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Leaders Like Me

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***Abstract*—The Workshop Program at the University of Rochester infuses collaborative learning into a variety of introductory STEM and non-STEM courses through small, weekly, peer-led problem-solving sessions called "Workshops." Decades of data from these Workshops indicate that 1) American Indian, Black, Hispanic, and Native Hawaiian students are less likely to attend them than White and Asian students and 2) that every additional Workshop students attend correlates with higher final course grades. To address this situation, the UR Workshop Program has partnered with the People Like Me project at Bucknell University. Before the start of the Fall 2018 semester, Workshop leaders were asked to respond to the People Like Me survey questions, and we crafted their responses into profiles. We then posted these profiles for students in the courses to view on a platform on which we could track those views at the individual student level. In this work-in-progress, we hope to answer the question: to what extent does viewing personal information about Workshop leaders affect students' likelihood to attend Workshops?**

Keywords—systemically marginalized students, attendance, role models, building community, peer-led team learning

I. Background

Now in existence for almost a quarter of a century, the Workshop Program at the University of Rochester provides a robust infrastructure for achieving high-quality peer-led team learning (PLTL) instruction as a replacement for traditional recitations in numerous courses across the disciplines in the College of Arts and Sciences [1-3]. The program consists of a team of teaching and learning specialists who partner with instructors of courses implementing collaborative PLTL sessions (referred to as "Workshops" for short) to train peer leaders (referred to as "Workshop leaders") in the best practices of small group facilitation and PLTL pedagogy. The training takes the form of a semester-long course (creatively named "Workshop Leadership") which Workshop leaders must complete concurrently with their weekly Workshop leadership duties. The original study of the UR Workshop Program indicated that students benefited so much more from Workshops than traditional recitations that the control group was subsequently scrapped in future iterations of the study [1]. We know from years of data from the UR Workshop Program that attending Workshops improves students' final course grades [1-3], and disciplines from linguistics to engineering have joined the program since its inception in chemistry back in 1995. However, our internal data for the overall UR Workshop Program indicate that American Indian, Black, Hispanic, and Native Hawaiian students are less likely to attend Workshops than White and Asian students [4]. We see this trend across disciplines and course levels. The trend becomes even more concerning when considering our findings that every additional Workshop students attend correlates with higher final course grades [5]. That is, even if students only miss a single Workshop over the course of the semester, their performance on exams and their final course grades suffer. So, if systemically marginalized students are less likely to attend Workshops, our data predict that they are missing vital experiences and increasing their chances of performing less well in their courses than their White and Asian peers. To attempt to address this situation, the UR Workshop Program has partnered with the People Like Me project at Bucknell University.

The Bucknell People Like Me project seeks to increase the motivation and likelihood of success of systemically marginalized students by creating ways for those students to connect to peer role models, even if those role models may not "look like them" in every way [6-7]. This approach is appealing for the Workshop Program context because most of our Workshop leaders are White or Asian men; students from those identity groups are more likely to receive A's or B's in the courses and to be invited to apply as Workshop leaders by course instructors. By combining the ideas of the two projects, we hope to answer the following research question: to what extent does viewing personal information about Workshop leaders affect students' likelihood to attend Workshops? All research activities are approved through Bucknell University's IRB (#1718-113).

II. Method

To explore how viewing personal information about Workshop leaders early in the semester affects students' likelihood to attend Workshops, all undergraduate Workshop leaders at the University of Rochester overseen by Kyle Trenshaw through his Fall 2018 Workshop Leadership training courses (supporting BIO 110, MTH 141, and MTH 143 specifically) were asked to respond to a profile generation survey during the summer of 2018 as a part of the participation grade in the training course. This survey[1] was modeled after

[1] Students at the University of Rochester may have different salient experiences related to role models that were not represented by questions taken from a survey at another institution; however, exploration of this possible limitation is outside the scope of this work-in-progress manuscript and will be pursued in future work.

the alumni profiles created as a part of the People Like Me project at Bucknell University [6-7]. Leaders' responses to the survey were input into a profile template, and all completed profiles were uploaded into the course management systems for their respective course (the University of Rochester uses Blackboard for this purpose).

Other than the demographic questions, only two of the long-answer questions in the profile generation survey were required, as seen **in bold** on Table I; however, leaders were encouraged to respond to as many questions as they felt comfortable. On average, leaders responded to 7 out of the 12 possible long-answer questions. Midway through the semester, leaders were asked for their consent for their profiles to be included in the study. All leaders received participation credit for completing the profile assignment prior to receiving the informed consent documents, and neither their grades in the training course nor their employment status with the University were affected by their decision about whether to contribute their survey data to the study. Of the 39 Fall 2018 Workshop leaders, 31 consented to participate in the study, including all 12 leaders for MTH 141. Three of the 39 leaders (two in MTH 141 and one in MTH 143) were graduate students who were not required to enroll in the Workshop Leadership training courses. Only one of the graduate students (the one in MTH 143) responded to the profile generation survey.

Students in all three courses were able to view the profiles early in the semester, and some students did so before the first Workshop had even occurred. To capture these views, Blackboard's statistics tracking feature was enabled for the page of links to the leaders' profiles. This feature allows views per day to be tracked at the individual student level, so data are available for a specific student over any specified time period during the semester. The authors chose the first four weeks of the semester as the time period of interest. We wanted to understand how early access to the information affected students' attendance decisions regarding Workshops, but the first two weeks at the University of Rochester are the most chaotic in terms of enrollment changes and students adding and dropping courses. Thus, we chose the first four weeks of classes to allow for enrollment stabilization.

Because this analysis is a work-in-progress, only data from MTH 141 (in which all Workshop leaders consented to participate in the study) will be discussed as preliminary results. Other than for the comparison between students who completed the course and those who did not (e.g., those who dropped the course, withdrew, etc.) in terms of Workshop leader profile views, all other analyses include only students who completed the course and received a final course grade (N = 248). For the purposes of this study, *majority students* are defined to include students who identify as White, Asian, or both White and Asian (N = 139), and *minority students* are defined to include students who identify as American Indian, Black, Hispanic, Native Hawaiian, or any combination that includes one of those four identities (N = 68). For all the analyses, our results cannot be used to imply causation; that is, rather than because of an effect from Workshop leader profile views, students who were already going to attend more Workshops than their peers could be predisposed to accessing and more fully engaging with the Blackboard sites for their courses because of their personalities, pressures from parents to do well, and/or any number of other factors. We hope to address this limitation in future work.

TABLE I. PROFILE GENERATION SURVEY QUESTIONS

Question	Required
First Name:	Yes
Last Name:	Yes
Please upload an image (preferably of yourself) that you would like to share with your students:	Yes
Which pronouns do you use? (Select all that apply.)	Yes
How do you describe your race/ethnicity? (Select all that apply. At your request, this information will not be included in your profile.)	Yes
In what year do you expect to graduate?	Yes
What are your majors/minors/clusters?	Yes
Within the realm of your work/studies, what is your passion? What drives you?	No
Do you have close connections (with family and/or others)? Share how you maintain and support these connections and what they mean to you:	No
Describe the community/area you grew up in:	No
What motivates you at the U of R? What matters to you?	No
What was it like coming to the U of R from your high school and/or community, socially and academically? How did you manage each aspect of the transition?	No
Have you ever been involved in giving back to your community or taking action toward a good cause? Please tell about what it was like and what motivated you to do so:	No
Have you ever failed professionally/academically? Share how you felt and explain how you dealt with it and worked past it:	**Yes**
Talk about a time you took a risk or made a crucial change in a professional/academic context in order for you to stand by your values and/or beliefs:	No
What kinds of extracurriculars are you involved with?	No
Thinking of a time you felt successful, share your challenges and the way you handled your personal life at the time in terms of relationships with family and friends:	No
Thinking of a time you felt successful, describe what your success entailed in terms of courses of action, decisions, personal development, and outcomes:	No
What do you aspire to become?	**Yes**

III. PRELIMINARY RESULTS

In the first four weeks of the semester, MTH 141 students who went on to complete the course viewed the Workshop leader profiles page on Blackboard significantly more times than students who did not complete the course (1.8±2.5 times versus 0.6±1.3 times respectively, $p < .0005$). We acknowledge that we do not have access to the exact dates on which students dropped the course, and it is likely that some portion of the students who dropped did so very early in the semester. Thus, this comparison may be biased toward students who had the full four weeks to access the Blackboard site. However, the difference was significant and warrants further investigation

into whether other modes of sharing the profiles, such as via email instead of through Blackboard, might reduce students' likelihood to drop or withdraw from the course.

Overall, MTH 141 students' Workshop attendance correlated positively and significantly with the number of times they visited the Blackboard page of Workshop leader profiles within the first four weeks of classes ($r(248) = .20$, $p < .005$) *even if their Workshop leader did not have a posted profile* (i.e., even if their Workshop leader was one of the two graduate students who were not required to make a profile as a part of the Workshop Leadership course). The correlation was higher for students whose Workshop leader had a posted profile ($r(162) = 0.23$, $p < .005$). Workshop leader profile views did not correlate with score on the final exam or final total points in the course, but Workshop attendance did correlate positively with both score on the final exam and final total points in the course for all student populations (as seen in previous semesters). Thus, while Workshop leader profiles may be important for encouraging students to attend the Workshops and Workshop attendance may be important for improving course performance, the information contained in the profiles and the experience of viewing them does not appear to relate directly to course performance.

When comparing minority and majority students, we discovered that minority students actually attended *more* Workshops on average than their majority peers (9.3±2.5 Workshops versus 8.6±2.7 Workshops respectively), although the result was not significant at the $p < .05$ threshold. Even minority students who did not view the Workshop leaders profile page a single time during the first four weeks of the semester attended similarly (8.8±2.7 Workshops) to all majority students. We hypothesize that this change from past semesters may be the result of a peer cascade effect; that is, minority students who viewed the Workshop leader profiles were more likely to attend Workshop, and their attendance encouraged their minority peers to attend along with them, regardless of those students' Workshop leader profile views. We hope to further investigate this hypothesis in future work.

The correlation between Workshop attendance and Workshop leader profile views was nearly identical to the total course enrollment for both minority students ($r(68) = .20$, *ns*) and majority students ($r(139) = .20$, $p < .05$). Similarly, there was no significant difference between the number of times minority and majority students viewed the Workshop leaders profile page on Blackboard during the first four weeks of the semester (1.8±2.5 times versus 1.8±2.4 times respectively). In summary, minority and majority students interacted similarly with the Workshop leaders profile page on Blackboard, and the correlation between those interactions and their Workshop attendance did not differ across the two groups.

These preliminary results indicate that, while in-person relationships can be built with or without a Workshop leader profile, having access to and accessing information about peer leaders early in the semester correlates with likelihood to attend Workshops, even if the profiles viewed are not of the student's specific Workshop leader. These results suggest the possibility that including personal information about any of the peer leaders involved in a peer-led team learning course experience could result in higher attendance over the semester. Further, minority students attended more Workshops than their majority peers during a semester where the only significant change to the way the course was taught was the inclusion of the Workshop leader profiles on the course Blackboard site. A tentative answer to our research questions appears to be that a causal relationship between access to Workshop leader profiles and Workshop attendance, particularly for minority students, is well within the realm of possibility, and we hope to elucidate said relationship in our future work.

IV. Future Work

To address the limitations of our study and further explore our results, we plan to pursue at least three avenues of future work. First, to explore our "peer cascade effect" hypothesis, we plan to interview minority students who both viewed and did not view Workshop leader profiles about their reasons for attending or not attending Workshops. Second, to more robustly understand students' experience with viewing the Workshop leader profiles, we plan to interview students who frequently viewed the profiles ($\geq$ 5 total views during the semester) about their reasons for viewing the profiles and perceived value of doing so in relation to their course performance. Third, we plan to qualitatively analyze the Workshop leaders' profile generation survey responses so that we can 1) compare them to those of alumni at Bucknell University to look for contextual similarities and differences between the two campuses and 2) develop a tailored survey for the University of Rochester context.

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