

OUTCOMES OF A COURSE DESIGN WORKSHOP SERIES IMPLEMENTED IN A TEAM-BASED AND DIVERSE CLASSROOM SETTING

Tabassum, S., Hoffmann, D.S., Bovenmyer, K., Kumar, R.

ABSTRACT

Studies provide extensive evidence that a diverse faculty and staff in academia helps bring a wide range of backgrounds, perspectives, experiences, and innovation.^[1] In this regard, a 9-session course was taught in Summer 2019 titled *Transforming Your Research Into Teaching*, that provided 15 aspiring faculty with a platform to more deeply understand the significance of diversity and community in teaching and learning. In this course, the graduate students and post-doctoral fellows from widely divergent backgrounds at Iowa State University designed a new course related to their own research work/interest, in a team-based and diverse classroom-based setting. The teaching-as-research question addressed in this study was—*How Effective Team-based Learning (TBL) and Classroom Diversity are in Preparing Future Teachers through a Course Design Workshop Series?* Graduate students and postdocs at R1 universities mostly strive to do research, while many of them aspire to land faculty positions that require teaching and leadership capabilities. Unfortunately, they hardly get any teaching training, moreover in a diverse and TBL environment, making a course like this crucial to their success. Course impact was measured using 6-point Likert scales and analyzed descriptively. Data and participant feedback were indicative of significant learning in effective course design from a diverse and team-based setting, something that other aspirants can explore in planning academic careers or after landing faculty positions, that they can implement in their workplace to develop a richly diverse and dynamic intellectual community.

BACKGROUND

Graduate students and postdocs are typically undertrained in teaching skills which often make them uncompetitive in the job market of academia, unless they have exceptional research portfolio. On a different note, studies consistently show that diversity in the workforce fosters innovation and competitiveness.^[2] Aligning with the mission of training a cohort of aspiring faculty on curriculum design and preparing them for a diverse work environment, this workshop series was taught to encourage the aspiring faculty to be more accepting to diverse colleagues and students, to leverage diversity in achieving their goals, and facilitate an inclusive campus environment. To the best of our knowledge, this was the first time that TBL and diversity were leveraged together and their impacts on student-learning were assessed in a course design workshop series, to better prepare a group of future faculties for their career path. The workshop series was originally introduced at University of Iowa,^[3] and in Summer 2019 cohort, it was adapted for four other CIRTL institutions—Iowa State University (ISU), Indiana University, the University of Nebraska, and the University of Colorado. This research study was conducted only on the ISU cohort. Thus, the purpose of this study was to inform the aspirants of the benefits of TBL and diversity in a classroom, something that they can instill into their students when they assume faculty positions.

PARTICIPANTS

The goal of this study was to encourage participation of students from varied disciplines and races and create a welcoming and inclusive environment for all learners. The participants consisted of 15 students (46% female)—one from math, seven from engineering, and seven from science background, who were also enrolled in the preparing future faculty (PFF) program of Iowa State University that prepares students for an academic career at a variety of institutions through a combination of seminars, mentoring, practical classroom and departmental service experiences. Six participants belonged to a racial minority and six identified as women in STEM. The mix of students enrolled also varied in terms of their program standing, with 12 in Ph.D. and three in postdoctoral program. Six participants took this course design class as part of Gr. St. 588, which is a PFF special topic course.

FORMAT AND OUTCOME

This workshop used a “flipped course” format. It was divided into 9 weeks; with videos and assignments released each week towards designing the course components— context/content/teaching methods/intended learning outcomes, and assessments. The discussion about the progress occurred during the weekly 1-hr in-person meetings in a classroom, in mini-groups of 3-4. The mini-groups were formed to help students explore aspects of diversity that are relevant to the Iowa State community. The meetings entailed brainstorming, sharing progress with peers, getting feedback, and making refinements accordingly. The group activities were designed to overcome the gaps between students from widely divergent backgrounds and were modified based on students’ feedback. In the pre-course survey, students acknowledged that a training gap had existed in their preparations for a faculty career, which was addressed in this workshop to a great extent as was evident from the post course surveys. At the completion of the course, participants had delivered a full course syllabus comprising learning objectives, instructional plans, course schedule, and assessment plans; learned effective teaching strategies, and presented their teachable units. Six students who demonstrated excellence in their work and participation, earned a *Certificate of Distinction* and the *CIRTL Associate Level Certificate*, while five students who completed the work but did not exhibit outstanding performance received a *Certificate of Completion*.

RESULTS

The post-course survey was conducted on a 6-point Likert scale from “Strongly Disagree = 1” to “Strongly Agree = 6”. The mean and standard deviation for all the responses is tabulated in Table I. Additionally, 80 percent of the participants who completed the post-course evaluation survey in Qualtrics, reported that they “Strongly” felt proud on the work that they had done on their course design projects and would like to teach the course or elements of their courses in future. They also appreciated how the workshop series created a community of cross-disciplinary scholars who shared constructive feedback with each other, that also allowed the students to investigate if their teaching was working.

Table I: Participants' feedback on the effectiveness of TBL and diversity in their learning

Survey Prompts	Mean (M)	Standard Deviation (d)
I found working with peers from diverse background effective	5.67	0.22
The weekly activities helped overcome the gaps between students from widely diverse backgrounds	5.50	0.58
I received useful feedback from peers	5.30	0.22
I could not have designed the course effectively had I not participated in the in-person sessions	4.80	2.56

DISCUSSION

Course or curriculum design is one of the fundamental skills that many new faculty members have to use upon getting their first teaching assignments, yet the graduate students and/or post-doctoral fellows receive little to no training to acquire and develop these basic, and highly learnable skills. Additionally, learning with a diverse community of peer fosters creativity and innovation. To that end, this course was taught to provide the aspirants an opportunity to design a new course in a diverse and TBL environment. Thus, from the participants' feedback as outlined in the *Results* section, it is evident that this research project has the potential to positively impact how a new faculty embraces and leverages diversity in improving the quality of his/her research, teaching and/or service. Moreover, results indicate that this course could be implemented by PFF programs at any institutions to better prepare the aspiring faculty for a diverse work environment. Future studies should include larger sample sizes such as the entire CIRTL network of around 40 universities.

REFERENCES

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