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NOTE FROM THE EDITOR

Welcome to the National Association of Branch Campus Administrators (NABCA) *Access Journal.* We are pleased to be able to provide a place for higher education administrators in a branch campus setting to share their research, experiences, and thoughts. During the past year the world has experienced unprecedented challenges and our higher education institutions were not exempt from those challenges. Our students, faculty, and staff members have all been impacted by the events of the last year and this issue is evidence that we have faced those challenges and have not let them keep us from our missions. We are very excited to share these articles as our first issue under the new normal that we find ourselves facing in higher education.

Even as we were putting this issue to bed, we are thinking ahead to the next issues. We will be issuing a call for submissions in the near future and encourage you to submit your research, book reviews, case studies, and/or editorial musings as they relate to our mission.

On behalf of the Research Committee, we hope you enjoy this issue and look forward to hearing your feedback and receiving your submissions.

Sincerely,

J. Gary Adcox, Ed.D., DM
University of North Georgia – Oconee
Editor

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Factors that Influence the Financing for Multi-Campus and Branch Campus Postsecondary Institutions: An International Perspective Study

Faimous Harrison, PhD
California State University, Stanislaus
fharrison@csustan.edu

Factors that Influence the Financing for Multi-Campus and Branch Campus Postsecondary Institutions: An International Perspective Study

By Faimous Harrison, PhD

ABSTRACT

There is minimal research and literature associated with funding multi-campus and branch campus institutions, regionally, nationally, or internationally. One of the purposes for multi-campuses and branch campuses is expanding access to education to other locations within the state, different states, and other countries than where the parent campus, main campus, or system is located. The National Association of Branch Campus Administrators (NABCA) research committee administered a financing survey at the 2019 annual conference. The participants included 42 faculty, staff, administrators, and campus executives representing universities, community, and technical colleges within the United States, Canada, and Australia. The survey included typology, organizational structure models, funding sources, resource allocation, and executive oversight questions. The intent was to understand better the resource allocation and decision-making processes at multi-campuses and branch campus locations and determine if additional research is warranted.

Keywords: systems, multi-campus, branch campus, regional campus, center, funding, budgets, organizational structures, purpose, mission

Factors that Influence the Financing for Multi-Campus and Branch Campus Postsecondary Institutions: An International Perspective Study

By Faimous Harrison, PhD

A multi-campus system is two or more postsecondary education campus locations under the umbrella of one name, organization, and system. In many cases, the campuses are named and identified by geographic locations, often cities, counties, regions, or as a reference that pertains to a specific area. For example, the Seattle Colleges has a South, Central, and North campus that are all part of this umbrella family considered a multi-campus system. Additionally, the Seattle Colleges also supports several branch campuses or centers within the system named by their location, i.e., the Georgetown campus, previously known as Duwamish center. The campus is located in the Georgetown area of Seattle.

For the purpose of this study, centers, sites, satellite campuses, regional campuses, extensions, twigs, and leaves are all part of the branch campus family. The term "branch campus" represents a site that offers complete programs, has its own faculty, administrative, and budgetary structure. Whereas the term "Additional Location" defines locations that provide at least 50% of the courses in a program, and "other instructional site" represents locations were less than 50% of a complete program for any program offered. Students can take classes to earn a certificate, associate, bachelor, post-baccalaureate credential, graduate, or terminal degree at the locations.

SIGNIFICANCE

Globally there are thousands of postsecondary multi-campuses and branch campuses. Collectively, these campuses serve hundreds of thousands, if not millions of students each year (Al-Sindi, et al., 2016; Burke, 2017; Hoyt & Howell, 2012; Mindrup, 2012). However, minimal research and literature associated with decisions that influence the funding models, portfolio makeup, or budgeting structures are available. There is minimal information available related to campuses associated with a parent campus or a state system (Christensen & Eyring, 2011; Fraser & Scott, 2007). The available data does not provide meaningful insights, recommendations, lessons learned, or are transferrable as guiding principles and best practices to help fund and advance these 21st-century global learning educational facilities (Schuman, 2009; Stanfield, 2014; Whalen, 1991).

The Integrated Postsecondary Education Data System (IPEDS), National Center for Education Statistics (NCES), defines a branch campus as "a campus or site of an educational institution that is not temporary, is located in a community beyond a reasonable commuting distance from its parent institution, and offers full programs of study, not just courses." The geographic locations can be down the street, in the next city, town, state, country, or on different continents. In alignment with the parent campus mission or the system, each campus serves specific functions for the institution. Multi-campuses and branch campuses are attractive to students, industries, and an array of audiences across rural, urban, and metropolitan communities (McGrath, 2009; Roberts, 2011; Wilkins, 2015). The quality of the programs, academic rigors, credential relevancy, and how they are marketed can directly impact if the location grows exponentially, become stagnant over time, or experiences a decline in enrollment and profitability (Al-Sindi et al., 2016; Altbach, 2011; Clifford, 2015; Shams, 2013). Historically, some campuses are forced to close their doors and operations due to lack of demand, budget reductions, the economy, reorganizational structures, to comply with accreditation or governance standards, or due to shifting priorities as a necessity (Lee & Bowen, 1975; Perry, 2011; Schuman, 2009; Shaw & Bornhoft, 2011). For example, Johnson & Wales reports (2020), "the North Miami and Denver campuses' operations will officially end in summer of 2021".

Some academic purists argue that scholarship, pedagogical sciences, research, and teaching and learning are the essence and purpose of higher education facilities (Adler et al., 2004; Bok, 2013; Brubacher & Rudy, 1997; List, 2015; Tomei et al., 2016; Thelin, 2004; Willis et al., 1994). However, the University of South Florida (USF) reported (2020), there are differences between the main and satellite campus. Several factors USF recommends each student to consider on their admissions page includes the convenience, costs, course offerings, campus life, quality of instruction, personalized attention, prestige, and the campus vibe (Seyboldt, 2012).

Liberal arts education infuses the search for truth, personal discovery, rhetoric, philosophy, and transforming self through practical knowledge as part of the students' educational development and growth. These processes are sometimes self-directed, and other times, guided and interwoven in the curriculum and co-curricular environment (Moner et al., 2020). Roth (2014), contextualizes liberal education in the context of evolving, growing, and the process of seeking the truth. "The inclination to learn from life itself and to make the conditions of life such that all will learn in the process of living is the finest product of schooling" (pp. 168). This conceptual framework builds upon John Dewey's principle of community-based learning, one of the cornerstone strengths of more intimate and engaged campuses. Multi-campuses and branch campuses provide residents the opportunity to grow and learn in an environment that integrates their personal life experiences while providing a natural and familiar development platform for continued growth. If funded appropriately, liberal education offers students the opportunities to magnify their individual and collective voices and prepares them to be future leaders in their communities and society (Stross, 2017; Zakaria, 2016).

Community, junior, and technical colleges open-access mission prepare place-bound students for all of the above while supporting and advancing workforce development and career readiness opportunities (AACC, 2014; Bailey et al., 2015; Cohen et al., 2013; Roksa & Calcagno, 2010). Wyner (2014), emphasizes the value of equity and developmental education, completion and transfer initiatives, and their roles in the community. In the American Association of Community Colleges, "When Less is More: Prioritizing Open Access," Mullin (2017) acknowledges the crossroads associated with ensuring the availability for residents and the appropriate costs for doing so. The report discusses the funding challenges based on FTE that need to be examined. More specifically, the report argues that a more robust conversation that values a college's decision to serve all students needs to occur. The reality that funding models, by and large, do not fund on an FTE basis is further evidence—along with the shift to funding based upon outcomes—that a "funding per FTE" frame to how colleges are funded is problematic. (pp. 8)

Regardless if a campus has a Research 1 Carnegie classification, comprehensive or specialized regional university or college, or a community, junior, or technical college in the same city or halfway around the world from the other campuses that are part of the same system, their success is contingent on a variety of factors, including being properly financed (Atlbach, 2011; Barr, 2011; Dengerink, 2009; Mindrup, 2012). While upholding the strictest quality standards, the resources needed to administer these offsite learning facilities should be prioritized. The quality, longevity, scalability, productivity, sustainability, and continuity between the different campus locations are contingent on this expectation (Altbach & Salmi, 2011; Johnstone, 2006; McPhereson et al., 1993; Paulsen & Smart, 2001; Zumeta et al., 2012). An appropriate budget is essential for multi-campuses and branch campuses, even if they are located in different countries, domiciled in the same country, or operate in the same city or town of another campus that is part of the organization (Smith, 2009; Study International, 2019; Tomei et al., 2016).

RELEVANCE

In 2018, Forbes magazine published an article titled "Top U.S. Colleges with Branches

Overseas." Several examples listed were Texas A&M, Georgetown, Northwestern, and Temple University. Through further investigation, it was revealed that these public and private institutions were funded differently, and most often, not only through tuition dollars. In some situations, the host country subsidized some, if not all, of the costs for the overseas operations. Whereas, in other scenarios, the campuses were partially supported financially by the parent campus or the postsecondary institution system. In other situations, the operational costs were covered by other stakeholders and sponsors. The report notes that "with globalization and the growing importance of international experience, U.S. colleges and universities have been expanding their global networks by setting up branch campuses overseas" (p.1).

The expansion and offerings of postsecondary education in different geographic regions, countries, and continents are not limited to the United States. The Cross-Border Education Research Team (C-BERT) lists more than eighty different countries other than the United States, with multi-campuses and branch campuses geographically located in other territories. The multi-campuses and branch campuses' parent campus or system was in Europe, Asia, Middle East, North America, South America, Africa, and Australia's Oceania region. Furthermore, other countries' educational governing bodies will agree that a branch campus is an offsite or remote location, separated physically and usually sponsored by another campus (Fraser & Scott, 2015; Hoyt & Howell, 2012; Lane & Kinser, 2008). The locations offer degrees and programs at different sites, and many stakeholders benefit from these relationships. The family of multi-campus and branch campuses expands globally and has no borders (Altbach & Salmi, 2011; Clifford, 2015; Dengerink, 2009; Green et al., 2007).

As it pertains to overseas branch campuses, the Canadian Bureau for International Education (2020), Overseas Branch Campus documents that "a campus of an educational institution established in a country outside of the institution's main location. Educational offerings at the branch campus are usually targeted at local students in that location". According to an Australian Government website (2020), "most universities have more than one campus and are located across multiple states and territories, providing you with a choice of where in Australia you would like to study." Within the United States, universities, community, junior, and technical colleges support or sponsor remote locations and campuses within the state where the parent campus is domiciled, and less frequently, in other states. This may not be true for some of the most prestigious and ivy league schools, which may have multi-campus and branch campuses in different locations.

The University of Pennsylvania, Wharton Business School, has a branch campus in San Francisco, and Carnegie Mellon, which is also located in Pennsylvania, has a branch in Silicon Valley. Whereas, Northeastern University's home campus is in Boston, and they have branch campuses in other states and countries, including Burlington, Charlotte, Portland, San Francisco, Seattle, Silicon Valley, Vancouver, Toronto, London, and Burlington. Webster University, has offsite campuses and branch campuses strategically located in different states and countries. These are several of thousands, if not tens of thousands of cases where multi-campuses and branch campuses are operational in other locations. In most cases, the budget mechanisms and structures for funding these campuses are not always clearly understood, even within the institution. Thus, this is the first international study that tries to better understand the mechanisms and factors that influence the financing for multi-campus and branch campus postsecondary institutions (Study International, 2019).

As stated, the most common arrangement for multi-campus and branch campus arrangements are located within the same state (Olswang & DeGive, 1999; USF, 2020; Wilkins, 2015; WSU-Vancouver, 2020). This is true for research and regional universities, and community and technical colleges. The locations can be independent, interdependent, and usually materialize from mutually beneficial collaborative efforts and partnerships among the institution and community-centered stakeholders

(Fraser & Scott, 2015). Others are developed more organically and catalyzed by local demand. The cost for some is minimal. Whereas, other offsite locations operational budgets can be several hundred million dollars or more each year. This is more likely to be the case if it is a comprehensive research campus, center, or a location that provides the complete spectrum of student engagement opportunities, including housing and athletics (Bridgestock, 2012; UWM, 2020; Reeden, 2013; Wilkins, 2015).

The NABCA maintains a list of multi-campuses and branch campuses within the United States and abroad. The postsecondary institutions on this list include representation from all of the above. A common dominator for most campuses' success is having an appropriate and often diverse budget portfolio that includes internal and external funding resources. State allocations, financial aid, and student tuition fees are not always enough for progressive 21st Century postsecondary learning campuses to thrive and reach their full potential (Altbach, 2013; Brown, 2009; O'Banion, 1997; Plastrik et al., 2014). Regardless of whether a college or university is state-funded, self-support, or private, it is instrumental for them to secure external resources to diversify the budget portfolio and advance financial solvency. Several examples include grants, philanthropic opportunities, public-public (P2P's), public-private (3's), or private-private partnerships.

REVIEW OF THE LITERATURE

With presumably more than 10,000 multi-campuses and branch campuses globally, there was an abundant amount of research found associated with postsecondary learning institutions. The literature centered around typology, leadership, engagement, support, or lack of support for students and faculty, oversees operations, and barriers that impedes or enhances student success (Burke, 2017; Hoyt & Howell, 2012). Organizational structures and social construct theories and perceptions associated with being from the parent or main campus, multi-campus system, or a branch campus was also readily available within the literature (Altbach & Salmi, 2011; Bebko & Huffman, 2012; Bridgen, 2017; European Parliament, 2015; Johnstone, 2006; McGrath, 2009). However, there was minimal literature associated with the budget and funding models, including profit sharing, and performance-based funding for multi-campuses, branch campuses, and offsite postsecondary learning institutions (Barr, 2011; Clark, 1979; Johnstone, 2008; Varlotta, 2010). There was less literature that examined funding models and structures across different states and countries. In the book "*Out on a Limb: A Branch Campus Life*" by Dr. Charlie Bird (2014), who previously served as a faculty member, dean, and then as the Vice President for regional campuses and centers at Ohio University, documented his experiences and gave some thoughtful recommendations regarding financing campuses.

Even though there were minimal multi-campus and branch campuses financing literature, more generalizable literature funding and financial management for postsecondary institutions existed (Barr, 2011; Danns, 2015; Pinheiro et al., 2017). The historical advancements, policies, economic theories, revenue models, and practices related to funding higher education on an international level and within the United States were also available (Clark et al., 1979; Dietrich, 1996; Lane, 2011; Paulsen & Smart, 2006). (2006), *Financing Higher Education: Cost-Sharing in International Perceptive*, gave a general overview of loans, tuition fees, grants, and studies conducted in different countries. It also included several perspectives, scenarios, and reoccurring operational budget expenses.

As many branch campus faculty, administrators, staff, and sometimes students can relate, a reoccurring theme that was documented in the literature were the perceived lack of resources and services available at many offsite multi-campus and branch campus institutions (Bebko & Huffman, 2011; Johnston, 2008; Lambert & Callan, 2014; Lane & Kinser, 2008; Tomei et al., 2016). There were examples of campuses that did seem to be adequately funded, while the resources allocated for them to advance their mission were not readily available. The Monterrey Institute of Technology and Higher Education is one of the largest multi-campus

postsecondary institutions in Mexico and Latin America (n.d.). With more than thirty campus locations, and almost 100,000 students enrolled each year, the institution is known for its contributions to technology and innovations, including bridging and advancing learning by integrating a variety of learning modalities in the curriculum and research (Bowen, 2012; Bruner, 1996; Eyring, 2011; Griffith, 2012; Ko & Rossen, 2008; Newman et al., 2004; Palloff & Pratt, 2003; Stavredes, 2011). Times Higher Education World Rankings reports, "is a comprehensive university offering PhD, master, undergraduate, and high-school programs in Engineering, Management, Social, Arts and Human Sciences, and Medicine. It holds 31 campuses located across 25 cities in the country, and 22 liaison offices in 15 countries".

Salmi & Altbach (2011) acknowledges and addresses some of the differences between the flagship campus and the system. In general, flagship campuses usually receive the lion share of resources in most postsecondary hierarchy organizational structures. However, other campuses also benefit from their reputation, research, scholarship, and contributions to the academy and society due to their affiliation with the flagship, which is most often the parent campus. In a more general context, Bridgestock reports (2012), "Branch university campuses are in many ways a win-win-win phenomenon. For the university, they mean more students and stronger ties with other countries. For the host nation, they're a quick way of boosting higher education standards and attracting more students, both local and international".

The University of Wisconsin-Milwaukee campus is another high performing public-impact research branch university. In 2020, the University of Wisconsin-Milwaukee reported that in 2018, "UWM was one of only two universities to receive the national Campus-Wide Award for Undergraduate Research Accomplishments from the Council of Undergraduate Research. It recognized the depth and breadth of UWM's undergraduate research opportunities. Taken together, these honors are reminders of the far-reaching positive impact of UWM's people and their research" (pp. 3). Moreover, in 2018, UWM secured more than $77,000,000 in external funding awards from nonprofits, the business sector, foundations, federal and education grants, and industry-specific organizations. Washington State University (WSU), Vancouver campus, is another example of a thriving multi-campus and branch campus system. The branch campus started an undergraduate transfer two-year college, similar to other branch campuses such as the University of North Georgia Blue Ridge Campus, but on a larger scale. In 2006, WSU expanded its offering to include four-year degrees for south Washington and north Oregon communities. The campus sits on several hundred acres of land (approximately 350) and enrolls about 4,000 students a year. Today, WSU Vancouver offers a spectrum of undergraduate, graduate, and terminal degrees, certificates, and a vibrant research-intensive environment.

Other examples that warrants noting come from the Best Colleges report titled "10 Satellite College Campuses with Impressive Reputations All Their Own" are Penn State Erie, The Behrend College campus. This 725-acre campus includes world-class research labs, housing, clubs, intercollegiate athletics, and other amenities and facilities that suggest the campus may be funded appropriately to ensure advancing Penn State mission comes to fruition. Texas A&M University at Galveston was another location on the top ten list. The campus is known for having one of the top marine biology programs in the United States, including more than 20 specialized research programs. Indiana University-Purdue University offers more than 300 undergraduate, graduate, and certificate programs at the campus.

The postsecondary institutions listed on the report were the exception and not the norm. Smaller branch campuses, including regional universities, colleges, and most community, junior and technical colleges usually did not have the budget to offer similar programs or had the resources to prepare for long-range planning. As Pierce explains (2012) for a long-range financial plan to be useful, it—like the annual operating budget—needs to be based on realistic and conservative assumptions rather than, as

happens at some institutions, hopes and dreams. Financial plans should also provide for significant contingencies. (pp.87).

A common stressor associated with lack of resources for some campuses were magnified when budget reductions occurred (Acker, 2006; Aprea, et al., 2018; Dietrich, 1996; Fraser & Orminstron, 2007; McPhereson et al.,1993; Ryan, J. & Ryan, C., 2016; Syboldt, 2012; Wilkins, 2015). Acker (2006) acknowledges there is an "intense competition for state funds," and there is greater "dependence upon student fees, donations, and grants and contracts" (pp. 3). Moreover, the literature suggests that having an appropriate, scalable, sustainable, and transparent budget may help address some of the financial anxieties associated with funding offsite locations. The concerns intensified when there was a reduction in resources and competing financial priorities within the institution (Balzer, 2010; Clifford, 2015; Hall, 2010; Johnstone, 2008; Lambert & Callan, 2014; Zumeta et al., 2012).

Other themes that emerged from the literature were the costs associated with onboarding programs, communication, and internal challenges associated with priorities and limited resources (Balzer, 2010; Barr & McClellan, 2011; Dengerink, 2009; Hall, 2010; McGrath, 2009; Schuman, 2009; Whalen, 1991). Leadership, budgeting, financial management in higher education, and providing assistance and support for students were also consistent themes that were uncovered in the literature (Aprea, et al., 2018; Bebko & Huffman, 2012; Danns, 2015; Lambert & Callan, 2014; Schuman & Ryan, 2016; Varlotta, 2010). There was literature associated with the need for funding branch campuses, but the specific funding formula mechanisms, percentages, and clearly defined rationale were not available. For example, some postsecondary education institutions have a funding model and ratio allocated by the number of full-time students, types of programs offered, funding sources, and headcount. This was less often the case for multi-campuses, with branch campuses having less continuity as a subset of the system. Moreover, when it came to branch campuses, the information was not readily available among the different states, regions, and countries. The awareness and absence of empirical literature and research for a sector of the academy that serves millions of students every year validated the need for this study.

The lack of research associated with funding multi-campuses and branch campuses is one reason why NABCA approved several presentations at the 2019 annual conference held in Spokane, Washington. Ms. Lynn Valenter, Vice-Chancellor, Finance, and Operations at Washington State University (WSU), Vancouver, and the 2019-2020 Chair of the National Association of College and University Business Officers (NACUBO), led a session titled, "Show me the Money – Financial Planning and Resources." During the presentation, Ms. Valenter discussed the correlation of financial resources needed to advance an institution's mission while maintaining its high standards. Furthermore, WSU Vancouver enrollment expanded from 1,300 to more than 4,000 students during her tenure. Ms. Valenter outlined and discussed five clearly defined objectives in her presentation, which were:

1. Identify methods to remain aware of economic development needs in your location
2. Increase or establish knowledge regarding your departmental/unit budget
3. Plan for long-term financial growth and stability
4. Identify methods for strategic-based budgeting
5. What role can (and can't) development and fund-raising play in achieving plans

During the same conference, Dr. Harrison led a concurrent session titled "Advancing the Mission of Your Campus with Community Support." The session discussed the value and importance of the collective ownership and impact approach of rebuilding and strengthening community-centered relationships, identifying new partnerships, and prioritizing action items that encourage stakeholders to leverage resources to support and expand access to higher

education. The emphasis and role of external relationships can help fund and support postsecondary education institutions, provide faculty additional opportunities for community-based participatory action research (CBPAR), and uncovers new opportunities where students can participate in internships, service-learning, and support faculty in scholarly activities. Other potential benefits include public-public and public-private partnerships, philanthropy driven initiatives, research development, in-kind contributions, and community matched sponsorships for student scholarships and faculty research (Lane, 2011; Schuman, 2009; Whalen, 1991; Zumeta et al., 2012).

Other fundraising initiatives could support study abroad programs, innovation, startup labs and centers, interactive multimodal learning environments, or the expansion of existing or new facilities (Palloff & Pratt, 2007; Plastrik, et. al., 2013; Stavredes, 2011; Zumeta, et. al., 2012). Economic and workforce development opportunities and career preparedness opportunities for students and graduates can be funded through various grants, and program-specific contracts were also recommendations. Hedrick (2008) adds, "philanthropic support to fill the gap as other sources of revenue were shrinking the needs for capital, and endowment dollars were rising." Donor relations, philanthropy initiatives, and other external resource procurement are instrumental for a financially sound campus budget portfolio. For most postsecondary institutions, it is unlikely that multi-campuses and branch campuses can be funded long-term without other financial sources and strategic long-range planning (Barr & McClellan, 2011; Clark et al., 1979; Danns, 2015; Roberts, 2011).

METHODOLOGY

Background

Members of NABCA research committee were the facilitators of the study. For this survey, a multi-campus or branch campus is considered an additional location, not the parent campus, main campus, or the institution's system. The objective was to capture the perspectives from representatives that were associated with and have an intimate understanding of multi-campuses and additional offsite locations. Furthermore, a "Branch Campus" is an umbrella term, and includes any branch, center, satellite, extension, regional, twig, or other terminology used to describe a physical higher education location away from the parent, sponsoring, or main campus. At these locations, students are provided an opportunity to take classes to earn a certificate, associate, bachelor, post-baccalaureate credential, graduate, or terminal degree.

The parent campus, main campus, or system is the originating or sponsoring organization for the branch campus. The survey intends to understand better how multi-campus higher education organizations finance and make budgetary decisions for offsite multi-campus and branch campus locations. The survey results will provide insights into the funding models, budget practices, and institutions' strategic priorities as they pertain to the additional locations. The study supports NABCA's commitment to adding to the body of knowledge, research, influencing policy, and promoting best practices for multi-campuses and branch campuses.

Research Instrument

The National Association of Branch Campus Administrators reviewed and approved the survey instrument. The survey included preliminary questions associated with organizational structure, planning, institutional priorities, assessment metrics, and geographic locations. Moreover, the financing processes, and budget structure questions included operational costs, implementation, decision making, accrual accounting models, planning, leadership, affiliation, reflection, programming, and enrollment questions. Forty-two participants represented universities, community and technical colleges from the United States, Canada, and Australia.

The survey was handed out in a paper format during the "Focus on Research Preliminary" section at the 22nd NABCA Annual Conference held in Spokane, Washington. The survey included 25 multiple-choice questions, with some questions having "all that apply" options.

The survey facilitators provided additional clarification to the participants when questions were asked. Additionally, several questions had two-part answers. First, the respondent would select the appropriate letter(s) that represents their answers. Second, depending on their response, additional information was solicited—for example, Q11. Letter "f" was "Other (Please explain)" and requested the participant to provide additional information that would be captured for this question.

Analysis

After the surveys were completed and collected by the facilitators, the data was cleaned, coded, uploaded, and converted into an excel spreadsheet. The analysis was conducted utilizing the Statistical Package for the Social Sciences (SPSS) software package. The data included a multiple variables frequency table for each potential answer. Coding the data as multiple variables when appropriate optimized and displayed the responses on a nominal scale of measure. The rank and order Likert design scale were not warranted. The frequency and crosstabs provided the percentages to the responses that were reported.

The survey was intended to be descriptive and quantitative. Several questions were identical on previous NABCA surveys, and therefore may be useful in future longitudinal and comparative analysis studies and reports. Additional responses from the survey were provided to show the complete breath of answers to the questions. Therefore, a "*Not solicited and/or other response" was designed to capture as much feedback as possible from the survey. This additional information was not calculated as part of the percentages. The participants had the freedom to answer the questions they wanted and to leave other questions blank. The response was based on the "valid percentage" compared to the total responses, not always the $n=42$ ratio. When the total responses were not $n=42$, the valid and reported percentage would be higher than the actual percentage rate.

ASSESSMENT OF THE RESULTS

Findings

The study results provided additional insights into factors that influence the financing of multi-campus and branch campus postsecondary institutions. This section includes three categories or subsections: (1) observations, (2) themes, and (3) challenges/opportunities. The challenges and opportunities uncovered through the assessment process were areas for improvement, and therefore, were grouped as one subset.

Observations

The analysis revealed that even within the same organization with multiple locations, campuses can be funded differently. A large percentage of the respondents (48%) did not have a separate strategic or action plan aligned with the parent or main campus strategic plan for the offsite location. Among the 50% of the institutions that did, approximately one-third (29%) reported the plan was circulated through the institution's shared governance processes. Thus, it was hard to decipher if the strategic or action plan was a living document with clearly defined objectives and goals with regular assessment benchmarks or was created for other purposes.

In almost half of the cases (48%), the individual campus budgets were determined by the parent campus, main campus, the system, or in combination with a representative(s) from the different locations. This observation complements question #17, where most of the respondents (62%) reported that representatives from the parent or main campus, or the system, work with individuals at the different sites in serving as the custodians and executive overseers of the multi-campus or branch campus budgets. Almost one-fifth (19%) of the respondents reported that their operating budget was $5,000,000 or more. Comprehensive campuses and locations that had 500 or more students had larger budgets on average. A large percentage (47%) reported a decentralized budget model where most discretionary funds were controlled at the individual campuses.

Utilizing a comparative analysis lens for the 2018-19 and the 2017-18 academic years, there did not seem to be a pattern on how the different

campuses were funded. Only 13% anticipated an additional budget to support enrollment growth, and another 10% reported having to serve more students without additional resources. Surprisingly, almost one-fifth (18%) reported having the same budget in 2018-19 as they did in 2017-18, even though they were expecting a decline in enrollment. More than one-fourth of the full-time equivalent (FTE) at the multi-campus and branch campus locations had 2,500 or more students. As expected, the total headcount of 2,500 or more was also considerably higher than expected (44%) among the respondents. The data displayed that some campuses were more adequately funded and had additional resources per full-time equivalent student or student headcount compared to other locations. The study also demonstrated that some campuses had more autonomy when it came to making decisions.

Themes

Several reoccurring themes emerged from the data. First, communication with faculty, staff, and administrators among the individual and parent or main campus or system when it involves budgets were essential. The majority of respondents (71%) reported a lack of understanding of the main or parent campus decision-making processes for the multi-campus and branch campus locations. Chronic and one-time problems (55%) was also an area that was reported that needed attention. The political and personal issues (74%) involved with managing change at the different locations were the highest reported response that hindered these learning facilities' ability to maximize their potential. The lack of communication and uncertainty was heightened when the discussions were budget-related. One-out-of-two respondents reported a comprehensive understanding of a multi-year budget model for each campus (50%). Also, having a contingency budget plan for when budget decreases occurred was an area of concern and recommendation for the employees representing the offsite locations (55%).

According to the definition options presented, more than fifty percent of the participants (56%) classified the offsite location as a branch campus. As previously stated, this refers to a site that offers complete programs, has its own faculty, administration, and budget. Two-thirds of the respondents believed that increasing access and serving a previously underserved population was one of the key mission-based roles for multi-campuses and branch campuses. This was a consistent theme among all sectors, two-year colleges, public, private, and research universities. The lack of awareness of the accrual accounting methods deployed at the different multi-campus and branch campus locations was an unexpected discovery. Approximately two-thirds (69%) of the respondents listed the "not sure" option when reporting the accrual accounting methods for the multi-campus and branch campus they represent. Two-thirds of the survey participants reported that they were an administrator for their institution. The majority (65%) of the respondents reported the operational budgets forecasted for the current year were structured using the prior year's expenditures as a baseline.

The funding portfolio, including tuition, county, state, private, self-support, research, grant, and philanthropy revenue, differs drastically among the postsecondary institutions represented in the survey. Tuition revenue and state funding support were at the forefront for most multi-campus or branch campus budgets. The chief 'on-site" officer in charge of the multi-campus or branch campus was either a Vice President, Vice Chancellor, or Dean (50%). The majority of the institutions represented in the study were public, with almost one-third (30%) of the participants identifying being part of a two-year public, and nearly two-thirds (60%) associated with a four-year or higher public institution. Private colleges and universities represented 10% of the respondents. Regardless if the campus was a two-year, public, or private postsecondary institution, close to one-third (32%) reported being located 21-50 miles away from the parent or main campus or the system office location.

Challenges and Opportunities

Postsecondary education institution budgets are complicated. There are base-budgets, one-time

funds, grants (time-certain), tuition and fees, and other internal and external revenue streams that make up an institution's overall budget. Understanding the budget and financial implications at the system level, or parent campus may not always be viewed as necessary from an offsite location perspective. However, without this astute awareness, knowledge, and ability, administrators and leadership will be at a disadvantage in advocating for their respective campuses when resources decline. Thus, the ability to plan and operate complex budgets and make the necessary adjustments when needed is critical. The exception to this rule is when the additional locations have a budget that is administered by a state or system, and less often the parent campus.

With more than 80% of the respondents reporting having more than one multi-campus or branch campus, it would be interesting to understand better the underpinnings that contribute to the differences. As stated earlier, every challenge is an opportunity, assuming it is one of the institution's priorities and action items. The analysis revealed several areas that warrant acknowledging. One significant challenge/opportunity was the realization that more than one-third (38%) of the participants reported that the strategic or action plan for their multi-campus or branch campus has not been reviewed and approved by the faculty senate, senior administrators, the board of directors, or through the institutions shared-governance processes. Unfortunately, without a shared-governance culture and approval process within an institution, collective ownership, accountability can become problematic.

A shared governance process may not be fully appreciated or considered a high priority when there are abundant or adequate resources and funding within an institution or system. However, all institutions have to make the most appropriate, informed, mission-centric decisions when resources diminish. The vitality and health of offsite locations warrant being considered a priority. At the same time, when stakeholders are not consulted or are part of a shared governance process and culture, how receptive will they be in supporting existing or new initiatives when limited resources and budgets have to be reduced? Moreover, almost two-thirds (60%) of the participants reported not having clearly defined performance metrics and expected outcomes for the multi-campuses and branch campuses documented, reviewed, and shared with internal and external stakeholders. Another documented challenge and opportunity for budgeting were the accrual accounting methods deployed for multi-campuses and branch campuses. Each postsecondary institution should use methods and approaches that are most appropriate for the institution. The data showed that not all the respondents understood the budget structures associated with their campus.

FUTURE RESEARCH RECOMMENDATIONS

Limitations and Basis

With more than 10,000 two-year and four-year public and private colleges and universities located worldwide, no one study can accurately reflect all postsecondary education institutions. This study's overarching goal was to demonstrate the need for further research on funding multi-campus and branch campus institutions. One of the limitations of this study was that there was not a large concentration of anyone subset for multi-campuses and branch campuses. Moreover, the respondents are associated with NABCA, which presents another limitation. Representatives of NABCA are recognized as advocates and supporters for this segment of the academy. Due to this bias and foundational knowledge base, the study participants are not a generalizable subset for other faculty, staff, and administrators associated with these offsite learning communities possess.

Recommendations

This study demonstrated the need for additional multi-campus and branch campus research. First, there are thousands of *two-year and technical colleges* within the United States and abroad. A study that examined the financial resources available and the diversity budget portfolio make-up for these campuses have value. Community, junior, and technical colleges play a vital role in expanding access to education and

workforce development for place-bound, time-bound, and resource-bound traditional and non-traditional students. They are also a lifeline for vocational education, workforce development, and retooling skill trade employees for different industry sectors worldwide. From vocational and transfer degrees, aviation, automotive, material sciences, 3-D printing, and STEM and STEAM programs, two-year institutions are beneficial to the postsecondary educational family. Depending on the opportunities presented, optimizing the resources needed, and to what degree budgets are allocated to achieve the desired results may be something that should be explored on a specialized sector or macro-level.

Second, four-year colleges and universities is another area where additional research is needed. As demonstrated in this report, not all four-year colleges and universities are funded the same, and public, private, and research-intensive campuses have different expectations and priorities contingent on the budget. Therefore, a study that focused explicitly on institutions with similar characteristics within the same state, out-of-state, and other countries is an area of missing research and may provide useful information for campuses. Many institutions report their operational budgets are leaner than in past years. Therefore, understanding the cost per student across the different programs and offsite locations and majors at each campus may assist with strategically forecasting and planning for future decisions. Additional research should examine the size of the institutions, student demographics, and country of origin, which can also be measured and analyzed differently. The budget portfolio for rural, suburban, urban, and metropolitan communities may also identify unique themes, patterns, and insights in the institution's portfolio, cost-benefit analysis, and appropriate expansion or retraction opportunities.

Third, the impact is another area where additional research on funding multi-campuses and branch campuses should also be scrutinized. Every postsecondary institution has a purpose that is often displayed in its mission, vision, core values, and goals. Regardless of the location, the institution's high-quality standards and expectations are contingent on an appropriate budget for this to occur. The financial health of campuses can influence their overall impact on students, faculty, and staff success, and the communities they are intended to serve.

Lastly, zip code analysis is a useful enrollment and academic program offerings indicator. Unfortunately, this type of study would require a substantial amount of resources to compile across different states and country lines. More noticeably in P-12 institutions, but often carries over in higher education, the zip code that someone was raised or lived in may directly correlate with the probability that a student will succeed in school or the programs they may pursue. Educational schools located in marginalized, rural, urban, or lower socioeconomic communities with limited opportunities and resources may also show a noticeable achievement gap compared to adequately funded campuses.

Studies that examine income disparities among diverse student groups that attend multi- and branch campuses through a multiple regression zip code or geospatial analysis could provide valuable insights into these community-centered learning organizations. High-quality educational access and ensuring the academic rigors meets the institution's standards at all campus locations is not always easily to measure. In addition to scholarship, research, and the ability to provide students, faculty, and staff at each location a high-quality student-centered curricular and co-curricular environment is contingent on having an appropriate and scalable budget for this to come to fruition.

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How COVID-19 has Widened the Digital Divide Gap in Higher Education: A Literature Review and Future Implications

Keisha Williams
University of North Carolina-Greensboro
kjmarkwilliams@gmail.com

How COVID-19 has Widened the Digital Divide Gap in Higher Education: A Literature Review and Future Implications

By Keisha Williams

ABSTRACT

The COVID-19 2020 crisis has gripped the entire world to a standstill, causing varying inconveniences to some and unmitigated disasters for others. Amongst the many consequences, this pandemic has brought to the global population, it has even further uncovered major gaps in the higher education system. One of the most pressing deficiencies relates to the increasingly broad digital divide amongst lower-income students. In the past, this gap has been fairly managed through access to on-campus resources, but today, these students are further challenged now that those resources are unavailable. University administrators across the country had to make the unprecedented decision to move all face-to-face classes to online courses for the remainder of the Spring 2020 semester to ensure the safety of their student body.

Keywords: covid-19, pandemic, higher education gaps, low-income students, digital divide, access, online courses

How COVID-19 has Widened the Digital Divide Gap in Higher Education: A Literature Review and Future Implications

By Keisha Williams

The COVID-19 2020 crisis has gripped the entire world to a standstill, causing varying inconveniences to some and unmitigated disasters for others. Amongst the many consequences, this pandemic has brought to the global population, it has even further uncovered major gaps in the higher education system. One of the most pressing deficiencies relates to the increasingly broad digital divide amongst lower-income students. In the past, this gap has been fairly managed through access to on-campus resources, but today, these students are further challenged now that those resources are unavailable. University administrators across the country had to make the unprecedented decision to move all face-to-face classes to online courses for the remainder of the Spring 2020 semester to ensure the safety of their student body. This decision presented the opportunity for some students to be able to continue in their educational pursuits without interruption but caused great difficulty for others who do not have access to technology or the internet in their home. Researchers have been exploring the use of technology in higher education for decades, particularly when the utilization of the internet as a resource became more commonplace.

The term digital divide was first brought into prominence by Lloyd Morrisett, president of the Markle Foundation, as a type of access to information divide between the "haves" and the "have-nots" (Hoffman, 1998). The digital divide is most severely felt in underserved communities. According to the Pew Research Center in 2019, 3 in 10 adults with household incomes below $30,000 do not own a smartphone (29%), more than 4 in 10 do not have home wireless or broadband services (44%) or a traditional computer (46%). Conversely, households with more than $100,000 in income almost certainly had several of these resources at their disposal (Anderson & Kumar, 2019). This paper will address articles written from 1998-2020 covering literature that articulated the effects of increased institutional adoption and use of technology over the past few years, issues in access to technology for underserved communities and the current implications of a global pandemic that has tested the readiness of students and institutions to have a fully online academic delivery system.

Increased Institutional Adoption and Use of Technology

Universities' adoption of virtual learning environments has been prompted by a shift in consideration to how students learn, the demands of a faster-paced and high-tech global marketplace, and the overarching fiscal advantages of digital learning to the advancement of a more robust enrollment and broader reach for the institution. Understanding the fact that students require digital resources to succeed, Universities have had to increase their usage of technology in ways that support the educational process, while providing tools to ensure students are market-ready upon graduation.

Tanya Zlateva, Dean for the Metropolitan College and Extended Education at Boston University, explored the debate between the growing move toward online education. She argues that this move has been greatly influenced by the increasing tuition and irrelevant curriculums amongst traditional college environments. Thus, the perception of the agility and relevance of on-line education to an ever-changing environment is motivating more students to opt for this type of educational delivery (Zlateva, 2019). She references 2012 as the Year of MOOCs (Massive Open Online Courses). The first MOOC was a course called *Introduction into AI*, by Stanford professor Sebastian Thrun and Director of Research at Google, Peter Norvig. Nearly 160,000 students enrolled in that first course. From there the excitement regarding the possibility of an online delivery format began to find its way into every university strategic plan. However, after further investigation into the success of the MOOC program, it was

determined that 80 percent of the people enrolled in this course had degrees, and the majority were coming from a wealthier and more educated background, so this type of course offering as an appropriate benchmark might not be conclusive enough to determine its efficiency in lower resourced institutions (Zlateva, 2019). The Babson Survey Research Group found that overall college enrollment saw a decrease of 3.8 percent while online enrollment increased by 17.2 percent from 2012-2016 (Seaman, 2018). The enrollment fluctuations are indicative of a greater indicator relating to the acceptance of more and more students to online course delivery options but even with the increase has not superseded the number of students that opt for face-to-face learning (Brooks & Grajek, 2020).

Access to Technology

Reflective of a global marketplace that is increasingly more reliant upon high tech and internet-enabled devices, technology has become increasingly more rooted in the foundation of advanced instruction in higher education. In a 2001 article, Marc Prensky coined students in K-12 "digital natives" with an affinity and understanding of the value and importance of technology (Prensky, 2001). While there is an inarguable shift in student learning in 21st-century education, Prensky's assessments do not consider students who do not have access to the technology (Schaffhauser, 2013). Prensky goes on to address the communication challenges between "digital natives" and professors who he named "digital immigrants". As defined in the journal article, digital immigrants are people who were born before the introduction of this kind of technology, thus often slower to adopt new forms of communication (Prensky, 2001).

The desire for professors to have students learn in the ways the professors are accustomed to teaching and students wanting professors to teach the way they now learn is the root of many challenges in academia. What he did not foresee was that many of today's students themselves would fall into the digital immigrant status because of their lack of access to technology. According to former President of McGraw Hill Higher Education, Brian Kibby, nearly 99% of students may have access to mobile devices, but it does not mean that they have appropriate access to educational resources, particularly low-income learners (Schaffhauser, 2013). Kibby also advocates for all publications to be available in digital formats to provide even more access to educational tools for students who cannot afford the high cost of textbooks (Kibby, 2013).

Implications of a Global Pandemic

There has never been a case in the United States where a virtual pandemic has caused there to be a collective nation-wide shift to the way higher education is traditionally administered. North Carolina system-wide began conversations in mid-March regarding the drastic measures that would need to be considered to mitigate the risk of the spread of this highly contagious virus, to which nobody is immune. On March 11, 2020, UNC-Chapel Hill and N.C. State University announced their intent to extend spring break for students until Sunday, March 22, 2020, for faculty to prepare for a new online teaching structure that was to begin on Monday, March 23, 2020--the rest of UNC System institutions would soon follow (Murphy, 2020).

This shift uncovered some challenges related to digital education. Between the navigation of instructors, who may be slower to technology adoption for reasons ranging from resistance to change to lack of instruction on how to use the technology themselves; to students who must now return to their hometowns where broadband issues, lack of technology, and access to educational resources abound (Gupta, 2017).

While the adoption of technology is generally accepted, access to these resources for intensive study for lower-income students may still be problematic, not only from a usage standpoint but from a student engagement consideration. Persistence in college for many lower-income students has a direct correlation to the on-campus student services they receive that may not be available to them in an online format (Ubell, 2019). There will be a more emphatic call for senior leadership to understanding their

student body needs. In an earlier essay, Ubell studied research regarding the rate of attrition of online learners and found that they were more apt to withdraw from their courses than residential learners (Ubell, 2018). Considering the resources that residential learners receive that may not be able to be logistically extended to online learners, additional research and exploration into the effects of this pandemic on the persistency and academic performance of these students is critical. It will be imperative for administrators to include in their budget methods from which students can be engaged like online virtual learning sessions, or student network support services that can cultivate a community engagement for the online student learners (Ubell, 2019).

The implications of this shift in learning will be studied for years to come. Previous indicators suggest that online collegiate learners are primarily adults who have different considerations regarding their needs for engagement or expectation of their respective academic performances (Ubell, 2019). However, the current circumstance from which all students are now having to conduct learning in this way will call for even more assessment regarding the efficiency in student advancement and course competency as this semester concludes and the summer sessions begin.

Conclusion

The COVID-19 "new" normal for higher education will require a lot of strategizing, research and thought regarding how to most efficiently provide a platform for scholarly advancement while navigating through constantly evolving barriers. Senior leadership, who may have never themselves taken or taught an online class, will need to seek the advisement of those who have, to ensure that their instruction methods are well received (Udell, 2019). Lisa Bellantuono, director of graduate admissions operations at George Washington University, recommends universities to consider a one-stop-shop for remote students, inclusive of student success coordinators who can assist students with everything from student aid, bookstore needs, and other student services (Udell, 2019). Faculty must be trained on how to appropriately deliver online course materials in ways that are engaging and informative. It will be even more important for I.T. support to be prepared for student issues and technology as they occur from a remote location (Brooks, 2020). In times such as these, where the only option for students to continue in their education is to do so online, alternative methods from which instruction can occur and assessments be made should be considered to include asynchronous and flexible scheduling. Students will have to assume their responsibility for being accountable to the educational process as much as instructors must adhere to methods of instruction that ensures learning progress is sustained. As the pandemic continues to slowly reveal what lies beneath the curtain of high education inefficiencies, researchers, administrators, and advocates will be called upon to further explore, redefine, and impose methods from which the academy will thrive and students can achieve.

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The Historical Connections Between Early Universities and Modern Branch Campuses

Deborah J. Kepple-Mamros, Ed.D.
Western Illinois University-Quad Cities
dj-kepple-mamros@wiu.edu

The Historical Connections Between Early Universities and Modern Branch Campuses

By Deborah J. Kepple-Mamros, Ed.D.

ABSTRACT

Universities in the Western world have been expanding to create new physical locations almost from the time they were first created. Medieval universities expanded to form multiple colleges as well as additional campuses to serve more and more students. This is not dissimilar to the reasons for the expansion of modern universities. While the colleges in the Middle Ages came into existence in a different context than the modern branch campuses of U.S. universities, there are some similarities. The most obvious parallel is that university growth, whether in the middle ages or the 21st century, seems to occur through the establishment of additional components or locations meant to serve a different population than the university was then able to serve or attract. Because this expansion appears to take place across time periods and continents, societal forces also seem to be a major cause for expansion rather than the desires of individual administrators. This paper uses a chronological overview of a history of higher education in the Western hemisphere to draw similarities between the establishment of Medieval colleges and 21st century branch campuses.

Keywords: covid-19, pandemic, higher education gaps, low-income students, digital divide, access, online courses

The Historical Connections Between Early Universities and Modern Branch Campuses

By Deborah J. Kepple-Mamros, Ed.D.

"Great as the differences are between the earliest universities and those of today, the fact remains the university of the twentieth century is the lineal descendant of medieval Paris and Bologna" (Haskins, 1957).

In the arc of human civilization, higher education as we know it today is a relatively new invention. It is somewhat startling to realize that hundreds or even thousands of years prior to the founding of the first universities, works like the Epic of Gilgamesh (c. 2700 BCE) were written, Indus River Valley civilizations had constructed city-wide plumbing and sewage systems and built bathrooms in every home (c. 2500 BCE), and the Romans understanding of stellar and planetary movements aided them in creating a stable calendar in 45 BCE. The oldest universities, however, were not founded until the 11th century CE, and all were located in Europe.[1] This presents a challenge to modern assumptions about the purpose of higher education and universities. Going to college to get an education, learn a profession, or gain the skills to make the world a better place is a very modern thought. For thousands of years, people did not need universities to be either the keeper or transmitter of knowledge and skills.

The term university comes from the Latin *universitas magistrorum et scholarium*, which literally translates to *university of masters and scholars*. In Latin, which was the official language of most European countries until the 15th century, university meant "association" or "organization" and sometimes "whole". Thus, the words used to describe early universities suggest that they were much more like a scholarly community than a university that owned space and had any type of administrative, admission, or support structure. Indeed, the early universities established what they called colleges or *collegium* in Latin, which means a partnership. Students would live together, attend lectures together, and attempt to master the material together. One university would typically have many colleges, but originally the faculty were not associated with a college, only the students were (Walker, 1985). These colleges were fashioned after the guilds that had been established in Medieval cities.[2] Examples are the 39 colleges that make up the University of Oxford today. While these colleges came into existence in a different context than the modern branch campuses of U.S. universities, there are some interesting comparisons. The most obvious parallel is that university growth, whether in the middle ages or the 21st century, seems to occur through the establishment of additional components or locations meant to serve a different population than the university was then able to serve or attract. This paper seeks to use a chronological overview of a history of higher education in the Western hemisphere to draw similarities between the establishment of Medieval colleges and 21st century branch campuses. For the purposes of this paper, the phrase branch campus is used in its widest terms to mean a location of a larger college or university where courses or programs are offered that is physically distant from the main campus. These are sometimes called locations, sites, centers, or branches. Certainly, they have different meanings and implications for things like reporting and accreditation purposes, for this paper physical expansion is key.

Historiography

[1] The University of Al-Karaouine in Fez, Morocco is sometimes said to be the oldest university in the world, founded in 859 CE. It was founded in that year as a mosque with an associated madrasa. Historians are of split opinions about whether a madrasa in the 9th century was more like a local school or a medieval university (Verger, 2003). Al-Azhar University in Egypt also began as a mosque, but without and associated madrasa.

[2] A guild is similar to a trade union. Each occupation had its own guild, and only guild members were eligible to hold offices such as city mayor.

Despite universities having a history dating back nearly a thousand years, the critical study of higher education institutions is less than a hundred years old. Certainly, universities and literate people throughout the middle ages and early modern period wrote about or kept records of the universities during their lifetime. These primary sources are the foundation of scholarly works written by historians on the topic of higher education.[3] History itself is a very old discipline, yet secondary sources on historical topics outside of politics, religion, and war were relatively rare until the second half of the twentieth century.[4] One exception to this is that during the late Victorian period and early 20th century, many English educated men who were members of the lower aristocracy wrote chronologies of various topics based on primary sources and hearsay. European higher education became one of the topics chronicled over several volumes, which laid the foundation for all future research on the history of higher education (Rashdall, 1895; Seybolt, 1921).

Several decades later, the first significant scholarly works on the history of higher education appeared. In 1957, Charles Haskins, considered a foundational American scholar on Medieval Europe, wrote *The Rise of Universities* (Haskins, 1957). This book was divided into three sections: the university, the teachers, and the students. Each one of these sections was based on lectures Haskins gave in the 1920s at Brown University. A few years later, James McCain, then president of Kansas State University, wrote an article published in the *Journal of Higher Education* on his observations of European Universities and how they compare to those in the U.S. He made note of the formality of the role of the professor in Europe compared to the teaching roles held by professors in the U.S. (McCain, 1960). Both Haskins and McCain attempted to connect the development of modern higher education on both sides of the Atlantic to its roots in Europe.

As the 20th century wore on, the study of the history of higher education expanded. With the increased awareness of inequalities across the western world in the late 1960s and through the 1970s, studies of the history of education, and in particular higher education, became focused on themes associated with the contemporary movements of the times. For example, James McConica, in 1973, wrote in depth about the transition of higher education to an instrument of social control (McConica, 1973). Other works also highlighted the fact that university education, whether in early modern Europe or in the 19th and 20th century United States, was a primary conduit of socialization that helped shape or enforce cultural norms (Bledstein, 1976; Parsons & Platt, 1970). As an example, Willis Rudy, covering 800 years of the history of higher education, concluded that as higher education spread to areas colonized by Europeans, universities were mostly established to spread Western ideas and scientific learning (Rudy, 1984).

Another trend in the 1980s was the exploration of the roots of the particular type of higher education that developed in the United States. Named after Wilhelm von Humbolt (1767-1835), the Humboltian model of higher education was first proposed in the German state of Prussia. The Humboltian model promoted the idea that a well-rounded education that included the arts, sciences, and research was best for both individuals and society as a whole. His ideas included more people outside of the elite classes, regardless of whether they were intending to go on to vocational careers, business, or one of the careers that traditionally required a degree (Anderson, 2004). This is the origin of the liberal arts and general education curricula. In a letter to the Prussian king promoting his idea, Humbolt wrote,

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[3] A primary source for a historian is any written document or artifact that dates to the time period being studied.

[4] A secondary source is an article, book, or review writing by a historian and based on primary and other secondary source materials. A tertiary source are sources such as textbooks, encyclopedia articles or literature reviews that are typically used to teach or inform readers of a historical topic.

> People obviously cannot be good craftworkers, merchants, soldiers or businessmen unless… regardless of their occupation, they are good, upstanding and – according to their condition – well-informed human beings and citizens. If this basis is laid through schooling, vocational skills are easily acquired later on, and a person is always free to move from one occupation to another, as so often happens in life (Humbolt, as quoted in Gunther, 1988, p. 127).

There is a direct connection between the Humbolt model and the expansion of U.S. higher education which is reflected in the historiography. Throughout the 1990s, those studying the history of U.S. higher education began to focus on the origins of the land grant institutions and both their intended and actual impact in their state (Ferleger & Lazonick, 1994; Mayberry, 1991; Weeks, 1995). The land grant institutions fulfilled the Morrill Land Grant Colleges Act. While the Act was promoted as a way to increase agricultural production through research and education, in a practical sense, the establishment of land grant institutions was a watershed moment in the history of higher education. The Act established colleges and universities "to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life" (Morrill Act, 1862). In other words, and with a nod towards Humbolt, these new institutions had the revolutionary mission to educate the "average" citizen who would not otherwise be able to attend the elite institutions populated by the sons (and sometimes daughters) of the wealthy.

Other studies from the 1990s dug deeper into the social history of European universities. One such work covered the social and economic conditions in which students and faculty lived over centuries in Europe, including a focus on the strained town-gown relationships that date back to the middle ages (Cobban, 1999). Another, recounts the growing animosity between the citizens of Paris and university students in the late 1100s, when during a sporting event meant to soothe relations between the two, one student was killed and several others wounded by local peasants (Bender, 1988, p. 30). Another account from 1200 CE, tells of a student and his friends, angered at the price of wine, who attacked a tavernkeeper. In retaliation, the injured man and his neighbors confronted the students in their residence hall, killing several of them (Bender, 1988, p. 31).

Recently too, additional discrete themes have emerged in the study of the history of higher education. This includes the history and growth of minority student populations in higher education (Garrison-Wade & Lewis, 2004) and the expansion of higher education outside the physical walls of the university (Bozkurt, 2019). However, while a few scholars have published works that cover the development of branch campuses, this subfield of the history of higher education is relatively barren. In order to understand the parallels between Medieval colleges and modern branch campuses a chronology is necessary.

The Medieval Universities

When the University of Bologna was founded in 1088, according to the records of the university, it was founded by students for students. Individually, each student paid the teachers to teach or lecture to them on subjects including grammar, rhetoric, logic, and law. Besides Bologna, other early higher education institutions included the universities at Oxford, Paris, Salamanca, Cambridge, and Padua among others. Students, who were always male, typically entered university at age 14 or 15 for courses that could last up to 6 years. In terms of university organization, all were set up similar to Bologna with groups of students who organized themselves into colleges, and who were then taught by masters or doctors in fields such as theology, law, rhetoric, and logic. Some included specialized subjects like music which was taught at the University of Paris, or medicine, which was taught at Salerno. Interestingly, colleges were so student-centric that it was not unusual for them to move from one city to another neighboring city if it was deemed in the best interests of the students. The

University of Coimbra in Portugal moved at least three times in the middle ages before settling in its current city.

Also typical of the European universities founded in the middle ages was that most developed into multi-campus institutions. These campuses all grew out of the colleges that were established around the residence halls for the students. Eventually each college grew to the point that faculty needed to associate themselves only with a certain college in order to most effectively teach. In many cases the younger faculty, those who had just finished their studies and were hired on as new masters, lived in the same residences as the students. More established scholars would live in the town.

As the European middle class grew in the late middle ages and into the early modern period, more and more families sent their sons to a university (Scott, 2016, p. 6). This growth in student demand led to the expansion of higher education. By the 1500s, eighty universities had been founded across Europe (Walker, 1985, p. 334). With more students desiring an education, more teachers were needed. This growth, which took place in a time period where centralization was not easily accomplished due to lack of administrators, pushed the colleges to become more independent of one another, each with their own faculty and students. The growth in demand also spurred universities to establish multiple campuses. As an example, the University of Valladolid in Spain, founded in the 13th century, eventually grew to seven campuses across northern Spain.

The curriculum included new subjects such as theology, mathematics, and music, as well as the more traditional subjects of grammar and rhetoric. Specialized subjects like medicine were introduced in some universities beginning in the 13th century. Pedagogy was similar at all the European universities and included the lecture, which was sometimes called a reading, and a debate. During a reading, a teaching faculty member would provide a gloss of a preassigned text while students listened. The debate, sometimes oral and sometimes written, was reserved for covering difficult points in a text or longstanding topics of interest. The oral debates became public events held at specific times that sometimes lasted for days (Walker, 1985, p. 336).

Scientific Revolution and the Universities

Even though a decree from the Holy Roman Emperor established academic freedom in the 12th century, most universities did not usually promote new inquiry or radical ways of thinking. With only a few exceptions, many universities across Europe and North Africa were tied to a religious organization. In Europe at the close of the middle ages, that was the Roman Catholic Church. The Church and the universities had a mutually beneficial relationship. The universities would educate students who were then eligible to become priests, lawyers, or to practice medicine (Merriman, 2010). The incentive to become a priest was different depending on the class and family each student came from. Europe was still an agrarian society with class status, political power and wealth tied to the amount of land each family controlled. Those who were not part of the gentry or eligible to inherit could earn a living as a priest, and certainly many students from poorer families chose this route. Some students were recommended for other options such as teachers or private tutors, or monks.

Whether students were recommended for occupations outside the university and Church because they were deemed to be a bit to curious, or forward-thinking, or whether those who ended up in the monasteries, or as private tutors in noble households were freer to explore and experiment, is up for debate. What is known is that most of the discoveries during the Scientific Revolution happened outside of the walls of the universities. Tycho Brahe was a nobleman and thus had the means to spend his life pursuing knowledge on his own. Nicholaus Copernicus practiced medicine, collected rents and managed several shops on Church-owned lands in Poland. Johannes Kepler was a teacher at a village grammar school, while Francis Bacon was an attorney. The only exception was Galileo Galilei who taught mathematics at both Pisa and Padua.

It is likely no coincidence that aside from Galileo, scientific discoveries and, later, the Protestant Reformation, mostly occurred in areas the furthest away from Rome where the Church had its most influence. A theory can be suggested that as long as the universities maintained a close association with religious authority, new discoveries and thinking were unlikely to happen at the universities. Merriman noted that the European universities contributed little to the diffusion of the scientific method even after it was widely accepted (Merriman, 2010). The stagnation of learning at the universities in the 16th century would prove to be a detriment to enrollment beginning in the 17th century.

Universities and the Enlightenment

To say that universities were behind the times during the Enlightenment, which most historians agree lasted from about 1630-1800, is an understatement. The Protestant Reformation did not change university practices. As a result, even in Protestant countries, a university's main function was to help the religious and political authorities suppress heresy, rather than promote new ways of thinking or discoveries (Hill, 1993, p. 17). Throughout this time, universities still predominantly taught canon or civil law, with a few specializing in medicine. New ways of thinking were seen as dangerous. Indeed, when René Descartes, who was known during his lifetime as one of Europe's greatest scientists and philosophers, died in 1650, the University of Paris forbid a funeral oration for him.

Other forces were conspiring to make a university education less desirable by the mid-seventeenth century. The printing press, introduced to Europe in the fifteenth century, was an engine of change. Prior to mechanical printing, books were laboriously copied by scribes. During the middle ages a university might be the only place a student would have had access to a copy of one of the great texts. During the Scientific Revolution, books were more widespread but were still expensive. A university library was likely the only place most who were eager to learn could gain access to the texts. By the Enlightenment, with the price of printed materials dropping by the year, booksellers were well established in most cities and towns across Europe. This allowed more people access to printed materials. Printed materials evolved to better suit a solitary individual who wanted to read and comprehend materials without a lecture. For example, a scientific text from the middle ages listing names flora would have had a written description beside it. By the late seventeenth century, the same list printed in a pamphlet would have also contained a drawing of the plant or flower, allowing the independent reader to identify it himself or herself (Eisenstein, 1979, p. 697.). Much like the invention of the Internet, the invention of the printing press increased the ability for education to take place at locations other than a university's main lecture halls.

While the decline in popularity of a university education during the Enlightenment was a fact, universities continued to be established in Europe and spread. Universities were also established in lands colonized by Europeans. Because these universities were established by colonizers, whether in the Philippines, Canada, Argentina, or the United States, they operated much like the universities in Europe. For example, Harvard University, established in the colony of Massachusetts Bay, originally had colleges, and was "established to provide a learned ministry to the colonies" (Harvard University).

The spread of higher education beyond Europe did not change how or what was taught at first either. The universities of the 18th century looked and operated much the same as the universities of the 12th century. They were transmitters of knowledge only so far as to train young men for the professions needed at the time (Scott, 2006). It took seven hundred years from the founding of the first university for major change to take place in the structure or curriculum taught. Harvard, like Oxford, Cambridge, Bologna and others, did not begin to resemble a modern university until the mid-nineteenth century when labs, libraries, observatories, and museums were built and complemented by departments, colleges and

schools of faculty who taught specialized subject matter (Scott, 2006).

The Nineteenth & Twentieth Centuries

At the dawn of the twentieth century U. S. universities were at a crossroads. They had grown from just a few higher education institutions in the 18th and 19th centuries to several hundred colleges and universities by 1900. By this time, universities in the United States had finally begun to look less and less like their European counterparts. European universities had always been fairly exclusive, research-focused, and program specific for students. For example, even today in the UK, Germany and some other European countries, students declare their intent to pursue a particular program prior to being admitted. With no concept of a general education curriculum, once enrolled, students take courses in their chosen subject only. The structure discourages switching programs unless the student is willing to start over. This occurred because European universities were founded to serve the specific purpose of educating students for very specific occupations. By the start of the 20th century, the American economy and culture had become distant enough from its European roots that a new model of higher education was needed. The American model began to combine teaching, research and public service as equal parts of its mission (Scott, 2006). This unique blend is still in the missions of many universities today. Besides economic developments, another reason for the shift was that higher education institutions began to respond to the call for the democratization of education. In other words, as more people were being enfranchised in the political process, and in the economy, it became obvious that more than just an elite class of young men needed to have a college education.

The United States had become fully industrialized and more urban in the closing years of the 19th century. This led to an economic need for more college educated workers who could take on managerial roles in growing industries (Berger, Ramirez & Lyons, 2012). A quick comparison of enrollments over time makes apparent the shift in both the need and desire for education. In 1850, prior to industrialization and urbanization in the U.S., the average size of the student body at colleges across the country was 174 (Berger, et al., 2012, p. 16). By 1915, just sixty-five years later, there were several colleges with enrollments in the thousands (Berger, et al., 2012). The democratization of education was a natural result of the U.S. political, economic and cultural developments of the 19th century that included the government's push for a more educated populace, the belief in the American dream, a growing acceptance in equality (Scott, 2006).

The "Wisconsin Idea" developed in this context, when in 1904 the University of Wisconsin and the state's governor both agreed that the entire state needed access to the services that the state university offered (Scott, 2006). This new model, which would eventually spread across the country, was in direct contrast to the missions and practices of the elite universities that had developed on the east coast. Far from a simple equity exercise, many leaders in rural midwestern states saw the economic advantage of educating more of their populace. Experience and reliance on past practices were no longer adequate for the problems of the modern world (McCarthy, 1912). A better educated population could increase revenues even in sparsely populated, rural states. That was just what the Wisconsin Idea intended when it established a three-fold mission of teaching, research, and public service.

One of the three services that the Wisconsin Idea promoted was the traditional teaching of undergraduates on the university's campus. The second was specialized research by faculty and graduate students meant to promote agriculture, industry and defense. The third and most unique was public service, which included taking specialized courses and other services to all corners of the state through its unique extension system. The extension system was another building block in the foundation on which modern branch campuses were built. This establishment of off-site education was begun with the best interest of the citizens of the state (Scott, 2006). According to McCarthy, who

wrote about the effects of the Wisconsin Idea, "That Wisconsin has changed from a wheat-growing state to a dairy state has been due largely to the fact that the agricultural 'short course' at the University of Wisconsin…has turned out real farmers and real dairymen" (McCarthy, 1912, p. 125). This quote suggests that for this level of change to have taken place in less than a generation, the cause was likely twofold: not only was there was clearly a desire for education outside the elite class but leaders also felt there was a need for a better educated population.

Education in the U.S. continued to experience changes. The middle of the 20th century saw another explosion in enrollments in higher education that were precipitated by the GI Bill of 1944. Indeed, several scholars and politicians have called the GI Bill one of the most important events in 20th century U.S. history (Altchuler & Blumin, 2009). The bill developed out of the need to transition nearly 15 million men and women who were enlisted in the military during World War II back into the U.S. economy that many feared was not stable (Altchuler & Blumin, 2009). But what was intended as a safety net for the economy and society became both an engine of opportunity for the 2 million veterans who chose to take advantage the college benefits it offered, and a boon for colleges and universities across the country.

Most of the returning soldiers and sailors took advantage of at least one of the benefits of the GI Bill, which included, low cost mortgages, unemployment compensation, certain medical benefits and education benefits. Close to 15% of all veterans chose the education benefit. The introduction of more than 2 million GI Bill recipients into a higher education system that was built for just over a million had a significant impact (Bound & Turner, 1999). Classrooms were crowded and housing was inadequate. An immediate change that occurred was the employment of graduate students as teachers to alleviate the stress on overworked professorate (Olson, 1973).

Interestingly, the initial GI Bill required the 15 million potential recipients to take advantage of the education portion of the benefits by 1951. Administrators faced the possibility that after having expanded their workforce and buildings to accommodate the influx of demobilized soldiers and sailors, future enrollments declines could leave them overstaffed and with empty classrooms. That fear never materialized. In 1949, there were 2.6 million students attending higher education in the U.S. Twenty years later, that number swelled to 8 million, and by the 1990s it increased to over 13 million (Adams, 2000).

Multiple factors influenced the steep increase in college enrollments. The first was the reissuance of the GI Bill for Korean War veterans. The second was the National Defense Act of 1958, and finally, the Higher Education Act of 1965. There was also a cultural impact that these government programs had. Repeated research has shown that the likelihood of a student going to college increases if one or both of his parents attended college. The generation that fought World War II nearly tripled the college-going rate of previous generation with the aid of the GI Bill, which in turn likely influenced their children, the baby boomers, to pursue higher education as well.

Going hand-in-hand with enrollment growth, higher education experienced other changes in the second half of the 20th century. The National Defense Act of 1958, mentioned above, supplied funding to colleges and universities to conduct research in the physical, life, and engineering sciences (Scott, 2006). While universities focused on the sciences and built hospitals, research labs and schools of engineering, the arts and social sciences had to rely on private foundations for their funding. Additionally, the Higher Education Act of 1965 introduced far greater diversity to universities than ever before.

The Modern Branch Campus

Many colleges and universities in the U.S. opened branch campuses as a way to serve more students. A branch campus, by definition, exists as a member of a larger university or system (Schwaller, 2009). The branch campus emerged

after World War II as enrollments in higher education were swelling with GI Bill students. The rationale for the location of the branch campuses was to provide higher education options to more people like those who were place-bound or others who were simply looking for a lower cost option. The limited geographical area served by the traditional universities coupled with the non-traditional background and age of many of the veterans who took advantage of the GI Bill benefits meant many veterans did not have access to universities.

The branch campus is different from the earliest colleges at European universities in that it exists as a physically separate location, separated sometimes by as little as a few dozen miles to a hundred miles or more. Most recently, with the development of international branch campuses of large U.S. universities, sometimes the branch is half way across the world. However, most typically U.S. universities with branches have a large, older main campus in a rural location with one or more newer branch or satellite campus in an urban location or population center without access to a 4-year education institution. In addition to increased enrollments, one advantage some university leaders saw in branch campuses was that it was easier to ensure quality, especially when compared to distance education, and limit costs at branch campuses when limited program duplication was practiced (Schwaller, 2009).

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Since the branch campus developed with one eye always on cost, many branch campuses developed specialized curricula. This helped to avoid program duplication. One example is Montana Tech, a branch of the University of Montana, that teaches mostly mining engineering. Others became campuses where only an undergraduate liberal arts curriculum was taught, while still others concentrated on either offering only lower division courses or upper division courses. Whatever the specialty, branch campuses have a much more limited mission compared to the main campus (Nickerson & Schaffer, 2001).

This limited mission and emphasis on a growth niche of potential students makes branch campuses unique. Enrollment growth is important on the branch campus, perhaps more so than on the main campus. As an example, branch campus administrators in the Louisiana Community and Technical College System are mandated to grow enrollment not as a result of an enrollment decline but because enrollment growth has always been a part of the foundation of branch campuses (Hornsby, 2009). Nickerson and Schaffer note than the curriculum of the branch campus is additionally unique in that it is "primarily market driven" (p. 50). Not only did the market drive the establishment of the branch campus, and the curriculum, it continues to drive the level of permanent faculty compared to adjuncts (Nickerson & Schaffer). By employing more adjuncts on the branch campus, the university can redouble its efforts to keep costs down, and remain flexible to market changes.

In order to maximize the enrollment, most branch campuses seek not just to specialize in certain programs but also to find the niche where enrollment potential is highest for the lowest cost (Nickerson & Schaffer, 2001). This is not unlike the reason universities saw their expansion to multiple colleges in the middle ages. Then, new colleges were formed to serve a student-body not currently being served by the existent colleges. Today some branch campuses have identified their service niche as non-traditional students or what some are beginning to call *post-traditional* students.[5] Many of the students at branch campuses do not fit the traditional 18-25-year-old age group. The students who tended to be attracted to branch campuses also have an eye on cost in addition to being attracted to branch campuses for a variety of other reasons. They are typically older, or have families, or have other experiences or responsibilities that attract them to the flexibility

[5] According to Louis Soares, the term post-traditional learners grew out of a conversation with John Ebersole, president of Excelsior College. He elaborated that adult learners were nontraditional or at-risk but rather post-traditional (Soares, 2013).

and tuition savings that branch campuses can offer. And because athletics, extracurricular activities, and services tend not to be the primary attraction for post-traditional students, branch campuses can continue to keep costs down by limiting their facilities footprint to just the space needed to teach and administer the campus and limiting the fees students pay (Nickerson & Schaffer, 2001). This also allows the university to limit staffing on the branch campus.

Depending upon one's definitions, branch campuses may very well be as old as the concept of higher education itself. Nevertheless, the motivation for opening and retaining a branch campus whether in its original form or in its modern form of online offerings needs to be critically examined on a regular basis by the administration. What is the critical mission of the campus? Is it serving a unique student population? Are there different or additional student populations that could be served? Were administrators who had a hand in the establishment of the branch campus being altruistic and fulfilling the mission of their institutions when they began offering courses in the area to place-bound students, or were increased revenues from the students or through government funding also an incentive? While both mission and increased revenues may have been causes, at the same time, as state and federal funding dried up, branch campuses seemed to offer ways to increase access to students and tuition revenues (Sumner, 2000). Nonetheless, societal forces also seem to be a major cause for expansion. Regardless of the time period, Medieval universities expanded to offer education to a different group of students at new colleges. Modern universities are doing much the same, by establishing branch campuses, additional sites, and locations to populations not currently being served.

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The Case for Astrobiology as a General Elective (Gen. Ed.) Science Course for Non-Science Majors

James M. Ritter, Ph.D.
Kent State University at Trumbull
jritter0@kent.edu

Jamison M. Ritter
Kent State University
jritter9@kent.edu

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By James M. Ritter, Ph.D and Jamison M. Ritter

ABSTRACT

All colleges and universities have a general education requirement for all undergraduate degrees. The specific requirements have changed over time as higher education has evolved. Similarly, astrobiology, a relatively new subject area, not only deals with the origin of life but also the manner in which life has evolved over many years. Perhaps the time has come to include astrobiology as one of the general education requirements in the science area. However, implementing this change will take cooperation on the part of faculty and administration.

Keywords: general elective science, astrobiology, undergraduate general elective, non-science majors electives

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By James M. Ritter, Ph.D and Jamison M. Ritter

Higher education institutions require certain general education requirements be taken by their students depending on the attributes they want their graduates to possess. These attributes normally consist of a broad range of knowledge, including, but not limited to, critical reasoning, communication, problem-solving, civic duties, ethics, and a global outlook (Zeszotarski, 1999). These requirements are taken regardless of a student's major (Offerdahl, & Impey, 2012). These courses are also required whether a student is pursuing an associate degree or a bachelor's degree. Given that a bachelor's degree requires roughly twice as many credit hours as an associate degree, it stands to reason that a bachelor's degree entails approximately twice as many general education requirements as an associate degree.

The general education requirements are a natural progression of liberal education. According to Bourke, et. al, "the liberal arts tradition has morphed and transformed into what we now know as the general education requirements, taking shape either through a core curriculum or distribution requirements as found in course catalogs throughout higher education." (2009). Higher education has determined the need for general education with the intention of the general education courses increasing students' breadth of knowledge and the major courses increasing their depth of knowledge (Higgins, 2017). For example, a student majoring in management will learn multiple management theories in their business courses and, therefore, the student's depth of management knowledge will be very steep. The general education requirements will help to expand the student's overall scope of knowledge that includes more than simply management theories. Teaching students about more than one area is what separates colleges and universities from vocational schools and proprietary schools. The typical distribution system requires the student to select a few courses in each of the following areas: physical and biological sciences, humanities, social sciences, writing, mathematics, and multicultural studies (Latzer, 2004). It should be noted that general education requirements are not unique to United States higher education institutions. General education in China's colleges and universities is considered to contain fundamental knowledge that every graduate should possess, regardless of their specific area of concentration (Maoyuan, 2007).

Like most areas of higher education, general education has had its share of critics. This criticism is evidenced by the fact that, at most universities, the general education requirements are ever-changing. Although most critics are in agreement that the role of general education is to increase students' breadth of knowledge without involving courses that are too specific, the courses used to fill these requirements are always up for debate. A prime example of the attempt to change the general education requirements is the fact that, for over a quarter of a century, colleges have been sending teams to the Association of American Colleges and Universities (AAC&U) Institute on General Education and Assessment (www.aacu.org/summerinstitutes/igea/2018). Every summer, teams of faculty and senior administrators attend this conference in an effort to "fix general education." The purpose of this yearly meeting is an effort to make the general education requirements more relevant for students, better understood by faculty, and more closely aligned with the school's missions and priorities (Finley & Horan, 2018).

Just as general education is not unique to the United States, changes to general education are also not exclusive to the United States. In Hong Kong, higher education has recently experienced a tremendous amount of change, especially in its university's general education requirements (Jaffee, 2012). Beginning in 2012, for example,

Hong Kong's eight major public universities transitioned from three years to four years and, in doing so, positioned general education at the center of its reform. The reform had several fundamental reasons, the main reasons being the extreme competition from international schools, the knowledge-based global economy that requires a variety of skills and the realization that rote learning does not bode well for critical thinking skills and the ability to adapt to a constantly-changing workplace. A survey discovered that the overwhelming majority of Hong Kong employers did not believe that graduates had adequate generic skills, such as those taught in the general education requirements in every American college and university (Shek, Yu, Wu, & Chai, 2013). Given the changes taking place in higher education, and specifically general education, perhaps now is the time to introduce astrobiology as an option in the science area of the general education requirements. The field of astrobiology is so new that many, even in academia, are not sure of its definition. Astrobiology is concerned with the beginnings, progression and circulation of life. Astrobiologists study the manner in which planets formed and how life may exist on those planets by combining biological and informational sciences. A critical segment of astrobiology is the investigation of life beyond earth, a topic that has fascinated human beings for centuries (Des Marias & Walter, 1999). Astrobiology is also concerned with how the current state of planets evolved and how they may be taking shape in other solar systems (Drake & Jakosky, 2002).

If, in fact, one of the aims of the general education requirements is "concern for truth, capacity for wonder, appreciation for beauty, and passion for justice" (Higgins, 2017), then it only makes sense that astrobiology be included in the general education courses for numerous reasons. First, determining if we are alone in the university, as well as determining the origins of life, are clearly a search for the truth. Second, what better way to ignite students' level of wonder, or curiosity, than to search for life outside of our planet? In addition, all of those who have been ridiculed for believing in life in other worlds may finally feel some type of justice if suddenly college students are asking the same questions they have been asking for years. That being said, astrobiology is more than just the study of whether life exists outside of earth and the study of the origins of life on earth. Astrobiology deals with both scientific and philosophical questions and makes use of knowledge from many scientific disciplines, such as biology (including microbiology, botany, cellular biology and radiation biology), chemistry (including biochemistry, photochemistry and organic chemistry) paleontology, geology, atmospheric physics, planetary physics, astronomy, meteoritics, and stellar physics) to try to find out how and why life originates." (Weems & McAvinia, 2017). This fulfills the requirement that the general education courses must not be specific in nature but, rather, cover a variety of different areas. One impediment to adding astrobiology to the general education requirements is that it is barely over 20 years old. So how can a discipline that is not even a quarter of a century old compete, or even be used in the same sentence, as disciplines well over 100 years old? The answer lies in the fact that, through astrobiology, over 100 new planets have been discovered (Slater, 2006). A discipline with over 100 new findings in less than 25 years is quite remarkable especially when compared with the other disciplines.

Another challenge of allowing this science to be one of the general education requirements is the fact that much of its subject matter has not yet been proven to exist (Preston, 2012). In other words, although 100 new planets have recently been discovered, this is, in all likelihood, an infinitesimal percentage of the number of planets that exist. Those who oppose the addition of astrobiology for this reason might make the claim that this is similar to studying modern history from only 1950 to 1951. So what are the reasons that favor including astrobiology as a general education requirement?

First, according to a 20 year survey of close to 10,000 students, using a science literacy instrument designed by the National Science Foundation, when it comes to understanding

science, "freshmen perform only marginally higher than the general public, with the exception of large positive differences in their knowledge of evolution and the Big Bang." (Impey, Buxner, Antonellis, Johnson, & King, 2011). Therefore, the need for a science course, especially one that will peak students' interest, clearly exists.

Second, in partnership with several universities, NASA has created the National Astrobiology Institute. What other general education requirements have their own institute? Although having an institute may not be a reason to include astrobiology as a general education requirement, the funding that comes with having an institute is something most other subject areas cannot boast. Also, while much research today is very narrowly focused, astrobiology chooses to cover the broad view of life itself throughout the entire universe (Gee, Surridge, & Allen, 2001). A broader scope than that simply does not exist with any other general education course.

If Astrobiology is to be proposed as an addition to a college or university's general education requirements, what is the best way to increase its chances of being included? Kezar and Elrod (2012) suggested that change has a greater chance of success when both "topdown" and "bottom-up" approaches are utilized at the same time. At the top, administrators must support reform efforts by not only publicly emphasizing their importance but also by providing the necessary resources to facilitate those efforts. The bottom-up element must come from faculty interest and commitment. Specifically, faculty must serve as the change agents. Unfortunately, most colleges do not utilize this integrated approach and do not have a shared vision for the general education requirements. Kezar and Elrod also stated that few colleges have even attempted this integrated approach. Perhaps the view of the various departments in colleges and universities being in separate silos is somewhat accurate.

In summary, the time has come for colleges and universities to consider astrobiology as an option in the general education requirements. This ever-changing discipline can bring an excitement to a college requirement that most students dread. The difficulty, however, will be in its implementation. The successful implementation of astrobiology into the general education requirements will necessitate that administrators and faculty work together which, in the past, has been no easy task.

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