Get Started or Unstuck: Four Elements of Successful Interdisciplinary Collaboration in Extension

Abstract
Minnesota Extension needs to increase interdisciplinary collaboration across the organization to remain successful. Through interviews with associate deans and Extension educators, we investigated elements of existing interdisciplinary collaboration and recommended ways to approach such collaborations. Common themes identified were (a) the need to identify an issue requiring collaboration, (b) the need to define success, (c) the need to clarify expectations, and (d) the need to determine resources. Our findings can help Extension professionals get started, or unstuck, in the pursuit of successful interdisciplinary collaborations.

Keywords: interdisciplinary, collaboration, grand challenges

Introduction
Interdisciplinary collaboration is required for addressing complex issues and today’s grand challenges (Henning, Buchholz, Steele, & Ramaswamy, 2014). However, although interest in this work across Extension is strong, "the development of methods, tools, and techniques for developing integrated issues-based programs has not kept pace" (Guion, 2010, para. 1). In Minnesota, a 2012 survey of programmatic educators and staff identified a variety of perceived barriers to interdisciplinary collaboration. A general feedback survey conducted in 2017 by the Minnesota Extension Faculty Consultative Committee showed difficulty with interdisciplinary collaboration as a concern once again.

It is important to first define the term central to this discussion: interdisciplinary. "Interdisciplinary teams work jointly but still from a discipline-specific base to address a common problem," explained Choi and Pak (2006, p. 355). Their work functions reciprocally with outcomes greater than the sum of its parts (Choi & Pak, 2006). Minnesota’s dean of Extension and all associate deans are supportive of interdisciplinary work
that is mission-driven, issue-based, and organically developed. Working well within and across disciplines exemplifies Minnesota Extension's aim of organizational cohesion and effectiveness (i.e., "One Extension"). Therefore, as Minnesota Extension professionals interested in interdisciplinary collaboration, we looked inward, interviewing associate deans and Extension educators, to understand what real and perceived challenges to this work exist in our organization and how those challenges can be navigated and mitigated by identifying promising practices illustrated through recent successes.

We did not come to our investigation with anticipated themes, but rather we came with an openness to solutions, seeking to understand the issue through thick descriptions of natural experiences (Tuli, 2010). We relied on existing relationships that allowed for open sharing and sought to identify commonalities among the stories shared (Tuli, 2010). It is also important to note that the investigation reported here is intentionally limited to Minnesota Extension; it was internally focused for organizational improvement and growth. However, the themes that emerged are more widely relevant. Critical to solving today's issues, interdisciplinary collaboration has been used in health care (Rice, 2000), ecology (Goring et al., 2014), and food insecurity (Yamchi et al., 2018). Future research should be done to further develop promising practices, including use of relevant methods, tools, and techniques, that support the growth of interdisciplinary work through which "Extension can address issues with more intensity, depth, and breadth" (Guion, 2010, para. 3).

**Elements of Collaboration**

From our interview findings, we identified four elements essential to successful interdisciplinary collaboration: (a) the need to identify an issue requiring collaboration, (b) the need to define success, (c) the need to clarify expectations, and (d) the need to determine resources. These four elements should not be framed as a linear "road map" or as a "checklist" to be completed. Rather, they are elements that persist and evolve over the course of a collaboration. Herein, speaking to Extension professionals endeavoring to amplify their impact by working with others, we define the four collaboration elements, provide tangible examples of each, and offer our recommendations for increasing and improving interdisciplinary collaboration.

**Collaboration Elements Defined**

*Identify an issue requiring collaboration.* Let the complex issues of your work drive the development of interdisciplinary teams. Need identification may occur organically when colleagues get to know one other and deeply understand one another's work. Colleague networks can develop from discovering mutual geographies or topical concerns; leveraging and deepening networking opportunities at Extension conferences; participating in groups that exist around a shared interest or common goal, bond, or background; or presenting at conferences outside one's discipline.

*Define success.* Consider how you will define success and evaluate outcomes. The following questions can help guide discussions around this topic: What are your goals for collaborating? Will you learn together—for professional development or organizational change—or create external programming together? Will you share resources or develop shared resources? Will there be product deliverables, and/or are you convening networks? Will you solve the same problem with three different solutions or solve three different problems with a common solution? There is no "right" or "wrong" here. Instead, you will strive to address a community need that will not be solvable without collaboration.
Clarify expectations. Identify how each collaborator's position and skill set address a broader, complex issue by considering what complementary assets are brought to the table. Anticipate the need to be flexible. Communicate early, often, and openly with the other collaborators and your supervisor about roles and needs related to work plan commitments and goals, project resources, personal curriculum vitae notation(s), publication authorship, and organizational branding or co-branding.

Determine resources. Consider how the interdisciplinary collaboration already fits in your existing role and programming, and use existing funding mechanisms, if appropriate. Discuss what collaboration means for obtaining, giving, receiving, and sharing resources. There are many questions to consider: What resources are needed to support the work? How will resources be allocated, and who will make that decision? Who will provide in-kind resources (e.g., space, support staff)? What account will be used for expenses and income? Who will "own" the program for future use if the collaboration dissolves? Who will get to claim outcomes on the federal report? In terms of timing, when can you secure the commitment needed from all collaborators?

Examples of Collaboration Elements from University of Minnesota Extension

Identify an issue requiring collaboration. A family resiliency educator and a forestry educator worked in the same regional office for years. A collaboration based on their common geography developed around creating educational offerings for family landowners on the topic of transitioning land ownership. Shared geography is only one basis for collaboration; opportunities to collaborate to address key topics exist too. For example, realizing that food systems change is a complex issue, two Extension educators and a program specialist identified statewide implementation of the Minnesota Food Charter as an issue requiring collaboration.

Define success. A fish, wildlife, and conservation Extension educator has found that defining success when collaborating around citizen science work means facilitating communication among those in statewide networks of diverse organizations and agencies. "We don't hold all the knowledge; we're the right conveners because we have our finger on a lot of other things," A. L. Strauss explained (personal communication, December 12, 2017). In this case, success is not defined as a completed curriculum or a successful event. Success is measured instead by the ripple effects of the networks the collaboration is supporting.

Clarify expectations. Sometimes roles within a collaboration are obvious; other times, not so. To support an interdisciplinary team approach to e-learning development, a youth development educator established a set of role definitions to clarify the expectations of the collaboration. A more complex example is the Stormwater Core Curriculum project on which Extension educators from Minnesota and Nebraska collaborate. The team has smoothly shared three separate sources of funding and the responsibility of publishing in the Journal of Extension by clarifying each person's roles before the project was too far along.

Determine resources. There are myriad situations where interdisciplinary work fits wholly within existing funding and staffing parameters. For example, a water resources educator has acted as a guest speaker for Center for Community Vitality (CV) programming to share her area of expertise, and CV representatives have been brought into other disciplinary programming to address leadership development needs (e.g., programming associated with food networks, youth development in Indian country, local foods, and regional sustainable development partnerships). Additionally, personnel from CV's Tourism Center have collaborated with the Center for Agriculture, Food, and Natural Resources' Food Safety team to incorporate food safety
into their Festival and Events Management Training. The Center for Family Development and Center for Youth Development have had great collaborations related to Supplemental Nutrition Assistance Program Education and the Culture of Health through the 4-H Council. Though not an exhaustive list, this set of examples is a good representation of the type of collaboration that happens regularly within Minnesota Extension.

At times, additional funding is needed to pursue interdisciplinary collaboration. In one such case, flexible funding through an "issue area" grant from Minnesota Extension administration allowed a team to use a participatory grant-making process with colleagues across Extension to determine resource allocations for each action team. The interdisciplinary team used a shared gifting circle, wherein team members essentially "voted with their dollars" to fund the projects where they saw the greatest need.

**Recommendations**

_Identify an issue requiring collaboration._ We recommend strengthening colleague networks based on geography and topics and sharing the experiences of current and recent collaboration participants to organically inspire new mission-driven, issue-based opportunities.

_Define success._ We believe that shared metrics across organizations could allow for the development of action plans with intended outcomes that are valued and align with and support a strategic plan.

_Clarity expectations._ We suggest that an organization-wide framework could help define roles as projects begin and evolve.

_Determine resources._ Funding opportunities that specifically support interdisciplinary work may be pursued, although we recommend being cautious not to chase money before a meaningful collaboration exists.

**Conclusion**

Although interdisciplinary work can bring greater impact to our communities than single-discipline work, it is not without its challenges. Reflecting on our own organization unearthed the real and perceived challenges our colleagues face in undergoing interdisciplinary work as well as what can be done to navigate those challenges. The aim of this commentary is to help others in Extension get started, or unstuck, in the pursuit of successful interdisciplinary collaboration. We also wish to encourage research around the development of promising practices, including use of relevant methods, tools, and techniques, that support the growth of interdisciplinary work in Extension.

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**References**

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