Form for submitting extended proposals
for consideration for the
2020 ROBERT J. MENGES AWARD FOR OUTSTANDING RESEARCH IN EDUCATIONAL DEVELOPMENT

Instructions:

- Boxes will expand to accommodate text.
- Total **word count must not exceed 2000 words** for the body of the proposal, excluding references and appendices. Be sure to include the word counts in each section, as well as the total for all sections (see below).
- Supporting information focused explicitly on research design, instruments, and visual descriptions of findings (e.g., graphs, tables, figures, models, images) may be placed in appendices. Additional information associated with the research questions, relationship of the literature to the research at hand, or the limitations and study significance are **not** allowed in the appendices. Though not limited, the strongest proposals are typically supported by no more than 10 pages of appendices. To conserve space, for example, you can place multiple figures on one page, single-space survey instruments, etc. Keep in mind, the selection committee is not required to read beyond this general limit.
- The POD Network values ethical research practices. If your research involves human subjects, you must include documentation that indicates IRB approval. Depending on the perceived risks of the research, the full protocol may be requested.
- **"Blind" your proposal** by removing any direct references to you, your co-authors, institution, and supporting publications. Be sure to blind all parts of your proposal, including appendices.
- Incomplete proposals and those that do not conform to the above instructions, will not be considered.
- Send your proposal to the committee chair in **MS Word format**. For consistency, it is helpful if you use calibri, 11 pt font.

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SESSION TITLE:	**Outcomes of a hybrid, multi-institutional course design workshop series**

Does the research described herein involve human subjects (highlight one): yes no

If yes, submit under separate cover documentation that indicates IRB approval.

1. RESEARCH QUESTION(S) & WHY THEY ARE IMPORTANT TO THE FIELD:

This study aims to investigate the phenomenon of multi-institutional collaboration in the delivery of graduate student development programming. Specifically, we seek to determine – what are the benefits for learners AND course leaders in sharing effort across our institutions.

Supporting graduate students for their future faculty roles is a common goal across our organization's many members. We each strive to develop programming that address the needs of our home institution and the possible future teaching roles students may occupy in the academy. One example of a common development program for future faculty is learning skills in course design. In this study we investigate the outcomes of a course design workshop series delivered across multiple institutions simultaneously. This provides a unique opportunity to explore how professional developers work together on a shared program, and how that impacts their work. We also have the chance to see what happens when students have access to peers from across the country, who are also developing their own course design projects.

This work is important because it illustrates a pathway to increasing our impact as developers beyond our own institutions. It shows how each institution can share its strengths to create a program that is bigger and better than what could be delivered at any one institution. It also empowers our graduate students to consider their educational work as part of a national scholarly community, setting the stage for a career informed by colleagueship. This focus on using community to strengthen career development and learning outcomes is right at the heart of the POD Network's mission. The findings of this study provide solid evidence that working together to support graduate development through skillful use of hybrid online and face-to-face (F2F) approaches leads to benefits for both learners AND leaders.

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2. DESCRIPTION OF RESEARCH DESIGN:

This study used a mixed-methods approach. Program outcomes were assessed through direct observation of course analytics. We used a quasi-experimental approach to compare learning outcomes with a historical control cohort where the course was run F2F at one institution. Finally, a

phenomenological approach was used to describe experiences of learners and leaders in their own words.
The course described in this study was called "Transforming Your Research Into Teaching (TYRIT)." This course was a 9-session course design series delivered over 9 weeks during the summer of 2019. The course utilized flipped pedagogy to deliver primary content through online videos and create space for interaction with local community peers through weekly F2F meetings at each institution. Primary content consisted of handouts and mini-lectures on key concepts and prompts for developing course ideas. Participants were encouraged to share weekly works-in-progress to a shared Drive, where they could review each other's work and share feedback with peers. Local F2F meetings focused on exploration and practice of learned concepts.
Leaders from 5 large, public, research-intensive universities worked together to adapt the program from its prior form (where it was offered as a standard F2F course) into this hybrid model. These leaders recruited graduate student and post-doctoral learners at their home institution and facilitated weekly F2F meetings. Collaboration within the leadership team was through online meetings, regular email updates during the course, and a shared drive for brainstorming F2F activities.

Data Collection Instruments and Analysis
Three surveys were used to collect data from participants and leaders. 1) Pre-program participant survey assessed pre-program attitudes and beliefs about teaching. 2) Post-program participant survey collected post-program attitudes, self-perceived development, perception of course elements, and qualitative descriptions of learner experiences. 3) Post-program survey of course leaders identified elements of the course that were influential for learners and qualitatively described the experience of working within a multi-institutional community. Survey items are listed within the tables in the Appendix. To ensure face and construct validity of the surveys, leaders from all institutions reviewed the surveys. Data from the shared drive were used to assess level of engagement with the course and interaction between peers. 31 learners and 7 course leaders consented to participate in the study.

Responses to qualitative survey questions were grouped into clusters by one author, and reviewed by a second author. Each respondent was given an arbitrary number, which allowed for tracking of individual perspectives. To assess project quality, participants' course syllabus projects were subjected to rubric analysis by two independent reviewers (rubric included in Appendix). Prior to analysis, reviewers were calibrated to the rubric using a set of projects from a prior iteration of the program. The inter-rater reliability of the evaluators was strong (Pearson r = 0.738). The historical control for this study was a set of 24 course design projects from a prior F2F-only iteration of this course offered at only one institution. The content, sequence, and duration of that program was identical and led by the same primary instructor.

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3. LITERATURE REVIEW & THE RELATIONSHIP OF THE LITERATURE TO YOUR RESEARCH QUESTION(S):

Development of Teaching Skills in Graduate Students

Graduate training often provides opportunities for development of skills that are necessary for future faculty roles[1-4]. Teaching skills are an important element of graduate development, but opportunities to develop these skills are less common than skills for research and writing[3,5,6]. Nonetheless, teaching is an important part of faculty success and new faculty may be asked to develop new educational programs even with have insufficient training[7-9]. Learning course design skills quickly as a new faculty can be stressful as this effort may conflict with the important work of establishing a research program[2,10]. Learning these skills as a graduate student may relieve some of this later burden, and these skills are achievable by students at the graduate level[9].

Feedback: An Important Consideration for Project-based Courses

For courses which feature the development of a central project, feedback is an essential element[11]. Feedback can come from an instructor and it can also come from peers. In fact, studies have shown that peer feedback can be as effective as feedback from teaching staff[12,13]. In this study, we created the opportunity for learners to provide feedback to one another through a shared drive. We did not create any specific expectations for how that feedback might be given and learners were not required to share feedback. We used this approach to establish an understanding of how much peer interaction would occur simply by making it available. Using this information, we can further modify the program in future iterations to adjust peer feedback.

Hybrid Multi-institutional Approach as an Extension of MOOC pedagogy

The hybrid, multi-institutional approach used in this course is similar to the Massive Open Online Course (MOOC) approach. TYRIT was conducted differently than a typical MOOC in that there was a structured F2F component at each institution, and group leaders at each institution were connected through a leader network. A blended MOOC approach has been described previously[14,15]. Previous studies have shown that addition of a local learning community strengthens an online course and reduces attrition[16-21]. High attrition is frequently described in MOOCs, likely because most MOOCs are optional and not offered for academic credit. TYRIT was also not offered for academic credit. To further support persistence in the program and further enable peer feedback, we have future plans to explore grouping cross-network peers into discipline-based peer review groups. This approach is supported by studies which created groups based on discipline, demographics or location[22-24].

Learning Communities for Learners and Leaders

This study is a great example of how a multi-institutional course has multiple intersecting learning communities. Learning communities are a well-known approach to strengthen learning in higher education, and have been applied to development of professional skills in graduate students and post-doctoral fellows[25,26]. In this program, learners participated in two communities: the local F2F community, and the broader multi-institutional community. Learning communities for professional developers are less frequently described, but they are nonetheless important for strengthening bonds between colleagues and sharing wisdom and resources across institutions. Communities of faculty educators are prolific and provide a rationale for the importance of learning communities for professional educators and developers[27,28].

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4. FINDINGS, INCLUDING THEIR SIGNIFICANCE & LIMITATIONS:

Course Dynamics
Table 1 describes demographics and completion rate of learners in this program. 39 of the 80 participants completed the program. Completion rate was variable among institutions, although there was no clear reason for differences from one school to another. This completion rate (49%) is higher than what is typically seen in a MOOC course[16,20]. The participants were a diverse representation of disciplines and training levels, similar to the historical control cohort.

Learning Outcomes were Similar in Hybrid Model vs. F2F-only Model
Learning outcomes were assessed directly using rubric analysis of project quality, and indirectly through self-reporting of attitudes and skills. Each rubric category had consistently high scores in the multi-institution cohort, and these scores were not significantly different than the F2F-only cohort (Table 2). These results indicate that moving the course into a hybrid mode did not negatively affect learning outcomes.

Survey of student attitudes revealed that the program had most marked effects on knowledge and comfort with course design (Table 3). The program did not significantly affect participants' comfort with teaching or confidence in teaching ability. This was an expected result given that the learners did not actually practice teaching in this program.

Self-perceived skill development was consistently high across the 8 objectives of the workshop (Table 4). The greatest level of change was seen on objectives related to organizing and sequencing content, writing learning objectives and constructing a syllabus. In considering why assessment and instructional plan elements were rated lower, it is possible that the syllabus project did not allow for deep exploration of these tasks.

Program Impact
In qualitative comments on program impact, responses clustered into three main themes: 1) content knowledge and skills, 2) value associated with their course projects/products, 3) confidence gained through their creative course design work. Backward course design was a frequently noted lesson. Participant 20 stated "The biggest lesson I learned is the importance of defining the end goal first and then designing every part of the course around that." Learners roundly agreed that they would like to teach their course in the future and their course products would be useful to them in future career/interviews (Table 5). Most participants indicated that project work impacted how they understand their research area. This echoes the observation that teaching experiences can improve research skills[6,29].

Workshop Component Importance
Learners felt that the primary content (handouts/ videos) and F2F sessions and course leader feedback were the most important aspects of the program (Table 6). Feedback from peers and access to peer projects were rated as less important. This was supported by the analytics data showing that feedback through comments online was not used extensively after the first week, and there were more comments from course leaders than peers (Table 7). Learners may have perceived

low value in this activity and decided not to continue doing it. Alternatively, learners may have felt comfortable giving feedback when projects were more abstract (course scope) but less comfortable giving feedback when projects were more enriched with specific content. Finally, learners may have struggled to find projects closely related to their disciplinary area, so they didn't find projects that they felt qualified to address. This result indicates that simply making peer projects available does NOT lead to significant use of peer feedback. It will be important for future iterations to provide more structure for peer interactions and group students around disciplines to provide a unique purpose for online peer interactions, distinct from multi-disciplinary F2F groups.

Impact of Leader Community

All of the leaders commented how working with leader peers at other institutions enriched their own professional development. Leader 7 said, "I really enjoyed the communication among all the instructors and seeing how different groups focused on different things. The insights about what worked and what was difficult was helpful." Leader 8 emphasized the team's impact on their creativity and motivation, "I had way more access to other ideas and expertise both leading up to and after each session. I was learning from other developers. I felt like the work happening in my classroom was part of something bigger." These findings illustrate the specific value of learning communities for professional developers.

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TOTAL WORD COUNT FOR ALL 4 SECTIONS (MAX 2000 WORDS):	1996

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