

Work in progress: Designing a sustainable mechanism for discursively navigating change

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While it might not be particularly provocative to suggest that what we say to each other (i.e., our *talk* or our *discourse*) matters for faculty development and engineering education change efforts, there is scholarship that can inspire a deeper look. For example, in the book *How the way we talk can change the way we work*, Kegan and Lahey (2002) highlight seven patterns of talk worthy of attention by those interested in faculty development and educational change. To illustrate, the first pattern, “from complaint to commitment” involves recognizing that complaints can arise from situations in which values have been violated, and realizing that critically listening to and talking through complaints can be a mechanism by which a group can come to understand its own values. Talk or discourse in groups may also be even more immediately related to change. In their recent empirical work, Rainio and Hofman (2021) describe the roles of “stabilization discourse,” “re-stabilization discourse,” and “possibility discourse” in an extended professional development effort by a group of educators. The researchers paid close attention to the nature of discourse during the endeavor and found that stabilization discourse and possibility discourse were noticeable and that the relative proportions of the kinds of discourse changed over time. Like the previous example, the scholarship inspires going beyond “talk” as a broad category towards thinking about dimensions such as who is talking, what is the content of the talk, and what function the talk may play. Inspired by examples like these, this work asks: what would it look like to design forms of talk that contribute to faculty development and engineering education change?

This work-in-progress takes up the broad question of *designing talk* (or perhaps more specifically, designing circumstances that give rise to valuable forms of talking) in a single context—an engineering department working on a funded engineering education change effort. At the starting point of the effort to design talk, our funded change effort had been transitioning into its fifth and final year and was at a point where all major instructional initiatives had been set in motion. Recognizing that the discussion that had come with the creation of the initiatives was fading away and also recognizing the challenges that had been created by the extended pandemic situation, we were interested in supporting community building and discovering new opportunities. Thus, we turned to the question: *How might we design a sustainable form of talk that supports community building and discovery*. Over the summer, we chose to carve out one hour approximately once per month for the kinds of talk we were exploring. The autumn 2021 academic term was used to experiment with various configurations, as is consistent with a design-based research (or DBR) orientation. In this brief WIP paper, we describe the DBR orientation with which we approached the work, present the “teaming” model of talk that has emerged from four design iterations, and discuss the cross-cutting issue of sustainability that we need to address as we move forward.

Approach

We have approached this work with a design-based research (DBR) orientation in that we are interested in solving a practical problem (i.e., creating a sustainable and useful form of talk) while also imagining how our effort can contribute to scholarship (Barab, 2004). Edelson (2002) unpacks how design efforts such as this can contribute to scholarship, such as by resulting in design frameworks that others can use. We have been particularly inspired by Sandoval’s arguments about the complexity of managing design-based research projects and the benefit of having an “argumentative grammar.” Sandoval offers a grammar for DBR projects as follows: design embodiments give rise to mediating processes that lead to outcomes. Sandoval discusses how early work in a DBR project can involve iteratively refining the embodiment as the potential mediating processes and outcomes come into focus. (His work also involves the ideas of design conjectures and theory conjectures—ideas we are not yet drawing on here.)

Our work can be considered such an early phase of a DBR effort in that we sought to iteratively create a form of talk that would fulfill our goals, and also to align our work with the grammar laid out by Sandoval. Over the past five months, we engaged in iterative design to explore both the *what* (the embodiment), the *so what* (the outcomes) and the *how* (the processes mediating between the *what* and the *so what*). This paper is based on four instances of a form of talk that we have come to refer to as “teaming.” In the results section below, we address the question: What structure emerged from our four-month phase one work? In the discussion, we turn to the issue of sustainability.

Results

After four rounds of iteration (each conducted via Zoom because of the pandemic and each conducted during a regular faculty meeting time), our model looks like this:

- Embodiment: Discussions that feature a session of modest duration, a commitment to no preparation, time-constrained opening contributions from everyone present, an anchoring question focused on recent experiences related to a theme of shared relevance, self-organized turn-taking, time for cautiously moving beyond individual contributions, and a humble mechanism for providing a trace of a session *lead to*
- Mediating processes: ...individual opportunities to feel valued/less ostracized and collective opportunities to make sense of varied information, and these processes *lead to*
- Outcomes: ...outcomes that can include shared wisdom, collective ownership of the educational mission and an increased sense of community.

A design framework that guides specific embodiments

In our model, a teaming session is defined by the following seven features: a session of modest duration, a commitment to no preparation, time-constrained contributions from everyone present, a topic of shared relevance, self organized turn-taking, time for cautiously moving beyond individual contributions, and a mechanism for leaving trace of the contributions. Below, we briefly explain each feature and also provide examples of how we have embodied the features in our experimental work thus far.

1. A session of modest duration. Our model of teaming sessions is meant to live alongside everyday practice and be repeated. As such, individual teaming sessions need to be modest in relation to the everyday work in which they are situated. In our case, we have embodied this dimension by having teaming sessions of one hour, and further sessions that occur roughly once per month.
2. A commitment to no preparation. Since a lack of time to prepare can contribute to poor attendance and engagement, and a requirement to prepare extends the footprint of the work, our model includes a commitment to not requiring preparation by attendees. In practice, none of the four sessions on which this work-in-process is based required preparation by anyone but the team leader.
3. Time-constrained opening contributions from everyone present. A key feature of a teaming session is the chance for each person present to contribute. In our case, there have been around ten participants. This has resulted in each person having an opening contribution lasting two or three minutes.
4. An anchoring question focused on recent experiences related to a theme of shared relevance. Honoring the commitment to no preparation while making it possible for everyone to contribute has implications for the topic of a teaming session. In our model, a teaming session is achieved by a question that foregrounds recent experience related to a topic relevant to all. For example, our first session (which occurred soon after the start of the autumn 2021 academic term) focused on the question: what has it been like to be back in-person?
5. Self organized turn-taking. In order to have everyone contribute, there needs to be a mechanism of managing turn-taking. A simple approach maintains sustainability. In practice, we have been

using a popular “popcorn” technique where each speaker calls on the next person until all have been included. Over our sessions, we have augmented the popcorn technique to ensure that junior folks are called on early rather than late and also to permit “I pass” as an acceptable response.

6. Time for cautiously moving beyond individual contributions. In our model, the majority of a teaming session involves individual contributions, but there is also time for processing what has been said. To set expectations, we have referred to this time “as time to cautiously move beyond individual contributions.” In our most recent teaming sessions, we have aimed to have at least one-third of the session for this work.
7. A humble mechanism for providing a trace of a session. In our model, a teaming session is primarily an event where people are verbally sharing with each other. However, because a lot of information can be generated and because there is a goal of cautiously moving beyond the individual contributions, our teaming sessions have included a means to capture a trace of what is shared (to be used in real time and also potentially later). Most recently, we have used a google document for this purpose, but we have also experimented with typing key ideas in chat in zoom.

Processes that mediate between the embodiments and the outcomes

A central aspect of a DBR effort is augmenting an understanding of the outcomes of a design embodiment (discussed below) with an understanding of the processes mediating between the embodiment and the outcomes. We are currently paying attention to two processes.

The first process has to do with how being given a chance to speak offers an opportunity to be seen, noticed, and honored. We think it is possible that this process may, at times, counter unintentional ostracism. This process has to do with having time to share your experiences equally alongside others and having others listen. In a busy world with so much instrumental doing, a small chance to share can be a novelty. Thus, we are interested in the significance of the moment of sharing with others listening.

The second process has to do with what is generated by the collective sharing, more specifically the information generated and the nature of the variation in the information. Talking clearly creates information; here, the conditions of talking create information with certain boundaries. Specifically, because of the prompt that is constraining what is being shared, the time limit on how much each person contributes, and the modest number of people contributing, there is the possibility that patterns in what is being said can be detected by those present. We are just starting to map out the specific kinds of variations that can be significant such as variation in teaching configurations, variations in personal motivations, and variations in challenges being experienced. With a more precise articulation of potential significant variations, we may be able to tweak the features of a teaming session to make it easier for those present to notice and engage with such variations.

Outcomes

As discussed above, part of a DBR effort, particularly in the early stages, is being prepared to notice emergent outcomes of interest. In our case, we started with a high level goal of supporting community and discovery. As we have witnessed the sessions, we have started to identify shared wisdom and shared ownership as particular outcomes of interest. We see wisdom and problem definition as aligned with the discovery goal, and the shared aspect of these outcomes as aligned with the community building thread.

Discussion

As we move into our next phase of work, our focus is on the sustainability of the teaming practice in our own context. While we have been designing with sustainability in mind, we still have sustainability issues

to work out. Features that contribute to the potential sustainability of our own practice include the commitment to no preparation, focusing on sessions of limited duration, and relying on a turn-taking mechanism that is distributed across the group. Looking ahead, we are focusing on how to improve the sustainability of the teaming practice by refining the role of facilitator, addressing the process for creating prompts, and the identifying mechanisms for creating the trace. We are also turning our attention to a critical take on who participates and a related issue of appreciating the motivation of different participants, since these issues might result in threats to sustainability. Also, since teaming sessions conducted over zoom enabled perfect attendance and reduced resistance to attending, we may need to make changes if we turn to in-person sessions. Finally, we are also starting to move farther into the DBR work by planning a round of interviews to check in with those involved.

As we engage in these iterations for our local context, we are also looking at how this teaming model could be sustainable for others. For example, others would likely have to resolve issues of group size and finding a time in order to realize this vision. While such contextual features might prevent literal propagation of the teaming model, a different view is that the current teaming model might inspire new configurations in these other contexts, and then such additional configurations could be added to the body of work we are starting here. As an example, the lead author of this paper recently attended a 2-day meeting where each of the ten participants had an opportunity to speak for five minutes about “what you are currently working on.” To make time for these sharing moments (since they were not required for the overarching work of the group), the sharing periods were distributed over four 15-minute sessions. These sessions seemed to be a naturally occurring instance of the features identified above, and the mediating processes and outcomes seemed similar to what we have been observing in our context.

As we look ahead, we are having conversations about how to move the work even closer to the DBR vision of concurrently supporting practice *and* contributing to scholarship. For example, we are starting to attend in greater detail to the particular kind of varied information that such teaming sessions create and what can be learned by thinking more critically about/studying such variation. In Sandoval’s terms, this would align with his ideas about theoretical conjectures, and we would be working to create theoretical conjectures relating particular kinds of variation with particular kinds of outcomes.

Conclusion

In this work-in-progress, we have focused on our effort to design a sustainable form of talk that can play a role in faculty development and engineering education change. We have presented the model that has emerged from a formative phase 1 period and discussed some of the practical and theoretical issues to which we are turning our attention. As before, we will be exploring these issues through additional sessions, and we will have more to report in June at the conference.

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