L
KCI Curricular Outcomes
Pre-Grant (2003 Round 1 and 2006 Round 2) to Post-Grant (2012)

	Round 1 (2003)								Round 2 Universities (2006)					Round 2 NEOCEP (2006)					
BEFORE GRANT	**FIU**	**Howard**	**UTEP**	**Illinois**	**UNC**	**Rochester**	**Wake**	**Wash U**	**ASU**	**Purdue**	**Syracuse**	**UMBC**	**Wisconsin**	**BW**	**Hiram**	**Lake Erie**	**Oberlin**	**Wooster**	**TOTALS**
Under Grad Enrollments	440	-	347	4,429	430	102	28	135	955	100	1,767	109	221	116	-	-	11	17	9,207
Masters Enrollments	195	-	3	1,399	196	224	224	128	298	16	59	-	249	16	-	-	-	-	3,007
PHD Enrollments	-	-	-	-	52	3	-	1	10	-	-	-	-	-	-	-	-	-	66
Total Entrepreneurship Enrollments	*635*	-	*350*	*5,828*	*678*	*329*	*252*	*264*	*1,263*	*116*	*1,826*	*109*	*470*	*132*	-	-	*11*	*17*	12,280
Campuses Offering Entrepreneurship	1	-	-	1	1	3	1	1	3	1	1	1	1	1	-	-	-	-	16
Departments Offering Entrepreneurship	1	4	1	19	2	4	2	1	19	4	1	3	6	1	-	-	-	1	69
Campus Wide Entrepreneurship Courses	-	-	-	69	28	21	11	3	30	2	27	3	18	9	-	-	2	1	224
Full Time Entrepreneurship Faculty	1	3	1	38	20	10	7	7	29	5	18	-	12	3	-	-	-	-	154
AFTER GRANT																			
Under Grad Enrollments	5,372	1,567	1,070	6,730	1,241	450	597	709	33,168	900	6,628	3,285	947	234	303	93	222	332	63,848
Masters Enrollments	209	60	227	1,551	594	296	203	217	1,122	50	1,105	138	259	38	38	7	-	-	6,114
PHD Enrollments	10	-	13	122	47	163	-	176	66	10	10	10	-	-	-	-	-	-	627
Total Entrepreneurship Enrollments	*5,591*	*1,627*	*1,310*	*8,403*	*1,882*	*909*	*800*	*1,102*	*34,356*	*960*	*7,743*	*3,433*	*1,206*	*272*	*341*	*100*	*222*	*332*	70,589
TOTAL ENROLLMENT INCREASE/DECREASE	***4,956***	***1,627***	***960***	***2,575***	***1,204***	***580***	***548***	***838***	***33,093***	***844***	***5,917***	***3,324***	***736***	***140***	***341***	***100***	***211***	***315***	**58,309**
																			-
Campuses Offering Entrepreneurship	3	1	1	1	1	3	2	2	4	1	6	1	2	-	1	1	1	1	32
Departments Offering Entrepreneurship	12	16	32	44	10	16	23	26	39	32	21	22	9	2	11	6	6	4	331
Campus Wide Entrepreneurship Courses	12	5	129	186	89	63	68	53	85	8	164	74	50	14	38	11	51	5	1,105
TOTAL COURSES INCREASE/DECREASE	**12**	**5**	**129**	**117**	**61**	**42**	**57**	**50**	**55**	**6**	**137**	**71**	**32**	**5**	**38**	**11**	**49**	**4**	**881**
Full Time Entrepreneurship Faculty	7	22	9	78	33	24	52	36	324	9	89	60	15	5	32	-	4	3	802
TOTAL FACULTY INCREASE/DECREASE	**6**	**19**	**8**	**40**	**13**	**14**	**45**	**29**	**295**	**4**	**71**	**60**	**3**	**2**	**32**	**-**	**4**	**3**	**648**

Appendix M
KCI Master Data Outcomes

	Round 1 (2003)								Round 2 Universities (2006)					Round 2 NEOCEP (2006)				
	FIU	Howard	UTEP	Illinois	UNC	Rochester	Wake	Wash U	ASU	Purdue	Syracuse	UMBC	Wisconsin	BW	Hiram	Lake Erie	Oberlin	Wooster
Inputs																		
Financial																		
Pre-Grant Investment	Low	Low	Low	High	Modest	Modest	Low	Low	High	High	Modest	Low	Low	Modest	None	None	Low	Low
$ Granted	$3,000,000	$3,100,000	$2,000,000	$4,500,000	$3,500,000	$3,600,000	$2,200,000	$3,000,000	$5,000,000	$1,500,000	$3,000,000	$2,000,000	$3,400,000	$825,000	$500,000	$650,000	$563,000	$781,000
$ Matched	$6,000,000	$6,200,000	$4,000,000	$10,400,000	$7,200,000	$7,200,000	$5,600,000	$5,800,000	$25,000,000	$7,500,000	$15,200,000	$10,000,000	$17,100,000	$1,700,000	$1,000,000	$1,300,000	$1,700,000	$1,600,000
$ Endowment	$4,000,000	$500,000	$1,300,000	$10,200,000	$0	$0	$1,600,000		$0	$4,500,000	$5,000,000	$6,700,000	$0	$1,200,000	$0	$0	$1,220,000	$0
$ Invested Over Grant Match	$125,000	$0	$0	$17,000,000	$340,000	$0	$0	$8,500,000	$0	$0	$15,000,000	$0	$0	$0	$0	$0	$0	$0
Cultural																		
E Mindset Pre-Grant	Low	Low	Low	High	Modest	Modest	Low	Low	High	Modest	Low	Low	Low	Low	Low	Low	Modest	Low
Scale-Big vs. Small	Big	Mid	Big	Big	Big	Big	Mid	Big	Big	Big	Big	Big	Big	Small	Small	Small	Small	Small
Faculty Involvement in E Pre-Grant	Low	Low	Low	Modest	Modest	Modest	Low	Low	Modest	Modest	Modest	Low	Low	Low	Low	Low	Low	Low
Top Leadership Support	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	Modest
Institutional Characteristics																		
Total Enrollment	41,000	9,300	18,000	49,000	29,000	11,000	6,400	14,000	47,000	39,800	21,400	11,200	27,700	3,700	1,300	1,100	3,000	2,000
Undergraduate Graduation Rates	43%	63%	37%	82%	89%	83%	88%	93%	58%	68%	80%	57%	82%	70%	66%	53%	88%	75%
Published (In State) Tuition and Fees	$6,500	$23,000	$7,300	$14,750	$8,300	$45,000	$45,000	$45,000	$10,000	$10,000	$40,500	$10,000	$10,400	$28,000	$30,000	$27,400	$47,000	$42,000
FTE Faculty	1,200	931	685	2200	2,000	2,000	1,600	1,500	1,900	1,800	1,500	505	3,300	177	80	41	340	176
Implementation and Operation (Measured from the time of proposal)																		
Curriculum																		
Minor	Yes	Yes	No	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No
Major	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Yes	No	No	Yes	No	No
Certification	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	No	No	No	No	No
Masters	Yes	No	No	No	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	No	No	No
Ph.D.	No	No	No	No	No	No	No	No	No	No	Yes	No	Yes	No	No	No	NO	No
Focus--Where was $ Invested																		
Students	High	High	High	High	High	Modest	High	Modest	High	Modest	High	High	High	High	High	High	High	High
Faculty	High	Modest	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	Modest
Experiential Learning	Hight	Modest	Modest	High	Modest	High	High	Modest	High	Low	High	Modest	High	High	High	High	High	High
Pedagogy	Modest	Modest	High	High	High	High	High	High	Modest	Modest	Modest	High	Modest	High	Modest	Modest	Low	Low
Research	High	Low	Low	High	High	High	Low	Modest	Modest	High	High	Low	High	Low	Low	Low	Low	Low
Community/Economic Development	Modest	Modest	High	High	Modest	Modest	Low	High	High	High	High	High	High	Low	Low	Low	Low	Low
Under Graduate	High	High	High	High	High	Modest	High	High	High	High	High	High	High	High	High	High	High	High
Graduate	Low	Low	Low	Low	Low	High	Low	Modest	Modest	Low	Modest	Low	Modest	Modest	None	Low	None	Low
Program Leadership																		
Reporting structure	Provost	B School	Provost	Provost	B School	Research	Provost	President	President	Research	Provost	Provost	Corp. Relations	President	Provost	Mgmt. Dept.	Career Svs.	Provost
Faculty vs. Staff	Tenured	Staff	N Tenured	N Tenured	Tenured	N Tenured	N Tenured	Staff	Staff	Staff	Tenured	Staff	Staff	Faculty	Staff	Staff	Staff	Staff
Presidential Leadership Continuity	No	No	No	No	No	No	No	Yes	Yes	No	No	Yes	No	Yes	Yes	yes	No	No
Program Director Continuity	No	No	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	No	Yes	NO
Broadness of Definition	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Broadness of Participation	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Communications/Marketing Campaign	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No
Champions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Organizational Structure	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Radiant	Magnetic
Outcomes																		
Success +/-	High	Low	Modest	High	High	High	High	High	High	High	High	High	Modest	High	High	Modest	High	Low
Sustained +/-	Modest	Low	Modest	High	High	High	Modest	High	High	High	High	High	High	High	High	Modest	High	Low
Curricular Indicator Increases																		
Enrollments	4,956	1,627	960	2,575	1,204	580	548	838	33,093	844	5,917	3,324	736	140	341	100	222	332
Departments	11	12	31	25	8	12	21	25	20	28	20	19	3	1	11	6	6	4
Course Offerings	12	5	129	117	61	42	57	50	55	6	137	71	32	5	38	11	49	14
Full Time E Faculty	6	19	8	40	13	14	45	29	295	4	71	60	3	2	32	0	4	3
Still Planting Cross Campus Seeds	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes	No
Entrepreneurial Mindset Change	Modest	Low	Modest	High	High	High	High	High	High	Modest	High	High	Modest	High	High	Low	High	Low

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