Creating Common Ground:
A Process to Facilitate Interdisciplinary Conversation Among University Faculty

Eric A. Goedereis
Danielle MacCartney
Webster University, USA

ABSTRACT

This manuscript offers a framework for encouraging faculty from diverse disciplines to consider and evaluate their teaching, scholarship, and service in interdisciplinary ways. This process integrates Repko's (2008) criteria for interdisciplinarians, Doran, Miller, and Cunningham's (1981) conceptualization of S.M.A.R.T. goals, and McCoy and Gardner's (2012) five key social structural components, in order to further cultivate faculty members' identities as interdisciplinarians. We outline a process aimed at facilitating interdisciplinary conversation among university faculty and present resulting examples of faculty members' specific action plans for their own interdisciplinarity within their teaching, research, and service activities. This framework provides a roadmap for faculty and institutions interested in purposefully and meaningfully facilitating interdisciplinarity across a variety of academic settings.

Keywords: collaboration, faculty development, faculty evaluation, S.M.A.R.T. goals, social structures, workshop

INTRODUCTION

Given the complexity of the challenges facing the world today, faculty have found themselves increasingly both implicitly and explicitly encouraged to think and work in interdisciplinary ways and to further cultivate their identities as interdisciplinarians – and for good reason. In terms of developing students' interdisciplinary, teaching is associated with greater cognitive and intellectual development (Repko, 2009) and improved perspective-taking (Bransford, 2000). Students tend to learn more and rate their experiences in interdisciplinary courses more highly than courses in standalone disciplines (Coker & Gatti, 2017). With respect to scholarship, greater interdisciplinary research collaboration may be associated with greater scientific impacts (Parish, Boyack, & Ionnidis, 2018). Consequently, calls for greater interdisciplinary collaboration among faculty at institutions of higher education has resulted in efforts to examine the evolution and outcomes of such activities.

LITERATURE REVIEW

In their effort to map "the backbone of science," Boyack, Klavens, and Borner (2005) investigated patterns of influence within and across various academic fields. By quantifying patterns of scientific impact using citation data from over one million peer-reviewed articles drawn from over 7,000 professional journals, the authors argue that seven disciplines – namely, mathematics, physics, chemistry, earn sciences, medicine, psychology, and the social sciences – serve as the "hub" sciences of knowledge creation today, though arguably, this conclusion is largely determined by how one defines "impact". To this end, bibliometric research by Abramo, D'Angelo, and Di Costa (2018) suggests that, with a few exceptions, specialized, disciplinary research outputs score higher in terms of scientific advancement than do interdisciplinary contributions. Yet despite arguments regarding how "impact" should be measured, it is evident that knowledge is no longer generated exclusively within academic and disciplinary silos and as such, there exists compelling reasons to be purposeful about cultivating interdisciplinary identities among faculty who find themselves in position to address interdisciplinary problems in their teaching, scholarship, and service.

OVERVIEW OF FACULTY DEVELOPMENT WORKSHOP AND PARTICIPANTS

This manuscript offers a replicable roadmap for faculty and institutions interested in purposefully and meaningfully facilitating interdisciplinarity across a variety of academic settings.

Guided by Repko's (2008) suggested criteria for interdisciplinarians, integrating Doran, Miller, and Cunningham's (1981) conceptualization of S.M.A.R.T. (Specific, Measurable, Attainable, Realistic, and Timely) goals, and incorporating McCoy and Gardner's (2012) five key social structural components, the authors led an invited workshop aimed at providing a specific process for facilitating conversations among faculty from diverse disciplines to consider and evaluate their teaching, scholarship, and service in interdisciplinary ways. We introduced a process by which we introduced specific frameworks, brainstormed relevant projects, and identified collaborators, reported out their action plans. This process effectively cultivated interdisciplinary identities and fostered interdisciplinarity by purposefully providing opportunity to (1) promote an interdisciplinary mindset, (2) develop common ground, and (3) identify existing organizational structures to facilitate interdisciplinary strategies and processes.

Approximately 80 faculty members and administrators, drawn from various units of the university attended and participated in the workshop, which lasted approximately three hours. Faculty participants were drawn from diverse departments, including psychology, biology, sociology, fine arts, music, nursing, accounting, media production, and philosophy. Assistant, Associate, and Full Professors, part-time faculty, and the University President and the Vice Provost, were among those who attended and participated in the exercises.

The steps listed below outline the process followed during the workshop. The following sections provide further details on the process, as well as concrete examples identified by workshop participants. While the authors led this process in a larger, approximately three-hour session, the framework provided could be adapted to other audiences and formats.

Step 1: Promoting an Interdisciplinary Mindset

The first step in our proposed framework for facilitating interdisciplinarity is to promote an interdisciplinary mindset by utilizing Repko's (2008) criteria for interdisciplinarians. Specifically, this framework builds upon Repko's assertion that not *all* interactions between disciplines is necessarily interdisciplinary. This distinction is important because it leads interested faculty to be purposeful in considering whether and how their work

can be interdisciplinary. Repko frames this as a distinction between those who are generalists and those who are integrationists.

We agree with Repko and challenge faculty interested in developing interdisciplinary identities to strive to become integrationists, where the goal of the activity – whether it be teaching, research, or service – is integration. Thorpe, Ryba, and Denison (2014) offer a useful application of this purposeful effort by integrating insights from sociology and psychology to offer new theoretical understandings of sport. The larger rationale for such integration is that simple explanations are not sufficient because the questions, challenges, and work are complex. Once this distinction is established, defining an interdisciplinary problem can benefit from Repko's (2008) five common criteria used by interdisciplinarians:

1. The problem is complex.
2. Important insights into the problem are offered by two or more disciplines.
3. No single discipline has been able to address the problem comprehensively.
4. The problem is at the interfaces of disciplines (i.e., disciplines share a point of common interest in the problem).
5. The problem is an unresolved societal need or issue.

In our workshop, faculty were encouraged to identify activities and problems within their own spheres of interest that met these criteria. Faculty participants were asked to share these examples with one another in order to begin planting the seeds of an interdisciplinary identity. Examples of interdisciplinary projects within the domain of teaching proposed by workshop participants included first-year and general education capstone seminars. Other faculty members highlighted existing efforts to write interdisciplinary research grants. And at our service-intensive institution, faculty were quick to identify domains, including the university's general education program and faculty review committee, as examples where integration is necessary. This initial exercise represents a critical step of the process, as it allows faculty from a range of disciplines to consider or reconsider various aspects of their work – indeed, their identities – in terms of interdisciplinarity.

Step 2: Developing Common Ground

The next step in the process involves creating a space where faculty can identify common ground. While many agree that interdisciplinary approaches are necessary to solve complex problems, unfortunately, the academy often discourages such efforts. Thus, due to disciplinary-specific

jargon, implicit or explicit bias against other disciplines, and other factors, finding areas of agreement can be difficult. Though it may be counterintuitive, we encourage faculty to first work independently, then integrate their contributions in meaningful ways with colleagues interested in a common goal. Once the work enters the collaborative stage, participants can compare perspectives and identify both common ground as well as "gaps" between disciplinary understandings. For example, during this section of the workshop, faculty in art, music, counseling, and biological sciences brainstormed ideas for coursework in nature drawing and arts therapy, identifying conventions in their field and how to incorporate insights from multiple disciplines to benefit students.

In order to build common ground, participants must be clear on where they are going. This means that a regular evaluation process must be part of the ongoing efforts. To identify when they are making progress toward an interdisciplinary goal, faculty collaborating on interdisciplinary work can benefit from using the S.M.A.R.T. goal criteria popularized by Doran, Miller, and Cunningham (1981) – an acronym for Specific, Measurable, Attractive, Realistic, and Time-bound.

Faculty should be *Specific* in what they want to accomplish, as well as clear about how they will *Measure* their progress. Thinking clearly about these elements enable faculty to be purposeful in operationalizing what they seek to accomplish and how the interdisciplinary contributions of collaborators will promote this end. Though it may seem obvious, goals should also be *Attractive* to those involved in the activities. We encouraged faculty to think about why they want to engage in the proposed work and to ask themselves what they would get out of their effort if it is successful, if the resulting outcome increases their identity as an interdisciplinarian, and if so, what that does for engagement with their work and overall satisfaction with their position. In one case, a new faculty member in nursing claimed that this process helped her feel more integrated into the university and to cultivate interdisciplinary mentors across the university.

Of course, just because something is desirable or attractive does not mean that it is feasible. Thus, we asked faculty to be *Realistic* about their goals as well. In our conversations with faculty, we have found it important to balance ambitious and highly attractive ideas with existing realities. We guided faculty to carefully consider if their goals were reasonable given existing resources and if not, to ask themselves if there were realistic pathways to securing additional resources. Finally, faculty were encouraged to specify *Time-bound* goals so it would be clear when certain tasks will be completed and when further evaluation could be conducted.

Step 3: Identifying Existing Structures

 Organizational structures define patterns of interaction to accomplish particular goals. Although ideally organizational and disciplinary structures will facilitate efforts to cultivate interdisciplinary activities, they can also pose a barrier to such collaborative efforts. For example, Buttell and Devine (2014) highlight how faculty "cling to disciplinary structures, while at the same time lauding the concept of interdisciplinarity" (p. 384). Thus, the third step we use to promote interdisciplinarity involves identifying and discussing both existing structures to promote interdisciplinarity as well as structures that might be lacking.

 Organizational structures such as a tenure and review process outline what steps are necessary to achieve tenure or promotion and encourage faculty to engage in particular tasks or achieve particular objectives the university designates as important. Universities have traditionally encouraged disciplinary specialization to more efficiently develop new knowledge. However, big problems are often interdisciplinary, as evidenced by Pearson, Honeywood, and O'Toole's (2005) discussion of the need for interdisciplinary perspectives to create environmental education in university settings and List, Samek, and Suskind's (2018) proposed integration of social science field research with behavioral economics to create a new approach to early childhood education, to cite but two examples. In fact, as Brint et al. (2009) note, "the growth of interdisciplinary research and teaching is now widely recognized as a notable feature of academic change over the last 30 years" (p. 155). Consequently, funding organizations like the National Science Foundation recognize the need for teams of researchers representing multiple disciplines. As universities embrace the move toward interdisciplinarity, organizational structures have or will need to be developed to encourage interdisciplinary collaboration.

 An organizational approach to facilitating interdisciplinary teaching, research, and service should address five key concerns, according to McCoy and Gardner (2012): time, people, departments, structures, and resources. First, time: Since interdisciplinary collaboration requires people with different training and background to work together, expecting quick results is unrealistic. To facilitate real interdisciplinary work, reasonable expectations for how long tasks will take are necessary. In some cases, this may mean re-thinking the distribution of teaching, research, and service loads. Second, people: Not everyone is suited to interdisciplinary work. Faculty who are willing to learn from each other, engage in genuine collaboration under conditions of equality, and can tolerate ambiguity are better candidates for interdisciplinary work. Third, departments: Department chairs and

departmental expectations for teaching, research, and service need to explicitly support interdisciplinarity for such collaborations to be successful. Fourth, structures: an institution's policies and processes should explicitly incentivize interdisciplinarity, including credit for interdisciplinary co-authorship, team teaching, and release time. Finally, resources: Each of the previous components require resources of some sort, including human resources, financial and time incentives, and physical space to conduct and discuss interdisciplinary collaboration. Importantly, engaging in interdisciplinary collaboration requires intentional planning and sufficient allocation of resources.

In our workshop, participants were quick to identify several examples of how our university has historically encouraged interdisciplinarity through collaborative coursework and service, although interdisciplinarity was not always the explicit goal. For example, Webster University has long engaged in reflective teaching communities that brought together faculty from around the university to discuss topics such as ethical reasoning, metacognitive learning, reflective teaching, scientific and quantitative learning, and creativity and evidence. These faculty learning communities exist as structures that facilitate the interdisciplinary exchange of knowledge around teaching practices and have inspired collaborative teaching opportunities, particularly in our First Year Seminar courses and in general education capstone courses.

Also nominated as an existing structure that promotes interdisciplinarity was the Provost's Faculty Fellow program, which creates opportunities for interdisciplinary service by incentivizing faculty to propose a service project partnering with Academic Affairs, the Faculty Development Center, the Academic Resource Center, Academic Advising, the Office of Institutional Effectiveness, Study Abroad, or Global Program Development. Many interdisciplinary projects have been developed from this fellowship, including identifying best practices in student advising and tutoring, developing mentor programs for transfer students, creating a computational literacy learning infrastructure, and developing resources to use video for teaching and learning. Participants also noted how the institution has encouraged interdisciplinary research. For example, Webster's internal Faculty Research Grant accepts and funds applications from interdisciplinary teams of researchers.

Faculty suggested that the biggest and most explicit structure to facilitate interdisciplinarity in teaching, research, and service at our university is Webster's annual Fall Faculty Institute, which is perhaps somewhat unique to our institution. The aim of the two-day retreat is to bring together faculty from the entire university to participate in development workshops and

engage in strategic planning. This structure facilitates social bonding, a factor Klein (2010) identified as integral, though overlooked: "Social bonding is a powerful, though underappreciated, investment in the quality of interdisciplinary work. The social lubrication of informal gatherings provides opportunities not only to get to know colleagues and others better but also to engage in mutual learning and collaboration" (p. 148). Because of this structure, faculty from a wide variety of disciplines have developed team-taught courses and study abroad programs, written interdisciplinary grants, created interdisciplinary research projects, and designed interdisciplinary service projects.

Identifying existing structures or how to use existing structures to achieve interdisciplinary ends is an important part of this process. However, in some cases, structures may not exist. Before giving up on the possibility of interdisciplinarity, it is helpful to identify what structures are necessary but missing to facilitate interdisciplinarity or identifying how existing structures could be modified to achieve interdisciplinary goals, even if that was not the original intent of the structure. Existing internal grant programs, faculty development programs, mentorship programs, or summer research programs can be expanded to more explicitly incorporate interdisciplinary teaching, learning, and service.

Assess and Adjust: Including an Evaluation Loop

To gain the benefits of interdisciplinarity, scholars must be purposeful in identifying potential interdisciplinary problems and their scope, as well as an appropriate mechanism for evaluation. In our workshop, we closed by asking participants to revise their earlier questions to be truly interdisciplinary, concluding with a subsequent discussion and evaluation of the revised questions within the interdisciplinary framework.

At this stage, we recommend returning to the earlier discussion of S.M.A.R.T. goal criteria and emphasizing the more recent S.M.A.R.T.E.R. conceptualization, which explicitly includes instructions to *Evaluate* and *Review* the goals and progress (Yemm, 2013). To this end, Carr, Loucks, and Bloschl (2018) proposed using a program evaluation framework for evaluating interdisciplinary research and educational efforts. A program evaluation model could be utilized in course development and evaluation and lend structure to existing mechanisms for program review and revision such as those suggested by White and Miller (2014). We agree that utilizing a program evaluation framework would be useful to evaluate the effectiveness of an interdisciplinary collaboration and to promote accountability.

DISCUSSION AND CONCLUSIONS

Using this framework, workshop participants were able to identify a number of concrete teaching, research, and service initiatives that are interdisciplinary. For example, in terms of teaching, participants outlined the initial steps of an immersive, high impact student experience that integrates a short-term field research project with a thematic study abroad experience. As evidence of the success of this approach, since participating in this workshop, at least three faculty members have independently and collaboratively designed and led distinct, interdisciplinary study abroad experiences under the university's faculty mobility mechanism. Specifically, one faculty member designed an interdisciplinary experience centered on Global Health and Inequality, which he delivered in Athens, Greece. Another faculty member designed a program in Ghana, which explored interdisciplinary themes of the African diaspora. Other faculty members designed thematic experiences to Thailand and Costa Rica focusing on interdisciplinary approaches to inequality and the environment. Though these experiences were taught by faculty from different disciplines, they each included on-ground field research conducted through an interdisciplinary lens.

With respect to curriculum development, one participant, who typically identifies as visual and performing arts faculty, collaborated with faculty in counseling to design a new degree program in art therapy that included a high impact experiential experience. Additionally, faculty in art and biological sciences collaborated to design and offer a nature drawing course. Other faculty discussed ideas for interdisciplinary capstone courses on a variety of topics which, consistent with Coker and Gatti (2017), were likely to be well-received by students. Further, since the workshop, faculty teaching the university's interdisciplinary capstone courses have had their students present their work at the university's student Research Across Disciplines (RAD) conference. Importantly, engagement with this university-sponsored conference by interdisciplinary faculty communicates to students their ability to participate in this high-impact practice.

With respect to faculty service, participants who have served on the committee to review faculty expressed a greater appreciation for the impact of interdisciplinary teaching and scholarship. These individuals commented on the importance of being an integrationist. Still other participants' discussions coalesced around brainstorming proposals for the upcoming deadline for internal faculty research grants and how these individuals might be able to leverage this existing organizational structure to compete for larger external grants to support a project aimed at community health promotion. Moreover, some faculty participants have since commented that thinking

intentionally via this framework helped them feel more engaged and connected to the institution.

IMPLICATIONS

The format and processes outlined in this paper can be used by faculty and administrators in a variety of institutions in order to promote purposeful reflection and engagement at both the individual and structural levels. By utilizing this framework, interested faculty members can cultivate and strengthen their identities as interdisciplinarians which, as we have demonstrated, can yield creative and impactful outcomes within one's classroom, scholarship, and university service activities.

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Eric Goedereis, PhD, is an Associate Professor of Psychology and Academic Director of Gerontology at Webster University. His primary research interests lie in the area of health beliefs and behaviors across the lifespan, as well as evidence-based practices to promote student and faculty success. Email: ericgoedereis18@webster.edu.

Danielle MacCartney, PhD, is an Associate Professor of Sociology and Fellow of the Institute of Human Rights and Humanitarian Studies at Webster University. Her primary research areas are the sociology of law, particularly environmental, LGBT, and human rights law and policy, and strategies to enable faculty success. Email: dmaccartney@webster.edu