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Funding Interdisciplinary Collaborations and Stimulating Economic Development: Genesis of Iowa State University's Graduate Program in Historic Preservation

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ABSTRACT — As fiscal pressures impact public institutions, universities seek creative strategies to fund new interdisciplinary programs in the arts. This study examined the genesis of an interdisciplinary historic preservation program being developed at Iowa State University of Science and Technology (ISU) and the program's partnership with the Iowa Economic Development Authority. Centered in the College of Design, the program is generating interest for its innovative financial and governance models. Thus, this study asked 1) how can university programs in the arts collaborate with regional businesses and governmental agencies to develop new programs and secure external funding and 2) what are the key characteristics and essential strategies of a successful interdisciplinary collaboration? The research methodology analyzed the nascent program's interdisciplinary foundation and collaborative research, internal and external funding mechanisms, formal interagency agreements, organizational and governance structures, and means of generating public support. Findings show that notable accomplishments of ISU's Historic Preservation Exploratory Committee (HPEC) include development of 1) a hybrid-funding model, integrating internal and external support, 2) an interagency agreement, ensuring the program's development and governance through an interdisciplinary committee, 3) a President's High-Impact Hires Proposal, facilitating a funded faculty hire, and 4) an innovative pedagogical model, realizing interdisciplinary experiences in disparate preservation courses. The information is applicable to public universities globally.

INTRODUCTION

In the current climate of fiscal pressures on public institutions, universities are seeking creative strategies to fund new interdisciplinary programs in the arts and humanities. This study examined the genesis of an interdisciplinary program in historic preservation being developed at Iowa State University of Science and Technology (ISU) and the program's partnership with the Iowa Economic Development Authority (IEDA). Centered in the College of Design (CoD), the program is generating national and international interest for its

innovative financial and governance models.

Five faculty members in the College of Design envisioned and initiated ISU's historic preservation program: Diane Al Shihabi, PhD (Interior Design), Carlton Basmajian, PhD (Community and Regional Planning), Heidi Hohmann, MLA (Landscape Architecture), Mikesch Muecke, PhD (Architecture), and Dr. Arvid Osterberg (Architecture). The group formed the Historic Preservation Exploratory Committee (HPEC) in the fall of 2012 and over a two-year period researched national academic guidelines, interdisciplinary programs, and pedagogical models for preservation education.

To conceptualize and enact the program, HPEC collaborated with CoD Dean Luis Rico-Gutierrez, ISU Senior Vice-President and Provost Jonathon Wickert, IEDA Director Debi Durham, Main Street Iowa Design Consultant Tim Reinders, Associate Dean of ISU Extension and Outreach Tim Borich, Siouxland Chamber of Commerce President Chris McGowan, and Sioux City preservation business owners. The public-private alliance sought mutual goals and fiscal means of advancing the initiative and facilitated attainment of Phase One of the program's development and implementation, the topic of this paper. Phase One realized the program's inception, funding mechanisms, and organizational and governance structures and culminated with the endeavor's first new hire. Phase Two will execute the program's partnership agreements and continue programmatic and curriculum development.

With Phase One of the program complete, this study asked 1) how can university programs in the arts and applied arts collaborate with regional businesses and state governmental agencies to develop multidisciplinary programs and to secure external funding and 2) what are the essential characteristics and key strategies of a successful interdisciplinary/cross-disciplinary collaboration?

The paper's research methodology analyzed the developing program's interdisciplinary foundation and collaborative research, internal and external funding mechanisms, formal interagency agreements, organizational and governance structures, and means of generating public support. It began by examining HPEC's formation and mode of effective collaboration. Next, it ascertained HPEC's proposal for the ISU President's High-Impact Hires Initiative and its impact on internal funding and faculty recruitment. It then explored the emerging program's hybrid-funding model, developed jointly between ISU and the IEDA, and HPEC's stipulations on the program's governance and academic

freedom, incorporated in ISU's interagency agreement with IEDA. Lastly, it evaluated HPEC's means of garnering public support for the program through diverse audiences and innovative pedagogical approaches.

The study will show that the developing program's hybrid-funding model and HPEC's accepted proposal for the President's High-Impact Hires Initiative served as important stimulants in the program's developmental process. Further, that the interagency agreement ensured that interdisciplinary effort will determine and advance the program.

LITERATURE REVIEW

A public research university's mission, and the quality and reliability of its revenue and expense structures, as well as a proposed program's course requirements, learning environments, instructional delivery methods, and types of degrees offered, determine the types of funding and educational approaches necessary to finance and develop the initiative. As a result, literature on funding in higher education and on preservation education in design disciplines informed the research and analysis in this study.

Craig Calhoun differentiated the mission of a public research university, writing: "Knowledge is the business of the research university: creating knowledge through research, preserving and renewing knowledge through scholarship, transmitting knowledge through teaching and learning, and distributing and applying knowledge in public service" (Rhoten and Calhoun 2011, 28).

Implicit within the statement is the government's social contract to provide access to a quality education, a goal that some scholars believe is in question and subject to change (Fichtenbaum 2013; McKeown 1996; Speck 2010, 8). Exposing students to new ideas and methods requires institutions to stay versed in expanding knowledge and to develop knowledge and areas of study, which may require new faculty or facilities (Odden and Massy 1992, 13). Since public research institutions have service to the state, nation, and world (National Science Board 2012), they enroll 80 percent of the minority students in all research institutions (McPherson, Gobstein, and Shulenburger 2010) and teach a higher percentage of students with lower socioeconomic capital than do private research institutes (Baum and Payea 2011, 16; College Board 2015, 19). Since most public universities lack ample endowments, supporting missions requires complex revenue structures (Hossler 2004, 145).

Complexities of Funding Higher Education

To explain the relationship between a university's revenue structure and its expenditure decisions, Jacob Fowles (2014) draws on resource dependency theory, which posits that institutional behavior is determined by availability of the external revenue sources that it needs to function (Pffefer and Salancik 2003). Public universities gain revenue primarily from state appropriations and tuition and fees, and secondarily from federal funds, endowments, and grants (Speck 2010). In nonprofit institutions, not all departments or colleges need to cover all operating expenses, providing overall revenue exceeds expenses. Excess funds "cross-subsidize" programs that are less profitable but desirable for the institution's social goals (Fowles 2014, 274). Colleges of design with studio pedagogies, including ISU's, benefit from cross-subsidization.

A primary concern and current source of debate between a public institution's internal and external stakeholders is how to fund budgets and allocate resources amid recurring declines in state appropriations and corresponding increases in student tuition, which continue to surpass inflation rates (Hossler 2004; Katsinas et al. 2016; Toutkoushian 2001). On average, in the 1960s public institutions of higher education received 80 percent of funding from state appropriations (Bass 2010), yet by 2012 they obtained only 23 percent of revenues from state governments (GAO 2014, 9). Financial crises, taxpayer resistance, economic recessions, and conservative ideals hastened the four-decade decline in state funding and, conversely, the government's interest in increased efficiency and performance in higher education (Callan 2002; Dougherty and Natow 2015; Feigenbaum, Henig, and Hamnett 1999; Forsyth 2001; Marginson 1997; Moynihan 2008; Osborne and Gaebler 1992; Radin 2006; Slaughter and Rhoades 2004). Multiple variants of resource efficiency and performance-based budgeting developed, as did the types of outcomes measured.

The three most common budgeting models in higher education today are (1) incremental (traditional), (2) responsibility-centered management, and (3) performance funding. They differ in distribution and management of revenues and in entrepreneurial activity. Incremental budgeting is a centralized approach that adds uniform "increments" to a historical base, while responsibility-centered management is a decentralized approach that transfers revenue ownership to colleges, based on defined input and output measures

and entrepreneurial activities. Performance funding is a centralized approach that determines distribution by specific input and output metrics. Many universities employ hybrids of these methods (Curry, Laws, and Strauss 2013).

In the 1990s diminished state revenues, complex budget formulas, changing student demographics, and systemic institutional growth led states to seek new funding paradigms based on accountability and productivity, decentralization of control, and alternate revenue sources (Honeyman, Wattenbarger, and Westbrook 1996, viii–ix). Budget formulas had become increasingly complex to facilitate competition for limited funds and to distinguish institutional costs (McKeown 1996, 77). Demographics changed to older, non-Anglo, and poorer students, while financial aid shifted from grants to loans, increasing the number of part-time students and extending completion times (Garcia 1994; Honeyman and Bruhn 2016, 4). Institutional growth stemmed, in part, from an increase in the number of staff and graduate assistants, hired to support senior faculties' research agendas to fulfill missions.[1] Increased expenditures drew public demand for greater economic and social value in education, via specialized training (Honeyman and Bruhn 2016, 25).

To address management and control issues in large public universities, policy makers advocated Responsibility-Centered Management (RCM), which relies on operating income from general funds (Whalen 1996, 130). RCM allowed colleges to become financial management centers that paid for their activities, including rent, while retaining the income that they generated. Deans became empowered to manage resources and performance effectiveness through RCM concepts related to decision making, motivation, and coordination (Whalen 1996, 131–135). To make optimal decisions, centers required comprehensive and timely information. To ensure motivation, deans needed functional autonomy, performance recognition, and stable rules. To coordinate effectively, they required clear objectives and no hidden agendas.

Varying from incremental and responsibility-centered budget models that were largely enrollment based and input focused, performance funding links state appropriations to institutional performance by specific outcomes, such as degree completion, job placement, retention, quality of programs offered, and so forth (Burke 2002; Dougherty and Reddy 2013). Dougherty and Natow (2015) identified two waves of performance funding, distinguished by distinct motives: (1) 1979 to 2000, and

(2) 2007 to present. During the first wave, sociopolitical antecedents included state budget demands (K–12 costs, Medicaid, prisons), business pressure to decrease taxes, a belief that higher education should serve economic needs, a perception that higher education was inefficient, and discourse that sought business models and methods for public institutions. By the 1990s eighteen states employed performance funding, yet by the early 2000s that number had diminished to six. In the second wave, the primary stimulus was the severe depression of 2007, after which governors increasingly advocated performance funding in state fiscal policy and through educational boards. By 2013, thirty-two states had adopted performance funding, yet of those, only five states implemented the model in four-year institutions (National Conference of State Legislatures 2015). Governors and legislators continue to increase and shift policy-making decisions away from higher education institutions, boards, and interest groups, a phenomenon Henig (2013) calls the end of "education exceptionalism," where public institutions are increasingly assessed by their impact on economic growth, through research or the training of specialists.

Recently, President Obama announced plans to link federal financial aid with institutional performance and urged states to adopt performance funding (Office of the Press Secretary 2013). Unclear, however, is whether this budget model influences desired outcomes related to graduation rates, student diversity, and program quality (Dougherty et al. 2016; Hillman 2016). Analysis of first wave programs found negligible correlation between performance funding and graduation or retention rates (Dougherty and Reddy 2013; Rutherford and Rabovsky 2014; Tandberg and Hillman 2014). Results of second wave programs were mixed but indicated restricted admittance and lowered academic standards to achieve outcomes (Dougherty et al. 2016, 167). Hillman (2016) asserts that performance funding negatively impacts institutions serving diverse and disadvantaged students; hence, state governments should shift from "merit-based" systems to "need-based" systems, and employ capacity building and equity-based funding.

In 2014, Iowa's Board of Regents approved a performance-funding model that would equitably allocate funds among the state's three public universities by resident enrollment, student attainment, access for low-income and minority students, and sponsored research (Ruud and Leath 2015). While supported by presidents of two of Iowa's three public universities, the legislature did not implement it. ISU currently employs Resource Management Model (RMM), an integrated base-plus and "responsibility-centered and incentive-driven" means of developing operating budgets (Iowa State University 2016). RMM reflects the decentralization and autonomy of RCM and measures outcomes per ISU's strategic plan, education quality, student enrollment targets/tuition revenues, and sponsored funding growth. Although it may be inadequate for equitable distribution of state funds, the model empowered the CoD dean and faculty to forge external funding alliances.

The economic recovery is now expanding, but state support is not (Katsinas et al. 2016, 2). Mortenson (2012, 27) asserts that "public education is gradually being privatized," and that this progression since 1980 suggests that average state appropriations will reach zero by 2059, with many states realizing privatization earlier. Essential questions posed by Mortenson (29) are "If public institutions are no longer state supported, who owns them? Who should govern them? Who should they serve? Should states be contracting for specified outcomes?"

With state appropriations an unreliable revenue source and the future of "cross-subsidization" uncertain, colleges are seeking creative funding modes. Trends include developing programs for nontraditional students, creating online and distance learning programs, increasing nonresident quotas, and using marketing strategies (college rankings, student diversity, SAT and ACT scores) to convey prestige and increase tuition and fees revenue (Hossler 2004, 148–49). Universities are also augmenting revenues by soliciting proposals from private donors, extending proposals to external collaborators, and creating funding agreements with naming rights (Hiles 2010, 52; Holmes 2010, 28; Speck 2010, 10). Institutional leaders, including the president and academic deans, are now sharing fundraising responsibilities with faculty members, who are encouraged to form fundraising partnerships, conduct joint donor visits, and develop collaborative strategies for support agreements (Hodson 2010, 44; Stevick 2010, 59-60). Further, research institutions are consulting, sponsoring startups, licensing patents, and forming corporate alliances between academy and industry (AAUP 2014).

Within this milieu, HPEC developed a process to initiate and creatively fund a new interdisciplinary program in historic preservation at a large public research institution. HPEC sought internal and external funds by aligning preservation objectives with the university's strategic plan and the state's economic development agenda.

Literature of Preservation Education and Program Development in Design Disciplines

Editors Barry Stiefel and Jeremy Wells (2014, 8) provide an extensive literature review on pedagogies, outcomes, and curricula in postsecondary historic environment education, while Michael Tomlan (1989; 1994) and David Woodcock (2009) trace the development and goals of graduate-level preservation programs; hence, these topics will not be covered here in depth. Rather, this review focuses on contemporary issues related to (1) curricula development and core functions in academic-industry/government alliances and (2) interdisciplinary program development and governance amid paradigm shifts in funding and heritage conservation.

As a result of escalating external funding partnerships, curriculum design is increasingly impacted by outside interests and market-oriented approaches that are based on outcomes and tied to employment (AAUP 2014, 16; Barnett and Coate 2005, 38). Stiefel and Wells (2014, 9) assert that although imperfect, outcomes-based pedagogy has sufficient empirical and theoretical bases to be employed; hence, curricula should reflect specific objectives, and pedagogies should be assessed by the extent that objectives have been met. This study recognizes the need for external funding and outcomes-based learning; yet it aligns with AAUP (2014) and sanctions the academy's majority control over committees in academic-industry/government alliances and exclusive control over curricula development, course content, and pedagogy, and faculty research, hiring, and promotion.

In addition to changes in funding of higher education, paradigm shifts in heritage conservation are impacting preservation education in terms of ideal learning environments and instructional delivery methods. They include (1) the change from a scientific perspective to a postmodern cultural approach, (2) a new decision-making process that includes multiple stakeholders and integrates new and historic technologies, materials, and cultural ideas, and (3) a growing conservation ethic in practice (Zancheti 2009, 74). Due to the number of people involved and complexity of new technologies, including Building Information Modeling (BIM), the collaborative design process requires total integration and open communication (Kapp 2009, 92). The changes require designers to work in integrated teams and share information from development of historic structures reports (Arbogast 2010) through construction administration. With 60 to 70 percent of architectural practice in

Europe addressing existing buildings, Van Balen (2007, 297) calls for a more interdisciplinary and intercultural methodology for heritage preservation training, noting that "architecture is taught in an increasingly restricted manner, isolated from other fields such as interior design, furnishings, and mural paintings decoration." Architecture and planning remain dominant in American preservation programs, with landscape architecture represented in twenty-three out of fifty-nine programs and interior design integrated into only seven programs (NCPE 2016). This study exemplifies the comprehensive and equitable integration of landscape architecture and interior design content and academic perspectives in historic preservation education, alongside those of architecture and planning. As accreditation boards affirm the importance of historic preservation across design disciplines, this type of integration will widen. The National Architectural Accrediting Board's *2009 Conditions for Accreditation* stipulates evaluation of historic preservation knowledge in "Realm B: Integrated Building Practices, Technical Skills and Knowledge" and in "Realm C: Leadership and Practice" (Kapp, Bricker, and Hoyos 2014, 246). The Council for Interior Design Accreditation's "2017 Professional Standards" add the term "preservation" under Standard 10 (CIDA 2016). Although a modest change, the incorporation presages future application (Al Shihabi 2016).

Interdisciplinary collaborations with internal and external financiers require successful collaborative models to facilitate decision making and coordination. While Principles 36 and 37 of AAUP (2014, 199) provide broad guidance for agreements, preferred praxes of foundation-institutional partnerships pose a viable model for detailed governance structures. David Bass (2010) sets forth practices to avoid and mitigate foundation-institution conflicts and to work effectively for common goals. He finds that miscommunication or "lack of clarity about the respective roles, prerogatives, and responsibilities of governing and foundation boards" is an antecedent of conflict (19). Further, he suggests that "differences in perspective, distrust of motives, disagreement about institutional priorities, and financial disputes, can all undermine relationships," noting that distrust occurs when self-interests and political agendas supersede those of the group (19–22). These principles informed HPEC's operational and governance philosophies.

In sum, paradigm shifts in funding and in heritage conservation require creative approaches to initiate new program development, while maintaining principles of

self-governance and academic freedom. Recurring concepts are interdisciplinary participation, collaborative teamwork, and open communication. This study demonstrates such a model for internal-external engagements.

GENESIS OF ISU'S INTERDISCIPLINARY PROGRAM IN HISTORIC PRESERVATION

HPEC evolved out of a grassroots foundation and a shared faculty interest in historic preservation. In the fall of 2012, Al Shihabi, Muecke, and Osterberg began attending each other's lectures, collaborating on field trips, and cooperatively reviewing student projects. They jointly participated in ARCH 567: Preservation, Restoration, and Rehabilitation and ARCH 528A: Historic Preservation (offered as an independent section under Studies in Architecture: Culture), courses developed by Osterberg in the 1980s to address practical application and history/theory respectively. Al Shihabi, Muecke, and Osterberg believed that ISU's CoD was in an auspicious position to organize and implement a preservation program that could serve Iowa, the Midwest, and global constituents. To augment interdisciplinary perspectives, Al Shihabi, Muecke, and Osterberg sought counterparts in the CoD and began collaborating with Carlton Basmajian (Community and Regional Planning) and Heidi Hohmann (Landscape Architecture), scholars in urban planning and in landscape and garden preservation. They also met with Dean Luis Rico-Gutierrez on a regular basis and sought input from preservation specialists in Iowa's communities and Midwestern states.

To determine essential programmatic requirements, Al Shihabi and Muecke researched academic standards set by the National Council for Preservation Education (NCPE), which guide reputable preservation programs in the United States. They also examined multiple historic preservation programs that could serve as models for ISU, including the Center for Historic Preservation at Ball State University, Historic Preservation Planning program at Cornell, and the Historic Preservation Program at the University of Florida (UF). Muecke analyzed program requirements and summarized findings in the Historic Preservation Course Matrix (Mikesch Muecke, pers. comm.). Al Shihabi researched syllabi of courses in multiple programs and spoke at length with Marty Hylton, director of the Historic Preservation Program at UF Gainesville, an interdisciplinary program centered in a college of design. Hylton noted the necessity of identifying key qualities that could distinguish and

position ISU's historic preservation program, like UF Gainesville accomplished through its core foci: "20th Century Heritage," "Resilient Resources," and "Emerging Technologies" (Marty Hylton, pers. comm.).

Similar to other leading universities, Iowa will seek an interdisciplinary program model in preservation with a campus-wide curriculum approach and global partnerships. Consequently, HPEC studied ISU's strengths beyond the CoD, particularly in areas of engineering and history. HPEC developed a summary of the CoD's historic preservation courses and supplemental courses (history, research methods, writing, and so forth) that could fulfill NCPE guidelines.

Al Shihabi, Muecke, and Osterberg's research, along with that of other HPEC members, determined that ISU was in a position to distinguish its historic preservation program through advanced technology, regional field schools, and global partnerships (ISU Rome and others). In terms of technology, ISU's Virtual Reality Applications Center possesses some of the world's most sophisticated systems that could be integrated with design history courses and historic preservation research to enhance interpretation of the historic built environment. Being centered in the Midwest, ISU's historic preservation program could emphasize cultural landscape preservation, farm preservation, Main Street Iowa programs, archaeological site preservation, city planning, and sustainable architecture. Beyond Iowa, ISU's Rome campus and global partnerships could support the program's national and international student body through study abroad opportunities in Italy, Germany, China, and other countries where ISU has established relationships or where preservation is advanced or in need of enhancement. ISU's Rome campus allows unprecedented access to historic sites, scholars, and artisans in the city and the surrounding regions. It provides a setting to develop a formative research model for scholarly collaboration and study abroad experiences in historic preservation that could be applied worldwide.

HPEC's comprehensive research identified additional courses needed to fulfill NCPE's criteria and revealed a particular void in historic preservation policy and planning expertise, along with the need to hire a faculty member with such credentials. The committee debated the virtues of a master's degree as opposed to a certificate and reached consensus that developing scholarly candidates across disciplines should be a principal strength of ISU's program. Requiring a formal research thesis or dissertation within a formal master's or PhD program would

yield more informed graduates and confer a higher level of credibility than obtainable through a certificate. A certificate program could serve the undergraduate level or returning adults interested in continuing education. HPEC concurred that a strong internship program across preservation specializations would be an essential program component for providing practical training and improving jobs prospects.

In the spring of 2013, HPEC drafted a formal letter proposing a new Master of Historic Preservation at Iowa State University and communicating faculty needs (HPEC 2012–2014). The committee noted that historic preservation projects require large multidisciplinary teams of specialists, who are frequently qualified through master's or PhD degrees and that the committee would seek an additional faculty member with planning and PhD credentials.

HYBRID-FUNDING MODEL: PRESIDENT'S HIGH-IMPACT HIRES INITIATIVE AND IOWA ECONOMIC DEVELOPMENT AUTHORITY

HPEC sought creative funding mechanisms to facilitate development of a new interdisciplinary program in the CoD amid a period of fiscal constraint. An opportunity arose in the fall of 2013, when ISU President Leath allocated $1.5 million in state appropriations to hire new tenured or tenure-track faculty in areas of high impact to the university and the state. Leath's initiative provided matching funds to help colleges hire new faculty to accommodate higher enrollments, to conduct research that benefits Iowa's economy, and to provide service through ISU's Extension and Outreach program.

HPEC submitted a proposal for the President's High-Impact Hires Initiative, spearheaded by Heidi Hohmann, interim department chair of Landscape Architecture, noting that the proposed hire would contribute to a developing interdisciplinary program capable of enhancing Iowa's economy through historic preservation and would serve the state further through Extension and Outreach collaborations. National Endowment for the Arts (NEA) research supports the first assertion, finding that of the $29.6 billion in architectural services provided in the United States in 2012, $1.8 billion was specifically related to historical restoration, and of that amount, $1.76 billion, or 97 percent was generated domestically (NEA 2015). With state and federal historic preservation tax incentives designed to stimulate economic development and the US Green Building Council's recent decision to

prioritize the greening of historic buildings, the percentage of architectural and other design services related to historic preservation is expected to grow.

ISU's Office of the Senior Vice President and Provost awarded twenty-three high-impact hires across the university, conferring four to the College of Design, one of which was for historic preservation. Dean Rico-Gutierrez noted that the new faculty position in historic preservation, "will leverage the expertise of existing faculty members and coursework across the university to create a new degree concentration in historic preservation" (Luis Rico-Gutierrez, pers. comm.).

The support offered by the President's High-Impact Hires Initiative in the CoD equated to $196,395 in new and recurring funds. Significantly, the Office of the Senior Vice President and Provost and Main Street Iowa cofunded the high-impact position in historic preservation, resulting in a hybrid-funding model with internal and external sources that left minimal cost to the college and university to implement the hire. IEDA, through Main Street Iowa, funded the new hire's salary and the program's start-up costs, while ISU financed the faculty search and the new hire's office space. Together, the President's High-Impact Hires Initiative and the CoD's hybrid-funding model made the new interdisciplinary degree focus in preservation possible.

To elucidate joint goals of the developing program Al Shihabi, Osterberg, Muecke, along with Dean Rico-Gutierrez and Associate Dean Tim Borich (ISU Extension and Outreach), met with Tim Reinders (Main Street Iowa) and Sioux City business owners and community leaders supporting ISU's preservation initiative (Mikesch Muecke, pers. comm.; Rico-Gutierrez, pers. comm.). Chris McGowan, Siouxland Chamber of Commerce president, and Nathan Kalaher, principal of PLaN Architecture and an ISU- and Cornell-trained historic preservation architect, represented the interests of private business.[2] Together the ISU delegation, government representatives, and business leaders developed common goals and primary objectives for the developing program.

They included the following:

1. Combine theory with experiential fieldwork and technical training.
2. Integrate advanced technology with traditional craftsmanship.
3. Develop innovative historic preservation pedagogies to stimulate and invigorate participants.

4. Develop ISU Design West for mutual benefit in preservation (summer field schools, joint lectures with ISU, distance learning for traditional and nontraditional students).[3]

With joint objectives clarified, Dean Rico-Gutierrez initiated the faculty search and appointed Muecke (chair), Al Shihabi, Basmajian, and Osterberg to the CoD committee. Reinders represented IEDA. While ISU's Vacancy Announcement (2013) generated multiple qualified applicants, Ted Grevstad-Nordbrock was offered the position.

Prior to contract negotiations and formal agreements, HPEC met with Dean Rico-Gutierrez to convey how they envisioned the historic preservation program to be organized and governed. Expectations were based on Al Shihabi's document titled, "The Preservation Institute," a position paper on optimal organizational and governance structures for the nascent program (Al Shihabi 2014). The unpublished manuscript evolved out of collaborative discussions with HPEC members on overarching concerns and through committee meetings of ISU's Center for Excellence in the Arts and Humanities on university priorities.

Primary HPEC interests and challenges included ensuring momentum and effective collaboration through equal voice, equal recognition, and equal opportunities for growth. To maintain an egalitarian environment, HPEC advocated an independent program that would not be centered or elevated within one department.[4] They sought to protect principles of academic freedom and self-governance in all agreements, and recognition for extensive programmatic efforts beyond service in promotion and tenure. Further, interdisciplinary faculty condoned funding beyond departmental allocations for preservation-related research and development.

As a result, "The Preservation Institute" outlined benefits of the developing program according to markers valued by ISU and addressed how faculty would govern and oversee the initiative. Specifically, it noted that the new program would

1. define and elevate ISU and the CoD's national/international profiles through the historic preservation program and its ability to obtain grants recognized by the Association of American Colleges & Universities,
2. fuse civic responsibility and academic goals by integrating outreach in Iowa with historic preservation initiatives (part of ISU's land grant mandate),
3. facilitate global learning and social responsibility by sustaining cultural identities through historic preservation,

4. bridge global cultures and increase diversity and equity, through collaborative initiatives in historic preservation (i.e., university to university, international collaborations),
5. combine theory, practice, and technology in innovative pedagogical models (summer field schools, outreach),
6. increase output of high-level national/international scholarship through a research-oriented program, and
7. increase revenue in the College of Design, while introducing diverse career paths in the field of historic preservation on local, regional, national, and international levels.

The document called for an interdisciplinary Historic Preservation Committee (HPC) to be appointed by the CoD dean, with representatives from the Departments of Architecture, Interior Design, Community and Regional Planning, and Landscape Architecture, who would collaborate with state and business representatives. It elucidated that the committee would jointly develop and govern the new program, and that if a chairperson or coordinator were to be required for any reason, the position would rotate among committee members every two to three years. The document asserted that faculty efforts should be recognized beyond service in promotion and tenure and that additional funding was necessary to support faculty research related to program development. The document and the meeting with the dean formed the basis of the formal agreement between ISU and IEDA on the developing program's governance and the new hire's collaborative responsibilities.

FORMATION OF INTERAGENCY AGREEMENT 14-IEDA-ISU

Through extensive internal and external collaborations across development of ISU's historic preservation program, HPEC found that equity of participants, prioritization of common goals, transparency of information, and efficiency of process were essential characteristics of an effective interdisciplinary collaboration. Thus, HPEC collaborated on formal language for the agreement between the IEDA and ISU.

"Interagency Agreement 14-IEDA-ISU" grants funds to ISU for the purpose of establishing a historic preservation program in the CoD (IEDA 2014). Tim Reinders is the project manager for IEDA and Luis Rico-Gutierrez is the project manager for ISU.

The terms of the agreement allocate payment for professional services to ISU, up to $100,000 annually. The

funding source is an appropriation from the Iowa legislature and it is renewable during the new hire's tenure period. Documents referenced and incorporated into the agreement include a scope of services and a budget. The scope of services sets forth seven stipulations, previously agreed upon with HPEC, that ISU must complete:

1. Hire an assistant or associate professor with historic preservation emphasis to manage development and implementation of new curriculum.

2. House candidate in department within College of Design as per area of study.

3. Establish multidisciplinary committee to oversee development and implementation of ISU's historic preservation program, with ultimate goal of creating degree programs in historic preservation.[5]

4. Incorporate ISU Design West into program.

5. Inventory, assess, and evaluate current courses at ISU in terms of historic preservation and NCPE standards for degree programs.

6. Develop plan, timeline, and costs to offer additional courses to meet NCPE guidelines for undergraduate and graduate degree options, undergraduate minors in historic preservation, and undergraduate and graduate certificates in historic preservation.

7. Develop strategies to expand historic preservation training and education in Iowa beyond traditional programs, including distance-learning techniques, nontraditional student programs, trades education, and experiential learning.

8. Investigate and develop potential partnerships to further historic preservation education and raining in Iowa (academic, trade organizations, state agencies, private sector businesses, local governments, and nonprofits).

The agreement does not stipulate, restrict, or dictate research or course content. This is the result of prior discussions on academic freedom between HPEC members and Tim Reinders of IEDA. The budget includes three line items: one related to new hire costs and two related to program development and indirect costs, as detailed below.

Line Item	Not to Exceed
Assistant Professor Salary/Benefits	$77,000
Program Development Costs	$15,000
Indirect Costs (8 percent)	$8,000
Total	**$100,000**

Stipulations 1, 2, and 3, identified in the scope of services, were completed by June of 2014, while others are in process and will be completed in Phase Two. ISU granted a six-month extension in the start date of the new hire to facilitate PhD completion, which delayed development of some stipulations in the agreement's original timeline.

IEDA's goals are to stimulate development of ISU's preservation program, help the program realize self-sufficiency, and impact Iowa's economic development through highly specialized personnel in historic preservation. While the interagency agreement is renewable, an inherent risk to the college is that IEDA's budget is reappropriated annually by the legislature. Differing from an endowment, where a large sum of money accumulates interest and addresses annual budget needs into perpetuity, a legislative appropriation is subject to unforeseen budget shortfalls and changing priorities of political parties. It is anticipated that the IEDA will reduce funding over the tenure period.

ORGANIZATIONAL STRUCTURE AND GOVERNANCE: ISU'S HISTORIC PRESERVATION PROGRAM

As required in the interagency agreement (I4-IEDA-ISU), and concurrent with its signing in 2014, the CoD established the HPC by mutual agreement between IEDA and ISU. College of Design members include Diane Al Shihabi (Interior Design), Carlton Basmajian (Community and Regional Planning), Heidi Hohmann (Landscape Architecture), Mikesch Muecke (Architecture) and Arvid Osterberg (Architecture).[6] Tim Reinders represents IEDA.

As set forth in the interagency agreement (IEDA 2014, 7), HPC oversees all aspects of development and execution of ISU's historic preservation program, including its governance, organization, and budget. This ensures global pursuits and professional growth for all members, incentivizes collaborative participation, guards against complacency, and engenders diverse opportunities and ideas to expand the program. The program will have a coordinator, rather than a director, who will serve a rotating two-year term. In consultation with the relevant department chair of the individual serving as the coordinator, HPC will determine the annual stipend and/or course release for the coordinator and committee members.

The interagency agreement allows a maximum of $77,000 for salary and benefits for the new hire. Expenses beyond this amount will require separate funding from the department. The remaining $23,000 detailed in the

interagency agreement will be expended as jointly agreed by HPC members for program development costs.

HPC is an interdisciplinary affiliation of individuals from separate disciplines working with external collaborators and financiers towards common goals and retaining full oversight of the program's goals, development, and implementation. To function effectively and to maintain collaborative and trusting relationships, committee members and their respective departments have a responsibility to conduct activities to best pursue the group's joint mission over self-interests. To keep individual members fully engaged and productive, the committee needs to communicate and operate with full transparency and honesty, and continue to enforce foundational agreements through a delineated structure. Consequently, a thoroughly developed governance and operating agreement to guide relationships is necessary and is in process. This document will (1) clarify and formalize primary relationships (committee member to committee member, committee to department, committee to college, and committee to external financiers), (2) codify duties and responsibilities, and elucidate joint planning procedures to avoid potential conflicts stemming from an individual's dual role, (3) define joint short-term and long-term goals and establish measures of success and accomplishments, (4) set forth clear policies for using external funds to ensure financial transparency and accountability, and program benefit as opposed to individual gain, and (5) delineate procedures for conflict resolution and to assess performance of the group and individuals serving it.

PUBLICIZING ISU'S DEVELOPING HISTORIC PRESERVATION PROGRAM

HPC members generated public support for the developing program through national conferences, state research summits, and new pedagogies in the CoD. In 2014, Al Shihabi, Muecke, and Osterberg hosted a forty-five minute breakout session on the college's developing historic preservation program at the annual conference of the Alliance for the Arts in Research Universities (a2ru), which garnered national and international exposure. Highlights included Reinders' presentation on how the program will partner with IEDA to revitalize some of Iowa's most valuable real estate through historic preservation and a quote by Debi Durham, IEDA director, elucidating this point: "At IEDA, we deploy an 'all of the above' economic development strategy—and

preservation-based development is a big part of that. We are so proud to be in the business of helping Iowa communities use their historic downtowns and neighborhoods as an effective vehicle for economic growth and vitality" (Al Shihabi, Muecke, and Osterberg 2014, 25).

Also of audience interest was Rico-Gutierrez's conveying of the financial benefits from administration's viewpoint, noting that the planned program's creative funding mechanisms resulted in minimal cost to the college. The presentation was well received, as noted in an email to Rico-Gutierrez from Dr. David Ehrenpreis, founding director, Institute for Visual Studies, James Madison University:

> First of all, thanks so much for hosting such a great conference. . . . I particularly enjoyed the presentation on your new historic preservation program. We have several resources here that I think we might be able to capitalize on in similar ways. I was wondering if you'd feel comfortable sharing the PowerPoint presentation your team showed at the conference. I'd love to show it to some colleagues here to show them what's possible. (David Ehrenpreis, pers. comm.)

To reach a statewide audience, Al Shihabi, Muecke, and Osterberg exhibited at the 2014 Preserve Iowa Summit in Cedar Rapids, utilizing flyers, posters, and direct dialogue (Al Shihabi, Muecke, and Osterberg 2014). Learning about community struggles to preserve cultural heritage reinforced the conviction that Iowa could benefit from ISU's advocacy and academic assistance in preservation. Losses included the First Christian Church (1913), notable for its stained glass designed by French expert Louis Millet and construction supervised by Chicago architect Louis Sullivan. It was demolished in 2012 to create parking space for Physicians' Clinic of Iowa (Save Cedar Rapids Heritage 2015).[7]

HPC professors increased student awareness of historic preservation through the addition of a new course, interdisciplinary collaborations, and field experiences in discipline-specific history courses. In the fall of 2014, Al Shihabi introduced ARTID 469D/569D Historic Preservation of Interiors, an Advanced Studies in Interior Design option, and the college's only preservation course focused on interior design. Al Shihabi and Osterberg coordinated schedule development for distinct preservation classes and shared lectures of common interest, creating a new pedagogical model for interdisciplinary coursework in the college. In ARTID 355: Interior

Design History/Theory/Criticism I (prehistory–early neoclassicism), Al Shihabi incorporated a field trip to the Salisbury House in Des Moines and coordinated it with the study of Gothic and Renaissance design typologies. In ARTID 356: Interior Design History/Theory/Criticism II (late neoclassicism–present), Al Shihabi developed field trips to Minneapolis and St. Paul for students to experience Beaux Arts buildings by some of the period's most renowned designers, including the Minnesota State Capitol (Cass Gilbert), Minneapolis Institute of Art (McKim, Mead, and White), and Cathedral of St. Paul (Emmanuel Masqueray). Together with lecture content that explained sociocultural influences in design evolution, site visits generated student interest in preservation and furthered enrollment in preservation classes.

While Phase One centered on program development, initiation, and publication, benefits to students were not insignificant. Phase One broadened awareness of historic preservation and its research methodologies, introduced a new design specialization within the field of preservation, and increased authenticity and meaning through community engagement. Significantly, the new course imparted design education's role in regional, national, and international cultural heritage conservation and protection. Seminar assignments and discussions on current controversies helped students understand the concept of cultural heritage and the contemporary social issues impacting it, including identity, diversity, racism, and intolerance. Studio projects informed students regarding how to apply research processes, standards, and guidelines to cultural heritage protection using hand and digital media, including Revit, a BIM system. Interdisciplinary course collaborations and the collegiality of preservation professors modeled a prototype for teamwork that mirrors practice.

Phase Two will escalate the program's value to undergraduate and graduate students, by introducing new courses with study-abroad components and broadening interdisciplinary collaborations. Courses will integrate history, theory, methods, and practice to yield a more nuanced understanding of preservation.

CONCLUSION

During Phase One of ISU's developing historic preservation program, HPEC generated the program's interdisciplinary foundation, academic framework, hybrid-funding model, and governance structure. This study shows that HPEC's most valuable achievements for the program's initiation are the realization of (1) an accepted proposal for the President's High-Impact Hires Initiative that impelled new program development and partially funded a new faculty position, (2) a hybrid-funding model that integrated recurring internal and external financing to implement and grow the new program, (3) an interagency agreement that stipulated that ISU's historic preservation program will be advanced and governed by an interdisciplinary committee, (4) a new seminar in historic preservation, and ISU's only course on preservation of interiors (introduced by Al Shihabi), and (5) an innovative pedagogical model for preservation education that provides interdisciplinary experiences without combining all course content (developed by Osterberg and Al Shihabi).

Significantly, the program's hybrid-funding model and the university's acceptance of HPEC's proposal for the President's High-Impact Hires Initiative served as important catalysts in the developmental process for the new educational endeavor, while the interagency agreement ensures that joint effort will determine and evolve it. The proposal was an argument for how the university could best direct available funding to achieve institutional, faculty, and state priorities. It outlined the program's mutual benefits to internal and external stakeholders and elucidated how the university's existing infrastructure and faculty resources would be leveraged to support it.

Importantly, the interagency agreement was a direct result of HPEC's foundational precepts that equity of participants and transparency of process are essential to facilitate effective and productive interdisciplinary collaborations and to foster momentum and creativity. The agreement addressed faculty members' preeminent concerns and challenges regarding equitable and shared governance, academic freedom of core functions, and program development funding.

Moreover, College of Design dean Rico-Gutierrez was critical to the successful outcome of Phase One. He encouraged faculty interests in developing the desired new program, guided faculty to bring ideas to a point where he could act, was responsive to faculty concerns, and integrated faculty in funding collaborations and agreements.

Above all, students were introduced to a new design specialization within the field of preservation, informed of design education's role in global cultural heritage conservation and the social issues impacting it, and exposed to basic theories and methodologies in preservation. They engaged communities and applied knowledge of preservation processes, standards, and guidelines to significant properties using advanced BIM systems.

Phase One of program development and implementation culminated with the successful new hire of a preservation planning and policy specialist, made possible through the efforts of HPEC, the President's High-Impact Hires Initiative, the College of Design dean, and the Iowa Economic Development Authority. It reflects the resourcefulness of interdisciplinary academicians at a tier-one research institution and their government and private sector collaborators, who seek to positively impact global preservation efforts through theoretical training, experiential fieldwork, innovative pedagogies, and advanced technologies.

Extrapolating results beyond Iowa, HPEC's fundamental focus on collaborative research agendas that engage universities and communities, and that serve academic and public interests, facilitated consensus in ISU's public-private agreements and has broad applicability. HPEC's hybrid-funding model, interagency agreement, and governance structure introduce viable strategies to innovatively finance and administer new interdisciplinary collaborations in other public universities that lack sufficient funding from internal sources or private benefactors.

Recommendations for public universities contemplating interdisciplinary program development are to seek internal funding opportunities and external partnerships that together may serve as catalysts. Consider collaborating with state economic development authorities and private businesses to diversify funding of faculty positions and start-up costs. Strategize to form mutually beneficial goals and stipulate essential components in contracts. Ascertain how the presiding committee and program will be governed, incorporate policies that will guard against self-interests, and strategize to ensure that faculty efforts will be acknowledged.

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ENDNOTES

1 Institutional growth also stemmed from new cultural centers and housing facilities, constructed to maintain an institution's competitiveness. See Honeyman and Bruhn (2016).

2 The delegation toured the 1927 Orpheum Theatre, the state's largest theatre at the time of construction, and also reviewed the 1880s State Steel building, owned by Dave Bernstein and recipient of recognition by the National Park Service. See Dreeszen (2013). The theater was the largest in the state at the time of construction and underwent a two-year restoration (1999–2001), drawing on local and national experts. The two buildings effectively contrast historic restoration and contemporary rehabilitation treatment approaches in Sioux City.

3 Sioux City businesses are amenable to funding advanced communication technology for ISU Design West to allow simultaneous Ames-Sioux City delivery of course/lecture content.

4 A mechanism already exists in the College of Design for independent interdisciplinary collaborations.

5 Stipulation three indicates that the breakdown of the committee membership will include representatives from the College of Design Departments of Architecture, Interior Design, Community and Regional Planning, and Landscape Architecture and representatives from IEDA and Iowa Department of Cultural Affairs (DCA).

6 Grevstad-Nordbrock replaced Basmajian in January of 2015.

7 Cedar Rapids also lost the People's Church (1875), listed on the National Register but demolished to construct a new office building.