Lessons Learned to Promote Teaching-Oriented Cross-Cultural International Mentoring and Collaboration

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Abstract

This paper centers on two case studies, spanning 2020-2022, based on a partnership between a Mid-western private United States (US) university (ranked in top 10 in Mid-west) and a southern private Indian university (ranked in top 35 in India). The goal of the collaboration was multi-faceted and designed as a traditional mentoring (US) to mentee (India) relationship. This practice-oriented paper is intended for faculty and administrators who might be engaged in or are looking to engage in a similar relationship so that they may learn from the experiences presented in the paper.

In the first case, a Fulbright scholarship was awarded to the host university in the US for a faculty member from India to spend six months teaching and collaborating with US counterparts. However, this was unsuccessful and resulted in the visiting faculty returning after just a few weeks. In the second case a shift from traditional mentoring to multi-dimensional and collaborative learning through co teaching a course using remote participation benefited both faculty and ultimately the students. This led to several subsequent teaching and scholarship collaborations.

This paper will look through the lens of the Collaborative Responsive Education Mentoring Model, proposed as relevant for some Historically Black Colleges and Universities (HBCUs) and less research-intensive universities to compare the two cases between the same institutions during the same time period with very different outcomes, to illustrate some best practices as well as some pitfalls that could be avoided in the future.

The key takeaways can be summarized as valuing cultural differences because ignoring them can have disastrous results, establishing trust by building personal relationships between collaborators, being patient and determined in working through setbacks, and aligning collaborative activities with existing motivations on both the institutional as well as individual level.

Introduction

Globalization is a term used to describe the increasing connectedness and interdependence of world cultures and economies. With the Information Age, globalization went into overdrive. Advances in computer and communication technology launched a new global era and redefined what it meant to be “connected” [1]. Over recent years, the engineering field, among others, has witnessed the power of connectedness as a catalyst for breakthroughs. Often these breakthroughs result from cultural exchanges - the process of sharing and experiencing ideas, knowledge, and practices across different cultures [2]. Specific to engineering, the cultural exchanges create a melting pot of ideas and influences from around the world through bringing together professionals from diverse backgrounds. Yet, bringing together individuals from diverse

backgrounds, as witnessed in two case studies shared in this paper, is not enough. Instead, the development of global acumen is required.

Global acumen, also known as global awareness, refers to a comprehensive understanding of international contexts, cultures, and business practices. It encompasses the ability to navigate diverse environments, collaborate effectively across borders, and adapt engineering solutions to global challenges [3]. This requires cultural awareness of self and others [4]. Developing global acumen can occur through education, travel abroad and learning from others [5].

At the foundation of this learning, faculty development is necessary to guide the development of global acumen in students – our future global engineers and leaders. However, barriers of finance, family responsibilities, immigration status, and time, among other barriers, prohibit many faculty in their pursuit of global acumen development. Covid resulted in a significant decrease in the flow of global trade, capital and people, as measured by DHL Global Connectedness Index [6]. Only information flow accelerated during COVID, while people flow continues to remain significantly below pre Covid levels. Thus, new models to promote the development of faculty and student global acumen are needed.

The motivation to develop global acumen emerges at the student, department, university and national levels. At the national level, there is a recognition for the need to develop global acumen. Relevant to this paper, from the US Department of Education website [7], preparing for global competitiveness is part of the mission of the organization. From the government of India, there is also a drive to promote global acumen with specific recommendations for collaboration. The National Education Policy (NEP) [8], published in India in 2020 lays out a strong vision for reform in the Indian education sector in general, with specific recommendations for all tiers of education including higher education. One of the recommendations is to increase international collaborations [9]. While many institutions in India were already exploring and some were already engaged in such collaborations, the NEP serves as a catalyst to accelerate such ventures.

University and department level mission statements, strategic initiatives, and goals often operationalize these national motivations. Global acumen development, through collaboration, can be seen as a competitive advantage. Similarly, students may seek out institutions that market the development of global acumen through collaborations. Yet not all university and department collaborations live up to expectations. International collaboration across different cultures is even more challenging, and even those partnerships that showed some degree of success were fraught with setbacks and took many years to become successful [10]. Basterfield-Sacre et al. [11] describe approaches to international education focusing on knowledge, skills, attitudes and values. They find that while international experiences are deemed important by various stakeholders, the participation rate is low among US students. Understanding and articulating the motivations and goals of the collaboration is key to its success. As previously noted, motivations often emerge out of university missions, strategies, and goals. However, relationships are put into action at the individual level. Thus, recognition and alignment of multiple levels of motivation is essential to success.

This paper centers on two case studies to promote faculty development of global acumen based on a partnership between a Mid-western private United States (US) university (ranked in top 10 in Mid-west) and a southern private Indian university (ranked in top 35 in India). The partnership was an outcome of strategic initiatives at the university level and were enacted between the engineering and business schools within these institutions. The program was originally designed in such a way that the Indian faculty would shadow the US faculty and learn through observations. In both case studies, the partnership was extended and shifted from one-way learning (India learning from the US) to multi-dimensional learning and collaborative learning.

Case Studies

The case studies presented provide a foundation to propose and examine strategies and models that promote global acumen through collaboration. Specific recommendations for individual faculty, departments, and institutions will be provided. While some of the context might be specific to the types of institutions and their vision and goals, the broader lessons should likely be applicable to other international collaborations between institutions in the Global North/Western and institutions in India, as well as other developing nations.

In the first case, the shift to collaboration occurred through a Fulbright scholarship awarded to the host university in the US for a faculty member from India to spend six months teaching and collaborating with US counterparts. The Fulbright scholarship award enabled face-to-face cross-cultural collaboration through immersion. However, this was unsuccessful and resulted in the visiting faculty returning after just a few weeks. In the second case study collaboration was developed through virtual modalities. The shift from traditional mentoring to multi-dimensional and collaborative learning through co teaching a course in the US institution using remote participation benefited both faculty and ultimately the students. This led to several subsequent teaching and scholarship collaborations. One of the subsequent teaching collaborations was in India.

Case 1 – Fulbright Scholarship

During the pandemic, the two institutions that were exploring pathways for collaborate found a somewhat convenient way to work together in the form of faculty from India joining a live online class taught at the US institution and participating as “shadow faculty.” Two computer science professors from India shadowed two sections of a first-year level Data Structures course taught by the US university. This collaboration happened over the course of an entire Spring term and took the shape of the Indian faculty not just attending the synchronous classes, but also separately meeting with the US professors once a week to provide their feedback and seek any clarifications. These meetings had some rich discussions and at the end of the term, all four faculty members collaborated on a “key takeaways” document to list the differences between the way this common computer science course was taught at the two institutions.

The faculty from India described the experience as very enriching where they learned several new things like the Canvas learning management system (LMS), GitHub classroom (GitHub being the industry standard tool for software version control and collaborative software development), and the IntelliJ IDE (an industry-standard Integrated Development Environment). From a pedagogical perspective, the small class sizes and detailed feedback provided on students' graded work as well as the use of a coding standard (including standards for documentation of code) and the use of unit testing in a first-year course were new practices for them. Although the Indian faculty struggled through internet connectivity issues and attended live class sections that were at inconvenient times, the faculty from India showed incredible commitment for what was essentially an extra assignment for them beyond their regular workload.

Faculty on the US side also described the experience as enlightening and informative. For example, comparing the course syllabus for Data Structures, the US faculty noted how data collection for accreditation was explicitly built into the syllabus for more consistent outcomes assessment. A document on the differences between how the course is taught at the two institutions, prepared by one of the Indian faculty members, provided many points for discussion, which resulted in much retrospection and metacognition for the US faculty. From the US side, the effort was mainly on the paperwork front as the faculty from India needed to be appointed as zero-pay adjuncts to get institutional credentials to be added to the LMS. The weekly meetings were an additional time commitment for the US faculty members.

Overall, everybody involved reported this as a positive experience, although it was most suitable for just synchronous online course. Like most things in life, the time and effort one puts in often determines what one gets out of anything. Given the busy schedules on both sides and the time pressure for other tasks, the shadow experience was a success, but if everyone concerned had not found that additional time, it would not have been a success. However, the success of this collaboration should not be viewed in isolation, because the goal was, and still is, to build upon the shadow faculty experience with other collaborative activities.

Over the following summer, discussions were held on how to proceed further with collaborations. Through the discussions, it was discovered that the US institution had a previously prepared Fulbright grant application that had not been utilized due to the pandemic. In consultation with the US program officer, this application was repurposed for one of the Indian shadow teachers to visit the US institution. The goal was to have the professor from India come to the US in August, attend the new faculty orientation, and teach one section of the course that she had shadowed, along with an elective course from her area of specialization. Unfortunately, due to several delays the arrival of the Fulbright scholar in residence was pushed to the winter term. As the Data Structures course (which she previously shadowed) was not taught in the winter term, she agreed to teach Computer Organization instead. It was later discovered that in her excitement to come to the US on this prestigious scholarship, she felt pressured to agree to teach the course even though it was outside of her area of expertise. Also, whether it was because she was not sure if her paperwork would be processed in time for the winter term arrival or

whether she was busy wrapping up her work at her home institution, she did not spend much time preparing to teach the assigned courses. In later conversations, it was revealed that the expectations at the two institutions in terms of what it means to prepare for a course are also vastly different. These expectations, such as preparing a syllabus and creating modules in the LMS were not explicitly conveyed, and the shadow experience was not at all sufficient in making the expectations clear either. This put the visiting faculty member at a significant disadvantage when she arrived at the start of the winter term.

Never having travelled outside of India, the visiting faculty found the long journey to the US quite arduous, and she felt quite sick and disoriented on arrival. She came from one of the warmer regions in India, and the late November cold weather in the US Midwest was a shock to her system. Equally shocking, but not immediately clear to everyone, was the homesickness and loneliness she experienced right away. The university had provided a fully furnished apartment within a 5-minute walk to the building in which she had her office and taught her classes. Although comfortable and not lacking any amenities, the apartment soon became unbearable for her because she had never stayed alone in her life. The social isolation was further exacerbated due to a medical situation with the person she had worked with the most leading up to her arrival to the US, and due to the overall social distancing that was still in place at the end of 2021 due to the pandemic. The shift from a collective to an individual-based one may have created unrealistic expectations by both parties [12].

Besides the personal challenges, the visiting faculty also experienced professional challenges partly because she was teaching a course that was a little bit outside her area of expertise. And even though she had participated in the shadowing of another course, she was unprepared for the level of engagement that students were expecting. There were concerns expressed by students right away and one of the authors of this paper was asked to now shadow her Computer Organization course in an ironic role reversal. This shadowing, however, was more supervisory and likely added more stress for the visiting faculty member. Things were not working out for her very well in her elective course either, although the students were less unhappy there. Besides teaching the two courses in the US during the daytime, she was also expected to stay engaged in some form at her institution in India at night (US time), which resulted in additional time pressure and took away from time that she needed to prepare well for her classes in the US.

The visiting faculty member was quick to express her struggle with loneliness, and within a couple of weeks, she expressed a strong desire to abandon the program and return home. Even though other alternatives were being explored, in week 3 of the term, she felt so overwhelmed that she informed everyone that she had booked her return for the upcoming weekend. Thus, her Fulbright scholarship in residence came to an abrupt and negative end, leaving the US institution scrambling to cover her courses, and leaving her with the task of unpacking and processing the negative emotions associated with the failure to make the most of this opportunity.

Since this paper is being written two years after this experience, the paragraphs leading up to this one already include insights that are obvious in hindsight. Starting in the Fall term when the

weather is much more pleasant, and a weeklong faculty orientation is available is recommended. Having faculty assigned to teach courses that they have high confidence in teaching is also critical and would support welcoming them as equals who will contribute uniquely to the institution. While the faculty and administration were polite and expressed gratitude towards the visiting faculty, she was likely not made to feel that she was bringing something unique to the program. As a predominantly undergraduate institution with a reputation for high-quality teaching and a fairly homogeneous population, faculty here perhaps treat newcomers with some suspicion. Coming from a high power-distance culture in India [12], where students do not question or openly disagree or complain about faculty, to a low power-distance culture in the US where students are expected to discuss, question and share expectations created challenges in teacher-student interactions. Also, in the US institution, expectations from students for active learning are high, and they do not hesitate to express their displeasure.

At the US institution, the program has seen a relatively high rate of turnover among non-white non-male new hires, which could also be reflective of the culture. The work culture and daily routine at the workplace is also quite different compared to India. For example, consistent with an individualistic society, faculty in the US institution typically do not eat together at a common time, opting instead to eat in their offices. There isn't even a daily lunch hour when no classes or labs are in session. At the institution in India, there is a fixed lunch hour, and the faculty sit together in large groups, often sharing the food that they have brought. An appreciation of these cultural differences and the influence they have on a person's emotions and feelings was sorely lacking, as perhaps was the importance of emotions and feelings in the first place.

Case 2 – Virtual Collaboration

In the second case, the relationship was originally designed in such a way that the Indian faculty would shadow the US faculty and learn about teaching in the US through observations. It was planned as passive, observational learning that would not interfere or be a burden to the US faculty or US students. In this case, the Indian faculty was initially asked to observe a hybrid/blended engineering management course. However, as the authors engaged, they seized the opportunity to create multi-dimensional and collaborative learning. Quickly, they moved from the loosely structured one-way shadowing, intended to teach about the US education system and western-based teaching pedagogy, to a collaborative model in which both parties actively engaged in the teaching and learning process. This case study examines the shift to achieve multi-dimensional and collaborative learning that benefited both faculty and, ultimately, the students as well.

A few factors assisted in shifting the relationship to collaboration. From the US faculty perspective, there was an openness and desire to learn from the Indian faculty. From both faculty perspectives, there was a commitment of time to develop a relationship. Based on prior teaching in Asia, the US faculty recognized the potential value that the shadowing relationship had to her own development if she shifted to a collaborative model. From past experiences at another institution, she witnessed US faculty taking a position of "superiority" in the Western teaching

process which did not open the door for learning culture or teaching strategies from the East. Her prior work in Asia allowed her to experience multi-dimensional learning that opened multiple avenues of personal and professional relationships, growth, and opportunities. Understanding the value of the shift was the motivator to the investment into developing personal connection with the Indian faculty.

Unlike business in the West, personal connections play a vital role in Asian business culture. Although this was a teaching setting, the relationship can be viewed from a Western perspective as business. Authors Schweitzer and Alexander emphasize in Access to Asia [13] that building trust and inspiring respect are vital steps in developing business relationships that transcend basic contractual obligations. This requires investing in the relationship through understanding the person and their cultural norms. This was required to shift from the contractual obligation of shadowing to the relationship-based collaboration that extended beyond the classroom.
To establish the trust, both faculty dedicated multiple hours per week to the relationship. Although the US faculty was not paid for this work and initially the Indian faculty was paid for the shadowing but not the work that extended beyond shadowing, their relationship was established and grew through weekly video calls. The initial calls focused more on the relationship and less on the work. Calls shifted from non-personal sharing such as weather, to personal topics such as family, home life, and even religion.

The reciprocated learning about each other's family and faculty life developed trust which allowed reciprocated learning about teaching processes and perspectives on course topics. The sharing of reciprocated learning on course topics were key to developing global acumen and set the foundation for collaborative learning, in which two or more join together to learn [14].

Collaborative learning specific to the course occurred through video calls focused on course design, teaching, learning, assessment, and research. For example, while developing a cross-cultural communication module, both the faculty grew in cultural awareness. Specifically, the Indian faculty became aware of the “Indian headshake/wobble,” which she further researched and confirmed she engages in. Awareness of distinct student expectations of teaching and learning also occurred. This became critical in assisting the US faculty in communicating clearer course expectations to international students [15].

Collaboratively, they redesigned a traditional management course taught to graduate Engineering Management students with a global overlay and an added goal of developing global acumen in the students. This course was taught initially in a hybrid/blended format and then again in an online format. While the overall structure and content of the course remained intact, collaborative learning created a global umbrella over most topics and assessments. The integrated elements included cross-cultural values and communication, global leadership, virtual teams, UN Sustainable Development Goals (SDG), and global perspectives of diversity and inclusion, among others. Linked to assessment, a competitive analysis of Indian and US companies within the same industry was established to integrate knowledge framed in a cultural

context. Additionally, weekly reflection papers promoted self-reflection, integration, and application of the learning [15].

Continuous learning through collaboration resulted in developed global acumen that has extended and been applied to other courses and settings. The learning opened the door to collaboratively teaching an MBA strategy course on site in India to 97 students by both the Indian and US faculty. It also resulted in the development of a new undergraduate course in Global Business.

Although both faculty work at teaching focused institutions, the work has shifted to include Scholarship of Teaching and Learning (SoTL), resulting in international conference presentations and research publications. The work has also informed processes of onboarding international students at the department and institutional levels.

Collaborative Responsive Education Mentoring Model (CREMM)

As part of the SoTL work, the faculty studied their process [15] [16]. As previously stated, the Indian faculty was assigned to the US faculty as a "shadow faculty." In fact, her official given title was and continued to be Shadow Faculty. As defined by the Gartner Human Resource Glossary, shadowing is a type of "on-the-job" training that allows an interested person to follow and closely observe another performing the role. Shadowing is often considered an aspect of a mentorship program that is meant to connect an individual with another individual who wants to learn skills and knowledge from a professional. A traditional mentoring model, when used in business, focuses on two individuals working together to develop one individual.

The traditional view of Western or Northern education as superior was evident in the establishment of the shadow faculty roles and the initial agreements. The model was to shadow, with little to no reciprocated learning built into the initial relationships. Part of this was built into the agreement to help address the Indian National Education Policy (NEP) 2020. The national policy aims to move from traditional rote learning, with reliance on repetition, to education designed to equip students with 21st-century skills by nurturing their creativity, problem-solving abilities, and adaptability, preparing them for the evolving global landscape.

From the US perspective, the history of the US institution embraced a model that positioned itself as the institution to learn from and not on reciprocation. Historically the institution had focused on Northern and high-income countries as partners. The primary US educational partnership that was reciprocating in nature was with a German institution.

Using a collaborative model, in the virtual case, the faculty shifted from the designed shadow faculty model to a reciprocated learning process that developed both parties through acknowledging and embracing their diverse knowledge and perspectives. This shift was intentional with each highlighting what they could learn from each other. Yet at times the US faculty had to remind the Indian faculty of the legitimacy of her knowledge. For instance, the US faculty would ask the Indian faculty to provide examples as part of the teaching process. The

Indian faculty's natural tendencies were to use US examples. This was supported by the Indian faculty sharing that all the textbook examples that she was most aware of were from the US and that in India she was praised for and/or expected to use Western examples. Over time, the Indian faculty gained more confidence in sharing examples from India and having those examples encouraged and supported by the US faculty.

This shift to a collaborative model in the virtual case has similarities to a Collaborative Responsive Education Mentoring Model (CREMM) [17], proposed as relevant for some Historically Black Colleges and Universities (HBCUs) and for less research-intensive universities. CREMM, as recommended for use in higher education, includes three pillars: a mentor teacher/professor, a mentee, and diverse academic knowledge base. Although there is limited research on CREMM, the model proposes that growth or change in a higher educational environment occurs when the three pillars are utilized in a formal mentoring process that incorporates feedback sessions. The dynamics of CREMM include several perspectives of a successful mentoring relationship. First, the participants are expected to have a broad scope of knowledge. Second, all participants in the mentoring relationship are expected to grow from the experience. Third, faculty and mentee faculty, regardless of their positions in academia, need to seek to expand their level of expertise in new content areas.

The original design of the relationships in both cases did not align with the three pillars and perspectives of successful mentoring proposed in CREMM. In the original design, there was an unexamined and inherent sense of superiority of the US system and faculty. This continued to be unexamined in the Fulbright case. In the virtual case, the US faculty member was not comfortable with the one-way nature of the shadow model. As previously noted, based on prior international work, the US faculty recognized the value in a shift to the collaborative approach to both her development and to the students' development. Like the CREMM model, both faculty in the virtual case gained an understanding of the diverse knowledge and expertise each possessed through introductory meetings. Second, they consistently reminded each other of the value of the collaboration to their growth as professionals. Over time, the value of a developed friendship also emerged. Third, they created collaborative plans, which evolved and expanded over time, to apply their knowledge to their teaching, scholarship, and service [15].

Aligned with and key to the CREMM model, both faculty in the virtual case embraced "cultural responsiveness" and sought multiple ways to acknowledge the legitimacies of their cultural heritages. In so doing, the faculty focused on exploring and understanding cultural differences while recognizing potential biases each held. This knowledge was applied to creating an environment where both could learn from each other, extend this learning to the classroom, and ultimately to the universities [18].

Recommended Strategies and Considerations for Success

There is much to learn from the two case studies individually but also when taken together, considering that they are based on collaboration between the same two institutions at around the

same time. While the specifics were described in the case studies, this section provides broad recommendations for collaboration between a US and an Indian institution. These could also apply to institutions from the Global North/Western and emerging countries.

Motivation Recognition and Alignment

Understanding and articulating the motivations and goals of the collaboration is key to its success. Motivations often emerge out of university strategies and goals. However, relationships are put into action at the individual level. Thus, recognition and alignment of multiple levels of motivation is essential to success.

Motivation at the Institutional Level

At the university level, understanding the motivations of each party is key. For the case studies in this paper, there were many meetings held between the top administrators at both institutions to understand each other's motivations for collaboration. Identifying and articulating university motivations, aligned with strategic initiatives, is recommended for university collaborative agreements.

1. Student opportunities: Collaborations can offer opportunities for student development such as study abroad programs. This was one of the drivers for the collaboration in this case study. As partnerships with some areas of the world closed, a motivation of this partnership was to create new opportunities for study abroad. Although many institutions cite student academic development as a goal for collaborations, other goals such as recruitment are underlying motivations. Sharing motivations can help ensure the goals are reached.
2. Cultural awareness: Collaborations can provide opportunities to learn about culture. In the case of the partnering universities, both have relatively homogeneous populations. Thus, collaboration at the student, faculty, and institutional levels created opportunities to develop cultural awareness.
3. Practical expertise: Collaborations can support the sharing of practical and methodological expertise across higher educational settings. The practical expertise can come in the form of content, teaching practices, and evaluation, among others. Understanding the directionality of the expertise exchange expectations is important. As seen in the virtual case, challenging one-way directionality can enhance the benefits of collaboration.
4. Faculty research collaboration: Collaborations can foster faculty research collaboration. Research collaboration can lead to asking new questions, speeding up research, leading to new discoveries, and strengthening relationships between collaborators. One in five of the world's scientific papers are co-authored internationally [19]. The ability to scrutinize, debate, and share experience is essential for academic and scientific accomplishment. Constructively exploring, challenging, and accepted opinions is central to the research process and is enhanced through international collaboration. Research collaborations can also open new doors to opportunities to publish. In the virtual collaboration case, each

researcher brought new formats and sources to publish the work that each was previously not aware of. This was particularly true for conferences and book publishers. In relation to the case studies in this paper, it is interesting to note that the US institution is predominantly undergraduate focused, thus the motivation for research collaboration takes on a different form compared to a research-intensive category 1 (R1) institution. On the one hand, the institutional focus is not on research. On the other hand, because the institutional investment in research is low (compared to an R1 institution), the institution is eager to support alternatives that facilitate research opportunities for faculty. For the Indian institution, the focus is growing on research and the collaboration provides opportunities to pursue this raising goal.

5. Branding: Collaborations can increase a university's visibility in other countries and with international institutions of higher education. Strategic partnerships can raise the profile of an institution and be a primary driver for collaboration. In the cases presented in this paper, the US institution was particularly interested in increasing its brand awareness in India, and this was a primary motivator for engagement with institutions in India in general. The branding and marketing aspect was also important for institution in India, as they not only advertised the collaboration on social and professional media but also benefitted from it in the Indian national institutional ranking framework (NIRF) [20].

Motivation at the Individual Level

Fundamental to success in any relationship is understanding oneself in the relationship. This is the foundational level of emotional intelligence [21]. Self-reflection about one's role in the relationship is essential to framing participation in the collaboration. Questions to pose include:

1. What do I hope to learn from the relationship? Questions of what I hope to learn require an understanding of gaps in current understanding. This can extend beyond content knowledge of the subject to teaching processes and cultural context.
2. What can I bring to the relationship? Questions of what I bring to the relationship acknowledges skills, experience, and knowledge that could be valuable. However, this expertise only adds to the relationship if it is valued. Thus, sharing and discussing the "gifts" brought to the relationship can help discern the value of the gifts and if the gifts will even be recognized.
3. What do I hope to gain from the relationship? The most important individual question is ground in understanding the motivation for entering the relationship. We all have "what's in it for me?" motivators. Our motivators influence the way we enter the relationship and what we hope to gain from the relationship. Sharing these, as best as possible, helps to set expectations and can shape the relationship. In the first case, the Indian faculty visiting the US had several personal motivations including the prestige of receiving the Fulbright award, the scope for professional growth through the experience of teaching in the US, and the chance to experience a foreign culture. In the virtual case, the Indian faculty not only hoped to gain experience, but also the relationship came with prestige that comes from working with the US faculty/institution. For the US faculty in the virtual case, the desire to learn was a motivator, as was the desire to fill a void that came when her work

in China came to a close. In another case, not discussed in this paper, yet observed in a colleague, the answer to the question was "I was assigned by my boss." Keeping the US boss happy was the motivator. As result, developing a relationship with the shadow faculty was not a goal. This created a mismatch and disappointment with the paired Indian faculty who desired a relationship.

As the partnership evolves, re-asking motivation questions is encouraged. As partners learn through the relationship, realization of knowledge gaps emerge, as do acknowledgment of gifts one has to offer. Motives can also change as we learn more about the potential of the relationship. In the virtual case, the questions were often re-examined. As each party learned more from the relationship, new knowledge gaps emerged. The questions also changed as life evolved for each of the faculty. For example, one of the partnered faculty became a mother, while the other became a grandmother. This created new opportunities to learn about child rearing practices that extended to learning more about family roles, culture, and institutional policies. Motivation for the collaboration also expanded. Although the relationship was teaching focus, a new motivation of research emerged.

Institutional Support for Collaboration

Support can come in many forms. The individuals driving the collaboration should engage respective administrators early in the process so that all parties can explore the anticipated support needed for proposed activities. In some cases, there might be formal mechanisms like internal grants for which one might submit a proposal. In the context of the work described in this paper, such a formal mechanism was unavailable at the time, but early involvement of key decision makers substituted well for that. Support from the institution can be categorized as following:

1. Financial support: Financial support to pay for faculty salaries, technology, and travel among others is required. Support for administration of the collaboration is also required. This support needs to recognize the long-term investment needed to develop relationships. In the case studies presented in this paper, one of the co-authors had taken on the responsibility of initiating and building international relationships focused on India as part of his service to the institution. Although much of this was uncharted territory for the US institution, there was adequate support and encouragement from the administration, including the willingness to participate in high-level exploratory meetings. In the first case study, in the shadowing phase, all participation was voluntary, and considered part of regular professional development that did not merit any additional financial compensation. For the Fulbright phase, financial support came in the form of helping secure on-campus housing at no cost and a stipend (to supplement the Fulbright stipend) for the visiting faculty. No financial support from the administration was sought by or provided for the faculty on the US side. In the virtual case, the Indian faculty had financial support to engage in the partnership, while the US faculty viewed the partnership as part of service. Later the relationship became a part of the research pillar of

the teaching, service, and research pillars of academic life, and both the US and the Indian institutions provided financial support to cover conference registration. Since the conferences were virtual, travel was not required.

2. Paperwork: International collaborations might require some unanticipated and/or unfamiliar paperwork preparation and processing by the institution. Laws and requirements differ, and the HR departments might need to explore unfamiliar territory to provide input to the faculty involved. For example, adding shadow teachers to the LMS required that the Indian faculty have US institutional email addresses, which in turn required drawing up and processing of contractual appointment letters. Even as zero-pay adjuncts, the shadow faculty could then be required to complete or be exempted from mandatory training.

Cultural Awareness

An ethnocentric view of the world can create awareness blinders. These blinders block the value of differences we find in cross-cultural relationships. Educating faculty and students about the value of global awareness sets the foundation. Education at the university level, as well as in the classroom, is recommended. There is ample evidence in the first case study that cultural differences in social practices and teaching practices were at the source of much of the grief experienced. Awareness of these differences is the first step towards planning for minimizing their negative impacts and maximizing their positive impacts. This is of paramount importance when students or faculty travel to locations that are culturally different. In the virtual case, the value of cultural awareness was set at the start of each course, as well as in case studies and assignments.

Recognition at the institutional and department levels related to value of culture awareness through collaboration is also recommended. This was more evident from the Indian side of the collaboration through social media, emails from the university leaders, and other communication about the collaboration.

Awareness of Teaching and Learning Distinctions: Education to build awareness and promote reciprocated learning about distinct teaching and learning methodologies and strategies used by the collaborating partners is recommended. In the presented case, the teaching and learning styles differ between the US and India collaborating partners. A primary differentiating factor between the two systems is grounded in their respective learning methodologies. Prior to the National Education Policy in 2020 the Indian education significantly emphasized rote learning, with a memorization technique primarily reliant on repetition. Although the policy promotes a shift in learning style, children and faculty have been enculturated in the rote system most of their lifetimes thus much of this is still evident in the teaching process. On the other hand, teaching in the U.S. is often more interactive and less dependent on rote memorization. Students are encouraged to ask questions of the faculty, while many faculty prefer discussion and debate rather than passive silence. Team-based learning and experiential learning shifts the focus of the teacher learner relationship to peers as a legitimate source of knowledge. Understanding the

different teaching and learning methodologies employed by each of the collaborating parties is essential to the success of institutional collaboration.

One aspect of this is the recognition of the position of the faculty [22]. Positional importance is elevated in a country like India, which has higher power-distance, whereas in the US power-distance is lower [12]. With higher power-distance, the faculty is often unquestioned and is the primary source of knowledge. With lower power-distance, such as in the US, students are encouraged to learn from peers along with faculty. Participation is encouraged while promoting the privilege to exercise voice, irrespective of position, as part of the teaching-learning process. Education about teaching and learning strategies to promote desired outcomes, based on methodologies is also recommended.

Scheduling

Time zone challenges emerge with international collaborations. Finding mutually agreed upon times that do not burden one party over the other is essential. An alternative is sharing the burden through a rotating schedule. In the Fulbright case, the initial virtual shadowed classes were convenient to the US faculty. In the virtual case, the initial scheduling was brutal for the Indian faculty. It required her to join the class at 3:00 am. In both cases the Indian faculty still had to maintain a normal schedule for their other activities. Later in the virtual case, some classes were scheduled with the global clock in mind. Thus, advanced scheduling by the university that promotes the collaborative process is encouraged.

Technology

In both cases, the partnership was mediated through technology. With this in mind, it is important to recognize that internet access, speed, and stability can create challenges to collaboration. Additionally, fire walls and costs can decrease access. Outages and backup plans are necessary. In a case not discussed in this paper, a partnered Indian faculty lost internet access just at the start of her first presentation to the class. She felt she lost “face” and had a hard time reengaging. In the virtual case, multiple technical failures in one class session required creative problem-solving and the use of personal phones instead of traditional classroom technology systems. Cyclones and other weather related issued created periods where the Indian faculty did not have access to power, much less internet.

Use of technology to promote collaboration is encouraged. OWL 360 camera technology was used to bring the Indian faculty into the face-to-face US classrooms and allow full engagement. MURAL, a virtual collaborative platform, allowed both faculty access to student collaborative work and provided a platform for their own collaboration. GitHub classroom enabled collaboration in software development. Given costs and availability, in most cases the US institution provided access to collaborative technology for the Indian faculty.

Perseverance and Coordination

International collaboration, even in the information age, is not straightforward. It does not just happen on its own. Even with the best intentions on both sides, and a genuine interest in engaging in collaboration, the end results are often not up to expectations. Taking a long-term view and working through setbacks to learn and adapt is essential. Usually, this requires one person to take the lead in coordinating international collaborations. This often stems from a personal desire or strong internal values that continue to motivate the person in times of hardship or struggle.

Coordination is required not only between institutions, but also within an institution because international collaborations touch many verticals within an organization, and for most departments the collaboration can be viewed as "extra" work that is piled on top of other functions. In the cases presented here, one of the co-authors took up the responsibility of building ties with institutions in India and created a long-term plan to align with the US institution's own strategic plan. His prior service work focused on serving a professional organization dedicated to improving the engineering education ecosystem in India. This work provided crucial background knowledge, expertise, and motivation for taking on this coordination role which became part of his service to the US institution.

Conclusion and Summary of Recommendations

In conclusion, successful collaboration requires institutional support in many forms, but is finally driven at the individual level. Lessons learned from the presented case studies highlight the intersections of the need to have cross-cultural awareness to develop global acumen in faculty, and ultimately students, through global collaboration. Although the case studies are specific to an institution in the US and India, the lessons learned can be applied to other institutions from Global North/Western and developing countries as they collaborate to promote global acumen.

The key takeaways from this study could be summarized as:

1. Global acumen, or global awareness, is essential for navigating diverse environments and collaborating effectively across borders.
    a. Ignoring cultural differences can have disastrous results in cross-cultural collaborations.
    b. Faculty development is necessary to guide the development of global acumen in students.
2. Establishing trust and building personal relationships between collaborators is crucial for successful collaboration.
3. Understanding and articulating the motivations and goals of the collaboration is crucial for its success.
    a. Collaborative activities should align with the motivations and goals of the institutions and individuals involved.
4. Institutional support in terms of financial support, paperwork assistance, and coordination is necessary for successful collaboration.

    a. Barriers such as finance, family responsibilities, immigration status, and time can hinder faculty in developing global acumen.
5. Collaboration is not always smooth sailing. Perseverance is key to achieving successful outcomes.
    a. It is important to work through setbacks, learn from experiences, and adapt strategies as needed to achieve successful outcomes.

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9. Collaborative activities should align with the motivations and goals of the institutions and individuals involved.
10. Global acumen, or global awareness, is essential for navigating diverse environments and collaborating effectively across borders.
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12. Understanding and articulating the motivations and goals of the collaboration is crucial for its success.
13. Cultural awareness is important in cross-cultural collaborations.
14. Institutional support in terms of financial support, paperwork assistance, and coordination is necessary for successful collaboration.
15. It is important to work through setbacks, learn from experiences, and adapt strategies as needed to achieve successful outcomes.

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