



Scaffolding High-Impact Practices for Asian Studies and the Environment

ARTICLE

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ABSTRACT

Support from the Henry Luce Foundation allowed a team of Centre College faculty to develop multiple integrated programs connecting the study of Asia to the environment: the Centre Summer Language Institute (CSLI), the Asia & the Environment Lab (A&E Lab), January term courses abroad, student summer research and internships abroad, and student dissemination of research. Each of these high-impact practices (HIPs) alone has been empirically demonstrated to enrich student experiences, but when linked in succession through a scaffolded framework, student learning was synergistically magnified. The personal growth, academic interests, and career trajectory of students who completed all stages of the scaffolded program were profoundly transformed. These experiences took place over a nearly 2-year period, culminating in the dissemination of student experiences to a national academic audience. We describe the guiding principles, programmatic structure, local and international partnerships, and challenges and successes of implementing our program of scaffolded HIPs. Throughout, we also share key feedback of those students who completed most or all of the full suite of scaffolded experiences.

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INTRODUCTION

Social-environmental challenges are globally ubiquitous, making the coupling of Asian studies and environmental studies not only appropriate but critical. Both areas present complex problems requiring interdisciplinary approaches and insights, whose solutions require a range of methods working in harmony. Ultimately, solutions will require lifelong involvement from well-prepared students, who will create the necessary knowledge, systems, capital, communities, and social bonds. With research demonstrating the correlation between college enrollment and involvement in high-impact practices and higher levels of civic engagement later in adulthood (Newell 2014; Myers, Myers, and Peters 2019), laying effective educational foundations is a critical first step in addressing our global predicament.

It is no small task to design and evaluate teaching and learning activities that respond adequately to complex social-environmental challenges that cross borders and cultures. Herein, we succinctly describe one particular approach undertaken at Centre College in Danville, KY, and its short-term results, with the recognition that any stated successes are not without their complexity. For that reason, we offer our interpretation of Centre College's program, and we use as support anecdotal evidence for the successes in our approach to scaffolded high-impact practices. Herein, we intersperse profiles of the eight students who completed summer research and internship experiences to illustrate the effects of our scaffolding approach. It is widely recognized that high-impact practices are valued for their potential "to foster students' connections with each other and their professors" (Landy 2015, 31). Thus, it comes as no surprise that we see these qualitative, personalized student narratives as the most valuable results of our larger project.

THE LUCE FOUNDATION, CENTRE COLLEGE, AND THE A&E LAB

The Henry Luce Foundation's Luce Initiative on Asian Studies and the Environment (LIASE) was initiated in 2010 to support 15–25 liberal arts colleges' "innovative approaches to Asian studies teaching and research at the undergraduate level through the lens of the environment and sustainable development" (Luce Foundation 2010). These approaches ranged in structure and focus but have in common the use of environmental studies as an entry point for greater investigation of Asia.

Centre College is a small and selective liberal arts college in central Kentucky that emphasizes faculty teaching excellence, student-centered experiences, and international study, encapsulated by Centre's mission statement—"to prepare students for lives of learning,

leadership, and service" (Centre College, n.d.)—and the "Centre Commitment"—to support a research experience or internship, and also the opportunity to study abroad, all while graduating within four years (Centre College 2019a).

In 2014, Centre College was awarded an exploratory grant from the Luce Foundation to develop and pilot an interdisciplinary lab. This model for interdisciplinary pedagogy was developed and has been implemented in three iterations using a one-credit Asia & the Environment Lab (A&E Lab), with students concurrently enrolled in at least one other three-credit associated course. These associated courses have included Introduction to Environmental Studies, Environmental Ethics, Conservation Biology, and Asian Humanities. Each associated course instructor was a part of the faculty team who also co-taught the A&E Lab. Content in the associated courses was meant to be iterative and complementary, with the A&E Lab serving as the nexus where all methodologies, learning, and materials from the associated courses found their greatest integration (a variation on Bryn Mawr College's 360° cluster concept). The students who chose to enroll in the A&E Lab and the faculty from the associated courses met together for about three hours each week. More importantly, the students came from the array of associated courses, so that—like the faculty—each group of students would be bringing different perspectives to bear on the A&E Lab topics. The intent of the A&E Lab was to use fieldbased experiential learning, reflection, and collaborative assignments in support of a team-taught course.

Our aim was to have the A&E Lab function as a space to implement a series of high-impact practices (HIPs), while also preparing students for future HIP experiences abroad in the hope of having an even greater impact. Like many others, we predicted a magnifying effect from stringing a number of these practices together (Springer and Hatcher 2017, 6). By the time students began their study-abroad courses in Asia, after the A&E Lab experience, we wanted them to have already encountered reflective, experiential, and problemoriented classes. We also hoped to demonstrate the kind of interdisciplinary inquiry and linguistic-cultural study necessary to improve Centre's business-as-usual study-abroad experiences, particularly those that take place during Centre's January-long winter term. In each iteration, we focused on three topics, pairing analogous Asian and Kentucky-based examples of social-environmental challenges, using food topics as entry points. These included: (1) China and the pork and poultry industries; (2) Malaysian Borneo and the palm oil industry; and (3) aquaculture in Thailand. We found local partners in Kentucky, including those who worked in agriculture, forestry, and aquaculture, and we used those local analogues as sites for experiential learning.

Given the constraints of a small college faculty with young programs in Asian studies (a relatively new minor)

and environmental studies (a relatively new major), we chose a collaborative, interdisciplinary model to engage students. Based on faculty interest in the project's nexus of Asia and the environment, we chose to integrate science, ethics, and policy with language and culture, using field trips, guest speakers, and time spent in the classroom working on language and culture exercises along with collaborative discussions and projects from varying perspectives and disciplinary backgrounds.

Our site visits involved the comparison of Alltech Headquarters—a corporation that uses science and technology to carve out a niche in the animal nutritional supplement market, a small component of the large and complex industrial food system—with Marksbury Farm Market—a more deliberate and humane animal processing facility where we learned about grass-raised animal agriculture, owned and operated by a farmer who spoke to us from his pasture—and the restaurant where they prepared and sold their food. Such a contrast showed students two models of the food system and the different orders of magnitude and places along a continuum between generality and specificity that two entrepreneurs had taken. Similarly, we asked students to think deeply about how different approaches to forest management in central Kentucky can lead to very different results, with examples of forestry approaches that ignore sustainable management practices (taken from numerous examples in the immediate vicinity of campus), those that try hard to manage the forest more sustainably, environmentally, and economically (explained by our partner at Central Kentucky Forest Management), and those that manage the forest for biodiversity conservation (found at the Central Kentucky Wildlife Refuge). These different worldviews and value systems manifest themselves in the vastly different species compositions and age structures within the forest, but, just as importantly, demonstrate different human behaviors deemed appropriate for management of the site.

SCAFFOLDING HIGH-IMPACT PRACTICES (HIPS) FOR ASIAN STUDIES AND THE ENVIRONMENT

Given the opportunity to think about the kind of experience we would want to offer students related to Asia and the environment, we sought to expand our curricular approach to study abroad in Asia and global citizenship on our home campus. Much like Bryn Mawr and their 360° program, we recognized the effectiveness of HIPs but had to solve the puzzle of creating an innovative format that could interface with the college's current curriculum (Cassidy and Theobald 2017). We chose to construct an elective scaffolded curriculum around the interdisciplinary, team-taught A&E Lab (a

kind of learning community linked to a number of other courses) and Centre's winter study-abroad courses, two experiences we recognized as having transformative potential for student learning. Attention to the duration and accumulative nature of these experiences was essential to the scaffolded design; it was important that activities were left to have a compounding effect beyond an initial or isolated stage, where such experiences sometimes live in institutions (Hatch, Crisp, and Wesley 2016). We already had institutional support for and student interest in study abroad, research, and internship experiences, three well-defined HIPs. Our goals centered around experiences designed to broaden the worldviews and creative problem-solving abilities of student participants. The desire was to use a longer sequence of experiences that could create sustained engagement and hopefully have a more significant, sustained impact on student academic and personal development. We chose two summer experiences falling outside Centre's academic-year calendar: an intensive summer language experience—the Centre Summer Language Institute (CSLI)—and a summer experience abroad doing research or an international internship. These two summer experiences were intended to bookend the A&E Lab and winter term study-abroad course in order to give students a fifteen-month continuous engagement with the composite theme of Asia and the environment (Figure 1). Just as importantly, these early experiences would prepare, train, and acclimate students for their second summer experiences, fulfilling the college's Centre Commitment of a guaranteed internship or research experience and giving students the opportunity to engage with four HIPs in one fell swoop.

In our first of two two-year grant periods, fifty students completed at least one component of the scaffolded sequence (*Figure 2*), eight students completed the penultimate summer experience along with at least one preparatory experience, and four students completed the full scaffolded sequence. Halfway through the second period (presently ongoing), we have had fifty-two students complete at least one component of the scaffolded sequence, and we are on track to have three students complete the full sequence.

The scaffolded sequence incorporates five high-impact practices over a two-year period (see *Figure 1* above). The sequence begins with the CSLI, a five-week intensive language course in critical Asian languages, held on campus from late June through the end of July in the first summer of the sequence. Thus far, students enrolled in one of three languages (Sequence 1: Mandarin Chinese, Malay, and Thai; Sequence 2: Mandarin Chinese, Japanese, and Thai). The A&E Lab took place in the first fall of the two-year grant period, followed by the three-week study-abroad courses, which were the part of the sequence that was already well-established at Centre prior to even the A&E Lab. Upon their return to campus,

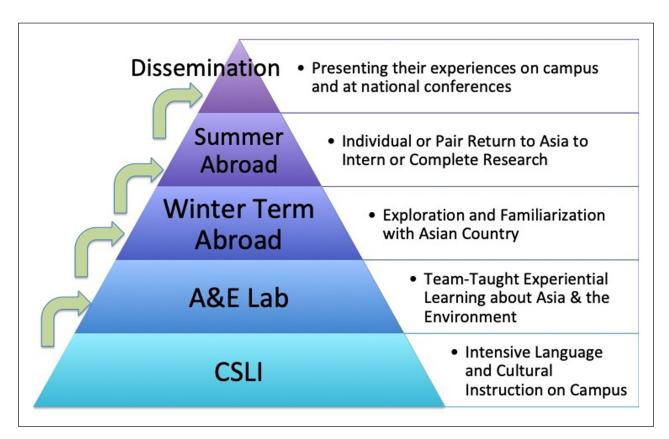


Figure 1 This model for scaffolding high-impact practices (HIPs) offers a curricular model that builds a student experience through continually expanding investigation of Asia and the environment, culminating in more independent research and internships abroad and eventual dissemination.

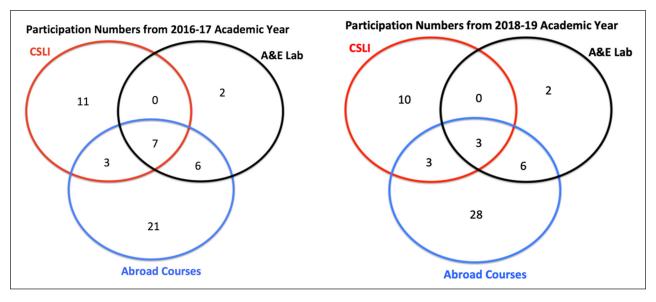


Figure 2 Student enrollment across the scaffolded learning experiences within an academic year. Numbers within overlaps indicate students enrolled in multiple learning experiences and numbers outside the overlaps indicate students only enrolled in that particular experience. *Left*: 2016–17 academic year, n = 50; *right*: 2017–18 academic year, n = 52.

students would then continue their language study online, work on proposals and applications to return to Asia for the second summer of the period, and then complete research and internships abroad. During the second year of the grant period, students would focus on dissemination, presenting on campus and at national and international conferences, including the ASIANetwork annual conference. During the first full grant period, this

dissemination step also included two students attending the Indonesia Focus Conference, one student presenting at the Yale Graduate Conference on Religion and Nature, and two students creating a documentary about their experience in sustainable agriculture while in northern Thailand, the dissemination of which involved a public showing as a fundraiser for a local food access and equity nonprofit.

SCAFFOLDING HIPS: BUILDING ON PAST ACTIVITIES AND MOVING TOWARD INDEPENDENCE

The term "scaffolding" has a semi-technical meaning, or perhaps more accurately a conventional meaning, within pedagogical research and practice (Hogan and Pressley 1997), and our use of the term is largely consistent with these other uses of "scaffolding." One example of a scaffolding HIP might be breaking down a larger paper assignment to include research, outlining, drafting, and revising; another example might involve students observing an elementary class, then teaching one class period each week, and then student teaching. In our framework, the scaffolding metaphor works in at least two ways: First, students are building upon their learning and achievement toward greater engagement with the topics they encounter across multiple, consecutive experiences. If a higher level of engagement is the target for their learning, then the scaffold functions as a ladder the students are scaling to reach that higher level. The second understanding recognizes that the scaffolding itself is temporary, that it is an apparatus constructed and used to realize some other accomplishment the way that someone might use scaffolding to construct a wall or paint a ceiling, but what gets left behind when the scaffolding is removed is a separate, finished creation. In this way, students are becoming more independent as they make their way through the scaffolded components, moving toward situations where they no longer need the scaffolded support structure, strengthening their knowledge, skills, and confidence to work without the scaffold. These two interpretations of scaffolding were deliberately incorporated into the framework and components of the project.

Using the first framework, we wanted students to build on and use the ideas and skills from the CSLI when the students were participating in the A&E Lab; in true pedagogically motivated fashion, this approach also allowed the CSLI students to become the teachers of their A&E Lab classmates who didn't participate in the CSLI using peer mentoring, another HIP. Furthermore, we wanted these same students to be better prepared for and again teach their peers on subsequent winter-term courses abroad. We knew that we would be unable to require students to complete the whole sequence from beginning to end for a variety of reasons. As a result, we gave explicit selection preference to those who participated in the CSLI and A&E Lab for both the winterterm study-abroad courses (where there was significant competition for enrollment) and the funded summer research and internship experiences. Through the second period of the grant in winter 2019, this explicit preference has been a sufficient incentive for many students to enroll in the CSLI and A&E Lab, though a number of students

have also been motivated to enroll independent of these flexible preferences.

To use the second framework, we didn't want the scaffolded experience itself to be the end goal: instead, we wanted the scaffolded experience to instill skills, knowledge, and curiosity in our students so that they might pursue their interests after Centre. Therefore, the experiences in these HIP components could lead students along, but the real goal was to promote independence in their experiences abroad, where they took ownership of and navigated the challenges of planning and executing their learning experiences. Equipped with linguistic and cultural knowledge, the environmental issues found in Asia, and the practical complications of the places themselves, the students were empowered to solve problems and think creatively outside the classroom context, combining prior HIPs into a singular but never simple experience. The HIPs themselves are individually quite powerful, but in combination their power is multiplied. The component parts themselves are HIPs, together serving as a scaffolding for developmental growth, and once the scaffolding is removed, what remains is the house, the structure, the work of art. What remains is the student, the student's experience, and the relationship of that experience to other people and the rest of the world.

In the last decade, the concept of HIPs has become a widespread pedagogical touchstone, encapsulating a number of campus activities that have a far longer history. These HIPs can serve a variety of college and university goals that go beyond student learningimproving recruitment, retention, graduation rates, job placement, etc. But the primary goal of HIPs remains improved learning, deriving from deliberate and intensive engagement with both the learning content and the community of learning. As with many pedagogical touchstones, there remain fewer studies than might be desired to show these practices' effectiveness at achieving measurable outcomes, yet George Kuh (2007, 2008) and the National Survey of Student Engagement (NSSE) have compiled, analyzed, and continued to study the success of these HIPs, including the compilation of evidence to suggest their effectiveness as well as any such practices that can be shown to have positive outcomes for student learning. The ancillary effects of retention and graduation have also been analyzed by Ashley Finley and Tia McNair (2013) among others, but such results have recently been called into question, specifically the relationship between HIPs and graduation rates at public universities (Johnson and Stage 2018). But, as George Kuh and Jillian Kinzie (2018) clarify in a recent Inside Higher Education article, it is not the mere existence or requirement of study abroad, service learning, or internship experiences that yields measurable success, but rather the intentional design and strong commitment of faculty, staff, and university administration to HIPs that make them more successful.

Our approach has certainly been deliberate and has received significant commitment from the faculty involved. Whether our approach to scaffolding HIPs is scalable to the full student body of a college or larger university is far less certain. The bird's-eye view of overall effectiveness for learning, retention, or graduation has not been our primary concern, as it may be for many interested in researching the conditional effects acting on HIPs (Seifert et al. 2014). In our program, every student who participated in the summer research experience has graduated in four years, and from what we can tell, so has (or likely will) every student who has participated in any component of our scaffolded sequence, but this is unsurprising given Centre's overall retention and graduation rates (Centre College 2019c; Strysick 2018), which themselves may be unsurprising given Centre's commitment to HIPs. All that aside, the focus here is on an individual level of student experience and corresponding growth along with the Luce Foundation's goal of expanding interest and cross-pollination between Asian studies and environmental studies.

LANGUAGE AND CULTURE: FUNDAMENTAL TO BUILDING RELATIONSHIPS

Though it is the first component of the student experience, the CSLI was the last component of the scaffolded model that we added during the planning phase-it was a significant "eureka!" moment, and for good reason. Because of the sizable differences in culture and language, most any experience abroad for students from the United States will suffer significantly if the students are not learning about and engaging with the language and culture of the destination country. Creating a scaffolded experience for students in Asia without linguistic and cultural preparation seems akin to creating a physical scaffolding structure without a solid foundation for all four legs. While there are certainly destinations where tourists who speak only English can accomplish their goals, in most cases, the summer research and internship experiences we envisioned could only come with a significant commitment to learning the local language. Furthermore, core faculty involved with the grant fundamentally opposed the inadvertent—though nonetheless presumptuous impulse to exhibit cultural superiority by assuming all foreign knowledge and relationships could (or should) be communicated in English.

Creating the CSLI allowed students to jumpstart their language skills, cultural knowledge, and environmental awareness prior to their arrival in the target countries. Yet given that summer language institutes exist across the country, the rationale for creating our own derived from both the desire to offer

a more regionally accessible option and the desire to incorporate environmental content into the CSLI's very structure. Examples include students learning about Three Gorges Dam and river pollution in China, single-use plastic waste and air pollution in Thailand, nuclear power in Japan, and tropical deforestation in Malaysia. Learning the language through these topics offered students and the scaffolded program itself a value-added element beyond what any other language institute might have provided, and as described above, this decision came ready-made with local field trips to farms and grocery stores to learn not only about food in other countries but also about food culture, and sustainable agriculture systems abroad, even before going abroad. Similarly, field trips to a local nature preserve brought up not only discussions of wildlife conservation and forest management but also nature-based leisure activities. More than anything, this linguistic training, in combination with continued engagement with the language through online and computer-based resources, supported the future experiences that students would have abroad, whether the level of competence was high enough for basic communication, more sophisticated conversation, or even just giving partners in Asia the reassurance that the students really did wish to be able to communicate better in Thai, Mandarin, Japanese, or Malay.

STUDENT SUCCESS STORIES

The outcomes of this project, and the grant that funded the project, are numerous, and we want to emphasize again that our goals—the desired outcomes—were not based on retention or graduation rates but instead related to the student growth we might see. From the Luce Foundation perspective, the desired outcome was increased interest in Asian studies and environmental studies through integrating the two. Both sets of goals were achieved with the vast majority of students involved in some component of the scaffolded HIPs described above. What follows focuses primarily on the eight students who completed the second summer abroad experiences, all of whom had completed one or more activities prior to those summer experiences (*Table 1*).

What follows are summaries of the students' participation in the scaffolded progression and an a few anecdotes about the students' experiences along the way. In each case, we seek to highlight how the desired outcomes manifested in the student's growth and experience, drawing out some unique differences, but in large part demonstrating emergent trends and commonalities. These trends go beyond retention and graduation, and they speak to the larger goals or hopes we have for our students, including increased confidence, greater academic achievement, stronger initiative and

	SUMMER 1	FALL	WINTER ABROAD	MAY-JUNE ABROAD	SUMMER 2	ACADEMIC YEAR 2
Student A	CSLI Malay	A&E Lab	Thailand	Malaysia	Malaysia	Dissemination
Student B	CSLI Thai	A&E Lab	Thailand		Thailand	Dissemination
Student C	CSLI Thai	China			Thailand	Dissemination
Student D			Thailand		Thailand	Dissemination
Student E				Malaysia	Thailand	Dissemination
Student F	CSLI Malay	A&E Lab		Malaysia	Indonesia	Dissemination
Student G	CSLI Malay	A&E Lab		Malaysia	Indonesia	Dissemination
Student H	CSLI Thai	China			Thailand	Dissemination

Table 1 Trajectories of the eight profiled students through the scaffolded LIASE learning experiences.

independence, interest in Asia and/or the environment, capacity for responding to social-environmental challenges, developed linguistic and cultural skill sets, and transformed worldviews.

GROWING IN CONFIDENCE AND ACHIEVEMENT

Student A entered the CSLI after their first year of college with not only a high academic aptitude but also what appeared to be a great deal of uncertainty: perhaps it was confidence or direction, but once recruited into the scaffolded experience, the student immediately exhibited focus and conviction. After completing Malay language instruction, the student enrolled in two feeder classes along with the A&E Lab, went to Thailand during winter term, returned to Asia for the summer study-abroad course in Malaysian Borneo, and stayed in peninsular Malaysia for a summer research experience with our partner Dr. Sugumaran Manickam at the University of Malaya-Kuala Lumpur's herbarium, where they researched native plants and built the foundations for a Centre College herbarium collection. During the second grant period, the student continued this trajectory in Asian education by going to Japan during the winter term. As of spring 2019, the student continues to work on their herbarium collection as part of the college's premier senior research experience (Centre College 2019b). Perpetually overachieving (in other words, buying into the scaffolded system), this student did three short-term courses and a summer experience, along with adding a second research experience related to these experiences with Asia and the environment. As the only student profiled here who has yet to graduate as of early 2019, this student has significant opportunities waiting in the future and the least known "next step after graduating." In any case, this student has studied abroad in three Asian countries and done research in two of those countries, all before finishing their undergraduate career. Along the way, the student has developed a confidence and skill-set to tackle nearly any future research project that might emerge.

Digging more deeply, this student has had profound and transformative experiences for growth throughout the grant period. We share one of them here. Having already participated in field trips on food systems and having recently learned about sustainable forestry practices in the A&E Lab, the student was given, along with their peers, a prompt inspired by David Haskell in his book *The Forest Unseen* (2012). All students were asked to "Take some time to just quietly sit and watch the tree. How is it interacting with the world around it? How is the world interacting with the tree? What would be the impact of removing that tree from this forest? What would be the impact of removing a whole forest full of trees just like this one?" This student responded by saying,

I made a note about the little plants that were sprouting through the fallen leaves. Then, I wrapped my hands around the trunk. The tree was small enough where my fingertips touched when I held the tree in my hands. It was alive, breathing, processing, feeling, and I was right there with it. A part of me died that day, and I say that in the best way possible. The old me died. The 'me' that didn't understand how people could be passionate about plants. The 'me' that thought if I just don't think about factory farming I can still eat meat, right? The 'me' that thought climate change was a distant, nebulous problem. The 'me' that felt little to nothing when surrounded by trees. Ever since that day, if I walk through the forest it feels so alive to me. I can feel the trees breathing, processing, being. I'm eternally thankful for that exercise. I never knew it would change my life, and it really truly did.1

It is possible that this student was primed for such an experience by factors outside the control of the faculty who envisioned and shaped this experience, but it is also clear that this particular experience, their prior experiences in the CSLI, and the larger A&E Lab had a large impact on their learning in that moment. Having fifteen months of extended and reinforced experiences (or in this student's case, nearly three years of experiences) is why scaffolding these high-impact practices is so important. In reflecting on their course abroad, the student writes,

Reading articles about deforestation in Borneo couldn't compare to watching a bulldozer scoop up 130 million years of life. The trips and the experiences provided by the Luce Grant fundamentally changed who I am. It made me more passionate about trying to save this beautiful world.

This student now curates the Centre College Herbarium, with specimens from SE Asia, and in consultation with experts at the University of Malaya-Kuala Lumpur.

Student B came to the Centre LIASE program because of a strong interest in environmental studies and ecology, but Asia was not an area of knowledge or interest. Participating in the CSLI helped the student realize a stronger latent aptitude for language acquisition than previously known, awakening confidence and an interest in Asia. After experiencing Thailand and connecting with our partner at Kasetsart University, Dr. Sukkrit Nimitkul, this student returned for a summer research experience investigating the design and efficacy of automated fish feeding systems for aquaculture ponds. Given this student's prior interest in marine ecology and sustainable fisheries, the partnership allowed the student to have not just a research experience but one that investigated their prior interests. Even more importantly, the student spent the bulk of their experience at research stations off the path beaten by tourists and English-speaking crowds, surrounded mostly be colleagues and co-investigators whose English-language skills were on a similar level to this student's Thai. Combining the student's Thailanguage skills and the situation's linguistic context pushed the student to further develop the language skills to communicate in their newfound community.

These two students used Centre's already-established university partnerships in Malaysia and Thailand and worked to build and maintain our institution's connections abroad. Having participated in the full scaffolded experience, both emerged from their larger sets of experience with new skills, understandings, independence, and passion.

CREATING NEW CONNECTIONS IN NORTHERN THAILAND: RISKS THAT PAY OFF

Student C participated in the Thai CSLI, but then spent the fall semester at Centre's semester-length abroad

program in Shanghai, China, and did not participate in the winter-term course to Thailand. But having learned Thai, and with the help of the CSLI instructor, the student tracked down and found a nonprofit environmental conservation organization called Conserve Natural Forests, based in Pai, a town in northern Thailand. As one of two international studies majors profiled herein, and having some interest in environmental conservation, this student used their training and background in photojournalism to interest the nonprofit, which was looking for help in that area. The student's interest was piqued by the possibility of helping with land conservation and reforestation efforts that could create an elephant sanctuary. Student C used this summer experience to build and support a case to become one of the Newman's Own Foundation Fellowship winners upon graduation and is now considering a return to northern Thailand and possibly longer-term work with Conserve Natural Forests. Another notable postscript is that a current student is pursuing a similar summer internship experience with Conserve Natural Forests, building on the initial connection pioneered by Student C, showing how students—not just faculty—can help to set up these longer-term partnerships abroad.

Students D and E spent four weeks of 2017 at the Happy Healing Home farm outside of Chiang Mai in Thailand. These two students had the least expected pathways into the summer abroad experience, but their academic pathways may have been shaped as strongly by the experience as any of these students. As with Student C, Student D and Student E went looking for an experience with faculty guidance and support, but there was no prior relationship between their summer partner site and the college or faculty. The connection emerged from an internet search and initial contact made through Facebook Messenger. Centre faculty offered advice and helped to create contingency plans with the students, but they also trusted the students to navigate these complexities and encouraged the two to go together as a support system and safety net. Student E, an environmental studies and French double major, had visited the area with the January-term course and worked hard at web-based language preparation in Thai during the spring semester, but Student D, with a self-designed major in environmental physics, had no Thai language experience; they had went with the Malaysian Borneo study-abroad course and not the Thailand course. Yet the two were close friends and were willing to work hard as farm laborers in order to learn more about sustainable agricultural practices in Thailand. These students created their documentary video and promoted it within the community in order to bring attention to sustainable food and farming practices abroad while raising money for food security in our local community in Danville. In their first year post-graduation, both have worked in various parts of the sustainable food and farming sector in the United States, Student D as a farm manager in Virginia and Student E as a member of AmeriCorps VISTA on the campus garden at a college while continuing to do work for the nonprofit food security organization that the students raised money for. As of spring 2019, both students have applied to a variety of graduate programs related to their common interests in food and the environment, while each is returning to the specific disciplinary and methodological backgrounds and skills they were trained in as undergraduate students. It remains to be seen how strongly Asia factors into their future, but for Student E, that connection seems likely. Student E's graduate school writing sample narrates and interrogates the dual messages of rural and urban groups in Thailand about water quality, land use change, air quality, and other factors, with each group seeing problems and explaining their causes through different lenses. From the time spent in cities during the studyabroad course to the time spent on a rural farm during the summer experience, Student E has learned to see these Thai environmental issues with complexity, transforming their own perspective in ways that deepen and broaden their realm of inquiry. Just as importantly, this experience in Asia helped Student E grapple with the challenges of studying and caring about the environment, saying:

When I came to Centre I knew that I wanted to study Environmental Science, and I did not realize what that meant. I came in with a very romanticized view and very idealistic view of what it would mean to save the environment, which was my goal at the time. Now I realize that's a harder thing to do than what I had originally thought, but because of the classes I've taken here and because of the places I've gone—to Strasbourg, France and to Thailand and to Appalachia—I feel prepared to do that even though the challenges are really overwhelming sometimes..... Together we were able to immerse ourselves into a new culture, and live the life of Thai farmers, and learn about their struggles and learn about their successes, and learn about how to live a healthy and happy life, and that was so impactful to me because the environmental [studies] major is not an easy major to take. It's personal and emotional, and it breaks your heart sometimes, and you need time to learn and to grow and to find some hope. Living on a farm like that, learning like that, and having other people who you care about and who care about you: that gives you hope that you can make the world a better place. The Environmental Studies major at Centre isn't just academic study. It's not something that teaches you how to have a good career, but how to have a good life, and how to make better lives for other people as well.

Like the other students who participated in these summer experiences abroad, these two were explicit and emphatic in noting that the experience increased their self-confidence in carrying out projects that might have at first seemed too daunting. They described it as follows:

If we can go to a farm in rural northern Thailand and learn how to grow food, to a place where we aren't fluent with the first language of our hosts, and where we spend long days doing hard manual labor and our nights listening to our hosts tell stories about their lives and motivations; if we can do all that, then we can do just about anything.

Unlike the first two students described above, Students C, D, and E independently found partners and sites for their summer experiences abroad, and it is the task of the faculty and future students to maintain and build on these connections and partnerships.

CONNECTING AND RECONNECTING

Like Students A and B described above, Students F and G participated in the full scaffolded experience, from learning Malay in the CSLI, the A&E Lab, and the study-abroad course in Malaysian Borneo to the summer abroad experience in Indonesian Borneo where they worked with the Borneo Nature Foundation as research interns, monitoring ecological and conservation indicators, such as orangutans, dragonflies, caddisflies, and fungi. While this summer experience might seem very scientifically inclined, the students used their linguistic training in Malay and its close linguistic relative Indonesian to develop important relationships with local field research assistants. As Student G describes:

One of the deepest connections I made ... was actually with the people. [Having learned] Indonesian, I was able to talk with them fairly well, and just made these deep interpersonal connections with people who have lived in a small fishing village in Indonesia all their lives, and I shared my love of the environment with them, and they shared their love of the environment with me. They taught me a lot, and I just had a lot of admiration for their worldview and their sense of place.

Suffice it to say, such exchanges—and such richness of experience—would be impossible without prior experience and training in the Malay and Indonesian languages or if aspects of the experience were so novel that the students were unable to fully engage with their colleagues and neighbors in these ways. This scaffolding—building one experience on top of a prior experience, which in turn lays a foundation for another

experience—illustrates the first meaning of scaffolding in this approach to HIPs: experiences building on top of prior experiences. In a way, Student G's trajectory also illustrates the second meaning of scaffolding: that upon using the scaffolding and building these experiences, the student has the background, experience, skills, and in many cases, the desire to continue on without the help of the curriculum or the faculty. Student G applied for and received a Fulbright Research Award to continue researching ecological indicators in Central Kalimantan, Indonesia. It is in these student stories that scaffolded HIPs can really demonstrate a clear and unarquable transformative role in student development. Student G was not alone in this transformation while in Borneo. Student F put the transformative aspects of the scaffolded experience this way: "To keep it brief, I believe it is important for us to pursue conservation not out of the hope that we can actually fix everything, but out of the belief that we should hold onto beautiful things for as long as we can before they fade away." There is something bittersweet in this quote, but the statement also offers a maturity of environmental outlook for a student about to enter a fourth year of college.

Student H has a trajectory so unique and noteworthy that this project can only claim a small role in the story, but nonetheless, the story is too special to forego this opportunity for its telling. Like Student C, after participating in the Thai CSLI, Student H went abroad to Centre's semester-length program in China, did not attend a winter-term study-abroad course, and then spent spring term working with us to develop a proposal to go to Thailand for the summer. An international studies major, Student H had a desire to work on issues related to social, environmental, and political action for the Karen ethnic group in northwestern Thailand and eastern Myanmar. Centre faculty had been building connections with the Karen Environmental and Social Action Network (KESAN), so between those connections, the CSLI Thai instructor's connections, and the student's own connections, it seemed plausible for the student to make the summer experience work. None of these details are out of the ordinary, though a student's knowledge of and desire to work with the Karen people might have been a little surprising. What makes the story remarkable and helps explain Student H's interest in the Karen is that the student is ethnic Karen, a student who spent part of their young life in an internally displaced person (IDP) camp in Thailand before moving to Kentucky and then on to Centre. So this student's summer experience in Thailand was not an introduction but instead a homecoming of sorts. This fact was the primary motivating factor for the student to formally learn the Thai language and to spend the summer in Asia. While there, Student H investigated a number of topics related to land rights and tenure, environmental impacts of mining, and access to natural resources. Student H also did significant work to bring aid

from the United States to the same IDP camp they spent time in while growing up and wrote the following upon returning to the United States:

To my dear friends and professors from Centre, you have opened doors for this kid who never thought such opportunities would be possible. On my last week in Thailand, I went back to the camp where I spent ten years of my childhood, climbed on top of the same roof on the same spot where I used to lie down looking to the sky seeing bright stars and tiny light emitted from planes, dreaming of sitting inside one of those planes. Those childhood dreams became a reality because of kind people like you who simply wanted to give me a shot in this competitive world. I must not forget.

Little can or should be said about this quote, except to note the diversity of student life experiences enmeshed in these scaffolded experiences and to note that the results can sometimes be quite unexpected yet stunningly worthwhile. While on some level, these are the kinds of outcomes we might wish for in our professorial dreams, these are not outcomes that can be realistically predicted or fairly targeted, but when they happen, we can take stock of the opportunities that led to these results. This student's life goal was to respond directly, on the ground, and in the field, to the social-environmental challenges facing Karen people, and this student got a first taste of doing so during the summer of 2017. Upon graduating, the student returned again to the region to bring aid and keep those connections front and center in the minds of the student and the communities there on the Thai-Myanmar border.

CONCLUSION: THE FUTURE OF SCAFFOLDING HIPS AT CENTRE COLLEGE AND BEYOND

As we begin the final year of a four-year grant that helped Centre's faculty develop and support these highimpact practices,² the faculty involved are exploring ways to maintain or further develop the components of this scaffolded model. Given the college's support for high-impact practices like research, internships, and study abroad, we see a great deal of success in the completed components of this scaffolded approach to high-impact student learning experiences. We have explored options for continuing the CSLI, and we have investigated internal options for funding and prioritizing research and internships abroad for individual students or pairs of students, while at the same time maintaining the scaffolded learning and support structure that optimally comes before the summer experience abroad. If it is not already clear, there is a good deal of pride and commitment to maintain and expand the scaffolded HIPs described here. If the student experiences in the second grant period remain on par with those from the first, then we will remain motivated to seek out funding while continuing to support the student experiences from start (CSLI) to finish (the summer experiences abroad).

Whether it is the case of a graduate pursuing a Fulbright research project or bringing food aid for an IDP camp, of a more confident and independent student harboring thoughts of returning to Asia for graduate research, or of a student whose worldview and life path were transformed by a series of impactful experiences, these outcomes go beyond the Boolean logic and statistical tests of NSSE data and graduation statistics. These HIPs are significant in the trajectories of student lives, particularly when the scaffolding of college has disappeared and what remains is a person making their way in the world, choosing a path through the world, shaping the world, remaking the world, and healing the world. High-impact practices and the deliberate scaffolding of these practices have the potential to increase retention and graduation rates, to improve learning outcomes, and to foster greater attention to the social-environmental challenges faced in Kentucky and in Asia. But more importantly, scaffolding high-impact practices has the potential to orient the trajectories of student lives in extraordinary ways.

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We have discovered for ourselves that innovative projects of this scope and duration can neither be implemented nor sustained without substantial administrative permissions and support (Kezar and Holcombe 2017). "Program practices derive more from people than they do from policies, and promising practices derive especially from the adaptability of those involved with the program, including faculty members, staff members, and administrators" Levin et al. 2010, 54). For this reason, we thank Centre College's president's and dean's offices and the corporate and foundation relations team, as well as—above all—Elizabeth Graves for her guidance and support. We also wish to express our gratitude to Ellen Prusinski and the other Centre faculty involved in various components of the grant; the CSLI instructors including Dr. Ke Yi, Dr. Michael Dixon, Dr. Pittaya Paladroi-Shane, and Noor Badarudin; the Centre students who participated in these activities and gave feedback on them; and the following organizations in Asia and Kentucky: Alltech; Sukkrit Nimitkul and Kasetsart University; Sugumaran Manickam and the University of Malaya-Kuala Lumpur; the International Network for Engaged Buddhism; Marksbury Farm Market and Preston Correll; Kentucky State University's Aquaculture Program; FoodChain and Rebecca Self; Central Kentucky Forest Management and Chris Will; Kentuckians for the Commonwealth; the Central Kentucky Wildlife Refuge; Chiang Mai University's Forest Restoration Research Unit; Payap University; the Borneo Natural Foundation; and the Mountain Association for Community Economic Development.

NOTES

- 1 This block quote, and the ones that follow in this section, are derived from student reflection papers.
- 2 This manuscript was written during the 2018–19 academic year as Centre was completing our final year of the grant cycle.

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COMPETING INTERESTS

The authors have no competing interests to declare.

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