Forming International Collaborations for SoTL Research: An Autoethnographic Reflection

Emily Faulconer

Embry Riddle Aeronautical University, Worldwide Campus

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This essay serves as a personal narrative to share experiences and lessons learned in using a sabbatical to form international collaborations for SoTL research. I share my motivations for seeking an international collaboration, explore my predicted and realized benefits, and address challenges encountered including time constraints and administrative barriers.

SOTL RESEARCH COLLABORATIONS IN A GLOBAL CONTEXT

We are navigating an evolving landscape within higher education where our students are expected to graduate with both disciplinary knowledge and key transferable skills. Higher education has also been challenged to become more global, facing critical challenges like sustainability, conflict, and inequality. These 'wicked problems' require complex solutions that transcend geographic and disciplinary boundaries. By orienting our Scholarship of Teaching and Learning (SoTL) research frameworks accordingly, there is immense promise for innovative approaches, diverse perspectives, and the collective enhancement of teaching practices in higher education. After all, SoTL frameworks operate at a macro level with an international context and they impact international communities (Fanghanel et al., 2016).

The volume of research publications with international co-authorship as well as the number of multinational research funding proposals has increased in recent years (Wöhlert, 2020). The benefits of international research collaborations are widely discussed within certain disciplinary areas such as STEM (de Grijs, 2015; Dusdal & Powell, 2021), with some noted benefits including cross-fertilization of ideas, diversity in perspectives and expertise, access to specialized resources, increased funding opportunities, and impact with global relevance (Vestal & Mesmer-Magnus, 2020). However, very little attention has been given to international research within SoTL.

There are inherent underappreciated costs of engaging in international research. Challenges of international research collaboration include spatial distance (Dusdal & Powell, 2021), cultural differences and language barriers (Dusdal & Powell, 2021; Hornikx & O'Keefe, 2011; Lezama-Solano et al., 2019; Sloan & Arrison, 2011), negotiating content and rules of interaction (Sloan & Arrison, 2011; Wöhlert, 2020), as well as educational backgrounds and career stage (Dusdal & Powell, 2021; Lezama-Solano et al., 2019). It may be challenging to secure funding that can equally support collaborators across multiple countries, especially when funding comes from national agencies that have specific strategic goals. There may be conflicting conventions or standards of practice or a lack of compliance with national or international research protocols that could affect data integrity (de Grijs, 2015). There may be differences of opinion regarding how to share the workload, resources, data, or attribution (de Grijs, 2015; Sloan & Arrison, 2011). Careful planning and flexibility can help address many of these challenges.

AUTOETHNOGRAPHIC REFLECTION

In Fall 2023, I embarked on a research sabbatical to establish SoTL research collaborations with STEM faculty outside of the United States, selecting Australia as the location for my sabbatical abroad. The following section details how I formed my international research network, how research teams were formed, the outputs of the international SoTL collaborations, and an overview of my perceived benefits and challenges while engaging in international SoTL research.

Forming the Network

Often, research teams are built from existing long-term relationships and the recruitment of additional collaborators through existing networks, as seen in Dusdal & Powell (2021). However, my sabbatical was aimed at forming a new international research network where I had no existing connections. My primary purpose was to reinvigorate my research agenda with fresh ideas and to be open to new possibilities for long-term research pathways. Secondary reasons for expanding my network included increasing the global context of my work, learning new methodologies, and career advancement at an institution that values international impact and recognition.

Just a few months before embarking, I discovered my network in Australia was not entirely undeveloped. While attending a conference, I was pointed to an Australian faculty member by a colleague at a conference, though this individual was not within a STEM discipline. Beyond this, I had no contacts in higher education in Australia. To form new relationships, I started with 'cold call' emails to Australian STEM faculty. I discovered these faculty using several methods. I performed a targeted search of SOTL and DBER papers in Google Scholar using Boolean search terms like ["Australia" AND "STEM" AND "undergraduate"] and ["Australia" AND "chemistry" AND "first year"]. I also searched the directory listings of Australian institutions and browsed their research publications shared on institutional websites and those listed in Google Scholar (where profiles existed) to identify individuals to reach out to. Once I started making connections, there were cascades from there as I was referred to other individuals by my growing network. I was also invited to in-person and online events, which is another practical approach to establishing relationships (de Grijs, 2015). I decided to create a rudimentary map of my newfound network in PowerPoint (Figure 1) and quickly discovered that there were existing connections between people I had reached out to, including published research papers, conference presentations, and even a former graduate super-

visor-supervisee relationship. I color-coordinated the map as I made connections with green as successful connections and red as unsuccessful connections. Ultimately, after three months of intentional networking, I arrived at a network with two primary clusters. The first cluster contained 7 faculty members at three institutions (located in three Australian States, Queensland, New South Wales, and Victoria). The second cluster contained 11 faculty members at four institutions (located in two Australian States, Queensland, and New South Wales, as well as one connection in the United States). There were 12 other connections that did not enter a productive status, but have potential for future SoTL research collaborations, representing six Australian institutions, two of which are not present in the two clusters.

In other words, I intentionally analyzed my research network and selected individuals who I felt would be ideal collaborators on those projects and then reached out to them (after we had already established a connection) to discuss the specific collaboration.

An important step in establishing this international research team was to clearly state the goal of the collaboration, division of labor, task coordination, as well as the expected outcomes (de Grijs, 2015). This was communicated in the initial conversations to query their interest in joining the project. I communicated the needs of the project, their responsibilities should they join, how the effort would be recognized (e.g., authorship), the anticipated timeline, and the potential impact of the project. Some of these

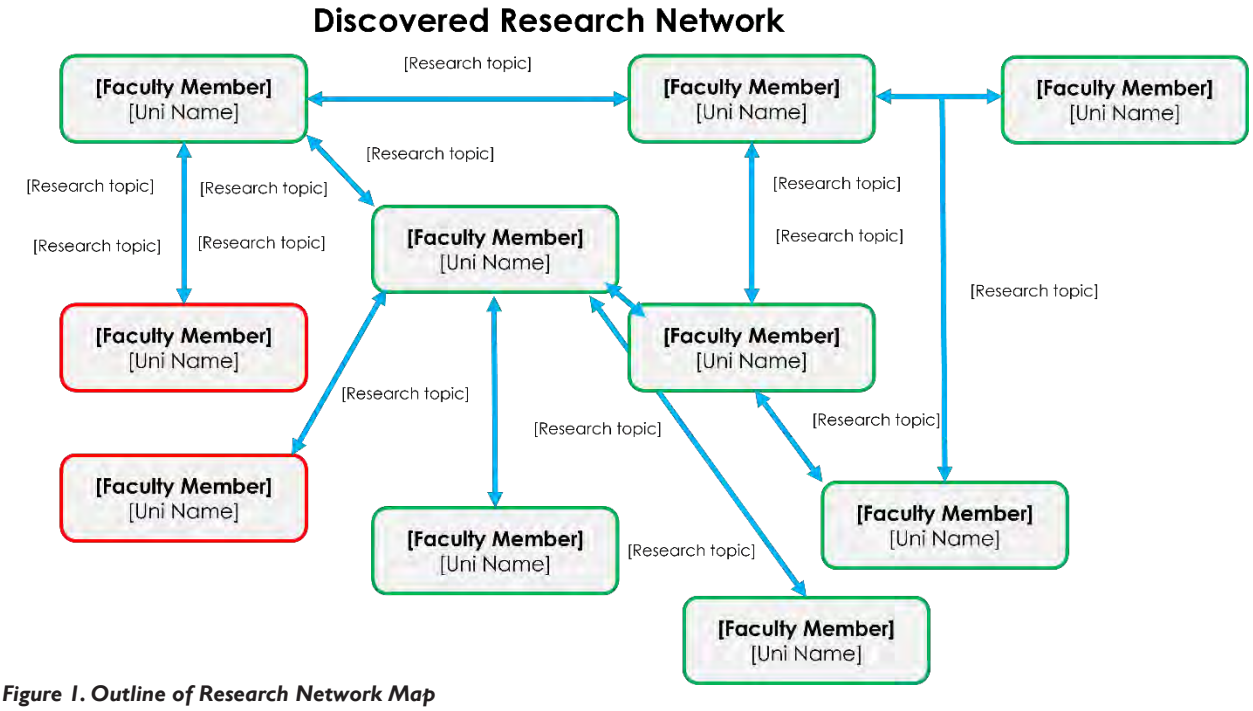

Figure 1. Outline of Research Network Map

Forming the Research Teams

From this network, I identified two potential projects to draw in international collaboration. The first was a SoTL research project aimed at increasing the global perspective in the general chemistry curriculum through a targeted redesign of the discussion prompts in the asynchronous online course (implementing culturally responsive teaching and universal design for learning strategies), measuring student perspectives on diversity and inclusivity. The second was a competitive funding proposal to launch a student-submission blog to give life to student artifacts (such as scientific arguments and research article briefs) beyond the grade book, positioning them as STEM professionals to a larger public audience, measuring the impact on STEM identity, STEM attitudes, and STEM career ambitions.

For the chemistry course intervention project, I had engaged in some preliminary work but needed additional collaborators to bring it to fruition. For the blog proposal, I only had an emerging idea at the start of the collaboration. The selection of these individuals from my network to invite into the projects was guided by their STEM foundations as well as their SoTL backgrounds. conversations happened in person while others were synchronous online (e.g., video conferencing) and others were asynchronous via email. For some individuals, I had previously discussed the project idea while I had not engaged others in this conversation at the initial contact regarding the formation of the research team. A key consideration in reaching out to form a new international SoTL research team is to identify each person's potential motivations for joining the project and identify what skills they bring and how they will contribute (Lorenzetti et al., 2022). Motivations will vary but are likely to be based on common research interests and the opportunity to expand research capacity (Lorenzetti et al., 2022).

When forming research teams, it is important to consider team size. Smaller teams are more nimble in responding to new opportunities and tend to have stable membership and thus may last longer (Palla et al., 2007) while larger teams may not persist as long (Wu et al., 2017).

Getting Started

New teams, interdisciplinary, and/or international teams may take longer in the early collaboration stages. This should be

considered when planning the timeline. Furthermore, the team can embrace challenges with time management by establishing a process to address competing demands. Competing demands is an all-too-common issue in academia. A RASCI (responsible, accountable, supporting, consulting, informed) chart with a contingency plan is an ideal project management approach to address this challenge proactively. I use a blend of a RASCI table and a Gantt chart to identify deadlines, roles, and milestones.

Hierarchies are very likely to be present in the research team based on project role, but can also be present based on career stage or other factors. Hierarchies can influence communication with a cascading impact on knowledge exchange and feedback. For the two international research collaborations discussed here, the only hierarchy that was apparent was based on project role, with me serving as principal investigator for each project. This will be reflected in attribution for the resulting research artifacts, using CRediT authorship statements. It is important to note, though, that there may be institutional guidelines to identify and adhere to in these types of collaborations, particularly relating to commercialization and intellectual property rights.

Establishing communication channels is a key consideration in launching any research project, but there are specific considerations for international projects. First, you must consider time zones when scheduling meetings so that there is limited inconvenience to the team. This can be particularly problematic between the United States and Australia, fluctuating around 16 hours difference, which is literally day and night. Fortunately for the course intervention and blog funding proposal collaborations, we were all within the same time zone. However, my sabbatical ended, and once I return to the United States, scheduling will be a notable consideration. Additionally, academic calendars will inherently vary across countries, including holidays and contract lengths. In my collaborations, I found that my "winter" break (it was summer for my Australian counterparts) was two weeks shorter than theirs. In recent years, video conferencing platforms have increased the ease of synchronous collaborations and holding meetings with individuals across large geographic distances. Additionally, file sharing and collaborative editing platforms (e.g., Google Docs, Word Online, Dropbox, and Overleaf) are readily available to assist in collaborating across time zones and international borders. Even citation platforms like EndNote and Zotero allow for library sharing. Additionally, there are numerous project management platforms to support international research collaborations (e.g., Slack or Microsoft Teams). Keep in mind that not all platforms will be available in all countries. For example, Microsoft Teams became available in China six years after its launch.

For both the course intervention project and the blog funding proposal, we utilized file sharing for asynchronous collaborations. Synchronous conversations occurred as needed as each project progressed, but once the scope and responsibilities of the project were established, the majority of the collaboration took place asynchronously.

The team budget is another consideration in international research teams due to the unique challenges and complexities inherent in cross-border collaborations. Some funding sources may not support international collaboration. If a funding source does support international collaboration, the proposal will need to address the common educational objectives across the participating countries. Travel expenses for an international team may be higher than a domestic team and there may be internal institutional policies regarding international travel as well as legal hurdles like securing travel visas. If the international SoTL research collaboration has a budget, the team should proactively address potential disparities in financial support.

Benefits of International SoTL Research

International SoTL research offers a myriad of advantages that lead to strong research outcomes and faculty development. One benefit of an international SoTL collaboration is to learn other higher education systems, frameworks, policies, and practices. This establishes a comprehensive view of the international contexts for SoTL in higher education. In my collaborations, it was interesting to learn how different institutions handled the COVID-19 pandemic and how they have (or have not) changed practices moving forward from that large-scale disruption to higher education. Some institutions went back to business as usual, some continued to forge ahead with increased online opportunities, and others pivoted to stronger industry ties (e.g., work-integrated learning). Additionally, individuals can experience growth in their knowledge, skills, and networks as well as an appreciation for disciplinary, institutional, and cultural distinctions (Lorenzetti et al., 2022). It was through the chemistry project that a collaborator provided new insight to me on the connections between culturally responsive teaching and universal design for learning. I also developed a strong belief in the benefit of collaboration when tackling research aimed at diversity, equity, and inclusion so that one can work beyond their perspective. While I had carefully planned the intervention, having two additional perspectives added significant robustness to the intervention and addressed gaps that I did not even notice, despite my careful and focused attention. Beyond the benefits to individual faculty, the synergy of varied expertise, cultures, and contexts can lead to novel solutions and insights.

Furthermore, international collaborations provide an opportunity for comparative research to explore differences and similarities in teaching and learning across cultural and educational contexts. This comparative lens provides depth and breadth to research findings. In the funding proposal for the student submission blog, a component of the planned work is to evaluate cross-institutional differences. With two U.S. institutions and two Australian institutions, it may be possible to see if there is an international context to the impact of participating in the student submission blog on student perspectives. This type of work is highly valuable in our increasingly global higher education climate.

Challenges of International SoTL Research

Beyond the challenges addressed in forming the research team and getting started, I experienced a few hurdles in coordinating international SoTL research. The first notable challenge was time constraints. My international collaboration was supported through a sabbatical, which was time-limited. By the time I established a network, identified potential collaborations, and established the teams, there was very little time left on the sabbatical. Additionally, funding sources often have deadlines for submissions, sometimes only accepting submissions once per year. This was a significant factor in the blog proposal as there were only five weeks between when the team was established and when the proposal was due. Because of this time pressure, I felt obligated to take on a large percentage of the workload to avoid overloading my new collaborators and possibly deterring them from engaging in the project. The funding proposal does not include financial support for inter-

national collaborators, but the timeline would have been non-viable if it had been due to the additional paperwork burden through my institution's office of sponsored research.

The other notable challenge was navigating administrative barriers. Many national governments have regulations regarding the use of human subjects. The U.S. government requires specific training for researchers working with human subjects. In international collaborations, either the training must be completed or the workload allocated so that the untrained collaborators are not handling the protected data. In interinstitutional collaborations, there may be multiple ethical review boards to seek approval from. In the chemistry project, the collaborator roles were established to avoid the need for training, with the collaborators not being involved in data collection or analysis. However, if the proposal for the student submission blog is selected for funding, it will require coordination of approvals through two Institutional Review Boards (U.S.) and two Human Research Ethics Committees (Australia). These distinct ethics review boards may have different requirements that may be a challenge to address cohesively for a single project. Furthermore, some funding sources require proof of this type of ethics review upon submission so it should be carefully considered in the planning process for international SoTL research collaborations.

Deciding whether to initiate an international SoTL research project is a big decision. It is important to consider the potential benefits as well as to consider the possible challenges when making that decision. Similarly, it is important to consider these benefits and challenges should you be approached to participate in an international SoTL research collaboration. I would encourage faculty in either situation to speak to those in their network with first-hand experience in international SoTL research projects and to discuss this potential path with their direct supervisor to ensure that this investment of time and effort is best aligned with the academic unit's goals and initiatives.

Looking Forward

This autoethnographic reflection on my experiences with international SoTL research collaborations sheds light on the transformative potential and inherent complexities of these collaborations. The benefits of cross-border partnerships are evident, enabling impactful research on a global scale. However, recognizing the challenges ranging from communication barriers to diverse expectations is equally crucial. Looking ahead, the international SoTL research arena presents a frontier of possibilities for those engaged in scholarly teaching to collectively tackle complex educational challenges and contribute to the continuous evolution of evidence-based teaching practices. The future holds the promise of impactful and sustainable international SoTL initiatives that transcend geographical boundaries and enrich the global education landscape.

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CONTACT

Emily Faulconer <faulcone@erau.edu>

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