De-risking Transdisciplinary Research by Creating Shared Values

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Abstract
This *Lessons Learned Paper* describes a yearlong faculty development pilot program that was designed to help a team of faculty de-risk their pursuit of wicked research problems. Wicked problems are extraordinarily difficult to solve due to their incomplete, contradictory, and at times changing requirements. They often include multiple stakeholders with competing interests and worldviews. As a result, they are risky by definition because they are difficult to fund, publish, and collaborate on. Presented here, a team of eleven faculty, from six different academic units, explored their personal and professional values during an initial off-site two and a half day retreat. These values were repeatedly revisited when discussing the implications of the team working together on their curriculum, tenure and promotion guidelines, hiring criteria, and pursuit of wicked problems. Faculty representation included all ranks from a brand new assistant professor to several full professors. This paper will discuss the background and implementation of our program, along with key lessons learned and how we are building on those lessons.

Introduction

With funding from the National Science Foundation [1], we embarked on a yearlong faculty development journey with an interdisciplinary group of faculty at Boise State University, with the explicit goal of helping them to create a cohesive and collaborative team. This paper first gives the background on this particular group of faculty, the setting at Boise State, and the NSF grant that funded this work. We then describe the professional development activities of the full year before diving into the details related to values. We close with lessons learned and what we have done with this activity since the project began.

Background

Human Environment Systems (HES) is a new interdisciplinary research team at Boise State, with the goal of working to understand and solve complex social and biophysical questions, and to train a new generation of students to meet the challenges of the next century [2]. HES has a set of core faculty plus "affiliated" faculty from other units on campus – we refer to the combination as the "team." The team is made up of some mid-career and senior faculty in established academic departments and a few new hires of junior faculty into the College of Innovation + Design (CID) – a new experimental unit of Boise State.

Boise State launched CID in August 2015 with the mission to prototype novel models of research, development, and education (RD&E) – without needing to subscribe to the bureaucracies of a state institution. Unlike other colleges, CID pilots RD&E programs and then develops a roadmap to integrate the viable ones into the university structure. It does this to experiment with how value and relevancy are retained amidst a variety of internal and external pressures facing higher education. In doing so, it serves to innovate within the current university, innovate the future university, and innovate workforce and community connections in Boise and beyond [3]. In addition, Boise State launched the Institute for STEM and Diversity Initiatives (ISDI) in January 2015. The mission of ISDI is to create a culture of inclusive excellence in science, technology, engineering and mathematics (STEM) – increasing the number of women

and other underrepresented groups in these fields and facilitating the success of those already pursuing that pathway [4]. It does this by serving as a central coordinating and support structure for STEM-related activities and as a vigilant advocate for the underserved and underrepresented.

After receiving funding from the National Science Foundation [1], eleven faculty participants were recruited and then selected to engage in the yearlong *ASSERT* (Aligning Stakeholders and Structures to Enable Risk Taking) project. Participation included faculty at all ranks (*i.e. Assistant, Associate, and Full Professors*) and from multiple academic units on campus (*i.e. HES, Geosciences, Biology, Sociology, Anthropology, and Public Service*).

Here is a brief list of the professional development activities of *ASSERT*:

- After a program kick-off meeting, each faculty participant was asked to complete a survey and an individual structured interview to determine their initial intellectual risk-taking profile, providing validation or perhaps challenging our *a priori* observations of global risk inhibitors at Boise State. Global inhibitors included but are not limited to Boise State prioritizing funding over ideas as it grows its research agenda and changes its funding model, tenure & promotion policies that do not reward risk taking, tribalism between academic units that is based on history rather than institutional design, and a lack of faculty development to support and manage risk taking.
- By profiling the faculty participants, we were able to look at what may locally inhibit them from being research risk takers – **personal** attributes and beliefs, and the **structural** and **cultural** issues within their academic unit, the university, and in their academic field.
- Identified **structural barriers** to taking risk included a: (1) leadership model that was passive, (2) curriculum that was insular, (3) research model that was elitist, and (4) tenure and promotion policy that didn't reward nor incentivize team-based science. In addition, **cultural barriers** to taking risk included a: (a) lack of shared values and cohesion among the participants, (b) lack of belonging among faculty participants from the ancillary academic units, and (3) sense of competition rather than collaboration between the participating academic units. Finally, identified **personal barriers** ranged from: (i) work-life challenges, (ii) fear of failure, (iii) withdrawal from crucial conversations, and (iv) gender inequalities related to value and voice among the faculty.
- The above pre-assessment helped the PI and coPI of the project design programming for the cohort and individuals, drive the discussions with the provost, deans, and department chairs about structural and cultural issues, and provide a baseline against which we are measuring the initial impact of this pilot project. (*Participants completed the same survey and interview process in spring 2018 for comparison purposes.*)
- Based on the individual and collective needs of the eleven faculty participants, two off-campus retreats were facilitated during the Fall and Winter (*see below*).
- The fall retreat was held in McCall, Idaho (*a rustic mountain lake setting*) and focused on creating shared values by the faculty participants. In addition to the PI and coPI, the retreat was facilitated in collaboration with the Director of the Center for Teaching & Learning at Boise State. The following sections of this paper will concentrate on core activities during this retreat.
- The winter retreat was held in Ketchum, Idaho (*an international ski town outside of Sun Valley*) and modeled successful and unsuccessful crucial conversations while exploring various research strategies for establishing an *ASSERT*ive community. In collaboration with the Associate Vice President for Research & Economic Development, the PI and

coPI modeled a crucial conversation gone wrong by adopting three faculty personas that amplified known behaviors among faculty (i.e. withdrawal, aggression, micro-aggressions, silencing, elitism, and at times manipulation). After debriefing on the event, participants then modeled healthy crucial conversations by exploring various research structures that would align their values to their performance goals and in doing so minimize their collective risk as a team. Because of the foundation established, an unexpected outcome of the retreat was a spontaneous meeting about the next faculty hire and the inclusion of all stakeholders in that decision process.

In addition to journal prompts, on-campus workshops and faculty learning communities were held before and after each retreat to build trust among the group, as well as prepare them for the learning experience.

Values

A critical decision of the project leadership was to start the fall retreat (the first major gathering of the team) with a values exercise. The motivation for this choice is that one of the main goals of the program was to create a cohesive and collaborative faculty team out of individuals who came from different academic units, ranks, and backgrounds. In order to create a team that could collaborate based on relationships rather than transactions, we felt it was critical that they truly understood who they each were personally and what values were driving their desire to collaborate. Our working hypothesis was that if a team could agree on a foundation of core values, then difficult decisions could be made based on those values rather than on individual preferences. We believed that it would give the group a frame of reference for all of their future negotiations over things like curriculum, hiring, space, and research priorities. Moreover, we believed that for the group to effectively attack wicked problems as a team in the future, they would first need to understand each other's values and priorities. This statement seems somewhat obvious if you just say it, but we have found in our experience that it is very uncommon to intentionally take the time to expose and discuss a team's values; and then design around them.

We adapted the Value Card Sort activity [5] for this purpose. We created two sets of card decks – one with the personal values from this citation and another of professional values. For the professional values, the authors brainstormed values that we know have been espoused by faculty researchers, intentionally including some provocative ones (for example "elitism," "inclusivity," "collaborative," and "individual excellence"). Each deck includes blank cards where the participants can write in a value that they want to consider that is not included. In this setting, we had the group go through the professional values first (in later settings, we started with the personal ones to get folks warmed up and getting to know each other better – we recommend that order for those who wish to adopt this activity), and the personal values. For each, the activity was the same – each faculty member received a deck of value cards. They were told to put them into three stacks: Very Important to me, Important to me, and Not Important to me; with the restriction of no more than 5 were allowed in the Very Important to me stack. We then concentrated on the ones that were in that stack. Each person in turn called out which values had made the cut into that stack and we wrote them on the board – tallying when values were repeated. We then facilitated a discussion about potentially combining some of the values on the board – there are several that people see as close to synonymous and with their agreement, we combined those. Then, we led a discussion around the most common values. For the personal

values activity, we talked about what this means when you are working with others – what values are predominant in the group, how you can express respect for values different than your own, and how you can arrange your work life to align with your personal values. For example, if "family" is a highly stated value, then this has implications for when you schedule meetings, and stresses the potential importance of getting to know each other's families. For the professional values activity, we spend time unpacking what these values mean in terms of the decisions that face the group. For example, if "inclusivity" is an important value, then what are the implications for who you hire, how you accept students into the program, who you teach and mentor, and how you allocate internships, etc. Similarly, if "impact" is a professional value, then what are the implications for what kinds of research projects to take on and how to measure the researchers' contributions (changing a public policy around a critical issue perhaps is more valuable than a publication in a highly ranked journal).

Lessons Learned and Next Steps

A primary lesson learned is that values, when made explicit and embraced as a community of practitioners, breaks down the structural, cultural, and personal barriers that prevent good people and good ideas from moving forward. As a social contract, they also expedite the rate of change a team is willing and able to make because they establish the necessary foundation from which any and all decisions are made; both as individuals and as a community. Finally, they depersonalize the decision-making process in teams by focusing on group values rather than on individual values; which can be self-serving.

Values are most impactful when delineated as personal or professional because alignment and misalignment opportunities become apparent to the group upon completion. With proper facilitation, misalignment opportunities become fodder to hold crucial conversations either in the moment or in the future. For example, if a common personal value is family and a common professional value is scholarly impact, then the definition of scholarly impact should be sensitive to the needs of family. Regardless of the timing, the outcome should be a shared list of professional values that are self-consistent with and inclusive of a team's personal values.

Articulating personal values becomes a license to bring one's entire self to work. They also establish the social awareness necessary to lead a high performing team by ensuring that leaders are aware of the needs of those that they serve. For example, the PI and coPI invited families to participate in off-campus retreats because family was the number one personal value of the team. In comparison, establishing agreed-upon professional values creates an accountability structure for the team. As soon as everyone commits to a common set of professional values, the entire team is empowered to uphold them. This shared responsibility levels the power dynamics within a team by providing clear guidance on how values inform how the team works. In the case of HES, these shared professional values were then used to write their strategic plan and their new promotion and tenure guidelines. By formalizing these shared values into these policy guidelines, it ensures an alignment between the structure of rewards and the activities which the researchers value. This then de-risks the pursuit of these activities.

Over the course of the last two years, we have extracted team values in a number of university settings that includes one interdisciplinary research team (the subject of this paper), a faculty-

learning community that is disciplinary agnostic [6], three academic departments that range from research inactive to research intensive, and one-service unit that supports the system-wide educational mission of the university. Along the way, we have learned some important lessons about this activity.

The facilitator should:

- Be external to the team in order to minimize conflicts of interest and unhealthy power dynamics
- Be willing to call out contradictions in support of healthy crucial conversations
- Establish trust among the participants so that honest sharing can occur
- Humanize the process, encouraging eye contact with those sharing personal values
- Lead the participants immediately in an exercise applying the values to an important team decision

Other tactical lessons learned include:

- Facilitation is impacted by group size, room size, and room layout
- Follow through should occur in such a way that individual values are not lost in the application of the shared values
- Soliciting personal values prior to professional values ensures that individuals are heard prior to group values being established
- Established values are not set in stone and should be periodically reviewed and renewed
- Agreed-upon definitions are critical before committing to make decisions based on a list of shared values
- Leaders who lead with their team's shared values are more effective
- The activity is only effective for groups that have a common purpose and the need to make team decisions

When a team starts with values, individuals learn about who they are within the context of who they work with. They also contribute to and become responsible for upholding an agreed-upon list of values that become both the identity of the team, as well as the framework from which any and all team decisions are made. When leveraged well, clear values have the potential to establish a virtuous cycle in teams through reinforcing a sense of individual ownership and accountability, and group pride in identity. And this in turn, allows for researchers with different disciplinary lenses and different personal values to work together to create structural alignment that in turn de-risks their wicked research problems. A word of caution, though, when facilitated or implemented poorly, values can be quickly reduced to words rather than meaningful actions, which will not lead to team gains.

This material is based upon work supported by the National Science Foundation under Grant No. 1629659 and Grant No. 1745944

References

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