Final Report

FLC on Diversity, Equity, and Inclusion in Undergraduate Research, Spring 2022

In fulfillment of requirements

for the CETL Faculty Learning Communities Program

**Members:**

Robert Simon, Organizer

Amy Buddie, Member *ex officio*

Sohyun An

Sara Evans

Cameron Greensmith

Tsai-Tien Tseng

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For submission as part of this Final Report

As well as for presentation in AY 2023

Introductory Narrative, by Robert Simon, Organizer, AY 2023

This Faculty Learning Community (FLC) dedicated its efforts to the study, application, and dissemination of research and strategies for diversity, equity, and inclusion, in order to best ensure that our recruitment and mentoring of undergraduate students for research projects incorporate best practices and opportunities for all possible students. Our 10-month endeavor, to learn about, organize, and ultimately, present to our colleagues on campus and beyond, the issues related to inclusion of minoritized students in research projects at the undergraduate level, could not have come at a more propitious moment. The FLC began its work by seeking out scholarly articles and chapters on relevant topics and incorporating previous studies on relevant groups. For this task, we chose *The SAGE Handbook of Inclusion and Diversity in Education* (2019), summarizing relevant chapters and applying the information gained to the presentation project, the second of the two products the FLC set out to realize (the first being this report). We based our approach to the studies contained within on the notion that “inclusive education is meaningful only when embedded in understandings about community and communality; only when seen as both reflective of, and as creating, inclusion in society” (Schuelka et al, xxxiii).

The second part of the FLC’s work was, in short, the creation of the aforementioned products, the Final Report and the Final Presentation. For the former, at the end of the Academic Year, each member (excluding the member *ex officio*) composed a 1–2-page narrative outlining their experience in the FLC and how they would and / or have applied the lessons learned in their own teaching and mentoring of undergraduate researchers. The latter outlined the theories and teaching strategies behind the inclusion of three major groups into undergraduate research endeavors, racial/ethnically diverse student groups, LGBTQ+ communities, and ESOL students. The FLC divided its efforts between the various members. The organizer, with the aid of our *ex officio* member, united the various sections into a single, unified presentation, with the overall learning objective of instructing on:

* underrepresentation of minoritized students in undergraduate research,
* how underrepresentation affects student participation in research at the undergraduate level, and
* what we, as instructors, can do to support our students.

The FLC concluded that, while no strategy is foolproof, the creation of recruitment and retention documents and approaches which create awareness on the part of the instructor of their own biases, foster education on the part of the instructor of the issues involved, avoid biased language or behaviors, and focus on mentoring as both an ally and academic mentor for the student(s) involved in the research.

Ultimately, this FLC and so many other individual and group efforts like it have made, and will continue to make, progress in informing colleagues of the themes related to diversity, equity, and inclusion in the recruitment and mentoring of minoritized undergraduate students in research projects. It is our sincere hope that, through this report as well as the presentation whose link may be found at the end, will ensure the understanding that the academic and professional benefits to all involved far exceed the changes in approach.

Work Cited:

Schuelka, Matthew J., et al. *The SAGE Handbook of Inclusion and Diversity in Education*, London, 2019.

Sohyun An

Course changes as a result of participation in the FLC:

I have used undergraduate research as a key assignment for the course. Defining research as creative and systematic work undertaken to increase understanding of a topic or issue, I have worked to help my students see themselves as teacher-researchers and engage in research to increase knowledge on teaching and learning. Based on FCL learning, I have differentiated “how to” empower my students as teacher-researchers based on their sociohistorical positionalities and identities. I have included a small group or one-on-one meetings with students to differentiate mentoring/guiding students to find their burning questions and passions and design research that would best benefit themselves.

Evidence of the changes that enable the course to meet the KSU It’s About Engagement:

Changes are made in my pedagogy. I have used office hours as an individual/small group advising/mentoring hour. Based on students’ needs and wants, I have met with my students in person as well as virtual. In the initial meeting, I explain students about the final project and help them see it as a research project and see themselves as teacher researcher. I guide students to explore potential topics that they would do research on. I also share research methods that best fit their research topic and question. After initial meeting, I periodically check in with students as a class and individual based on need. I have also guided students to present their final projects to their schools’ grade team meeting as well as a local teacher workshop of their choice.

Sara Evans

I participated in the Faculty Learning Community (FLC) during the 2021-2022 academic year; our focus was researching and discussing diversity and inclusion within undergraduate research. As a group, we engaged in monthly meetings to discuss literature on the topic, strategies that could help our own work in this area, and other relevant issues. Over the course of the year, we read a number of chapters focused in different areas of diversity, and each took the lead to present these findings to the group and lead a discussion. We also co-created a presentation outlining the major challenges associated with ensuring equity in undergraduate research participation and strategies we could use to increase representation of minoritized groups in research.

I will take away from this experience valuable knowledge and actionable strategies to use in my own work with undergraduate students in research. While I am not currently running a course with embedded undergraduate research, now that things are a bit safer for human subjects research, I plan to recruit undergraduate students next year to participate in data collection within local parks. I have experience doing this in the past, but I am now much more educated about how extensive inequities are across underrepresented groups in undergraduate research projects.

One of the interesting things I learned while doing this research is that the Council on Undergraduate Research (CUR) recently changed their definition of undergraduate research as a result of findings from a task force on increasing diversity, equity, and inclusion. Undergraduate research (UGR), as defined by the CUR:​ “a mentored investigation or creative inquiry conducted by undergraduates that seeks to make a scholarly or artistic contribution to knowledge.​” Lindsay Currie, CUR executive officer said, “The work of the task force reflects CUR’s strategic goal on diversity, equity, and inclusion at many levels, involving mentors, mentees, academic disciplines, and institutions. It is hoped that the updated definition may assist individuals and institutions as they establish new undergraduate research programs or contemplate enhancements to their existing programs.” This is a significant development in the field of undergraduate research that should make these projects more accessible to students from underrepresented groups.

I also have clear strategies that I can implement as I recruit students to work on my project. The research we conducted as a group provided ideas for how to minimize bias and encourage students from minoritized groups to be involved and stay involved in research. These include things such as the use of more diverse recruitment advertising, considering a broad pool of applicants by having as few requirements as possible, emphasizing enthusiasm over experience (as minoritized students are less likely to have past experience), striving to reduce unintentional bias by using clear and objective language for evaluation, providing mentorship, promoting ally behaviors to foster an inclusive environment, and engaging in behaviors that show you actively support diverse groups. These are a few of the strategies that I will utilize in my own work as I continue to conduct undergraduate research. Overall, the work of this FLC has benefited me as a teacher and mentor. I will use the knowledge gained to foster an inclusive and diverse environment in which students can engage in undergraduate research and serve as a resource to others in my department and college on these topics.

Cameron Greensmith

Throughout the 2021-2022 academic year, interdisciplinary faculty have sought to learn how underrepresented undergraduate students in the academy and within research-focused courses can be supported, mentored, and lifted. Historically, higher education was exclusionary to those of different perspectives, presuming that they do not have the adequate experience or knowledge to be ‘successful.’ Success has been defined by white cisgender men in power and is often used to exclude those who experience marginalization and oppression. The research arena is not unlike the academy; white, sane, straight, able-bodied students often are more successful than their counterparts as the ‘research experience’ is already built for them.

While participating in the Faculty Learning Community, I had the opportunity to interact and learn with interdisciplinary faculty at Kennesaw State University, invested in reshaping and reframing course-based undergraduate research experiences for underrepresented students. Our team chose to home in on the experiences of students of color, particularly Black students, students whose first language is not English, and lesbian, gay, bisexual, transgender, and queer (LGBTQ+) students. We read and thought together and responded by creating a workshop for faculty members interested in making their research-intensive courses more inclusive by addressing oppression and barriers students face.

I have utilized my learning when developing my courses that are aligned with the It’s About Engagement initiative by creating accessible rubrics, providing students with resources and readings from a wide array of perspectives and standpoints, as well as sharing stories of my misfortune as I navigated my undergraduate as a minority faculty. I had a chance to utilize my learning directly within the First-Year Scholars program with three out-LGBTQ+ undergraduate students. I worked with them to find research topics of interest, taught them how to code social media texts, and worked collaboratively to produce new knowledge from their own experiences. As part of this experience, I also shared the mistakes I made, which I believe are crucial markers of my learning and wanted to share so that they learn from my mistakes.

This has been an instrumental experience that has provided opportunities to embed theoretical concepts and apply them to supporting underrepresented students’ research endeavors.

Tsai-Tien Tseng, Ph.D.

Associate Professor

Molecular and Cellular Biology

This most recent FLC focused on the adaptation towards inclusiveness towards undergraduate research. The most direct product of a set of slides was generated, with discussion on the inclusiveness of undergraduate research.

While generating slides, I was able to find specific sources for the natural sciences. While reviewing various articles, I discovered several reasons that often caused students to become disinterested in research. I was therefore motivated by these resources to integrate new material in my teaching and research. Some material can be incorporated into any future teaching of SCM 2000, Culture of Science and Math. Specifically, incorporation into the teaching module on diversity can be easily carried out.

One key reference came from the American Society for Microbiology (ASM). ASM published a taskforce report on diversity, equity, and inclusion (DEI). This was a document that examined practices in STEM that are related to DEI. Additionally, ASM published a collection of papers on the inclusive science that covers three key areas: an understanding that inclusion is the foundation for the future of colleges and universities, the need for radical changes in faculty support and the removal of barriers to understand social issues and the university experience. ASM Journal of Microbiology & Biology Education contains a themed issue on inclusive science: <https://journals.asm.org/topic/sss-taxonomy/jmbe-inclusive>. One article stated that the STEM workforce does not reflect the ethnic demographics of our country. One potential incorporation for a genetics class would be “Living in a Genomic World” by the National Center for Case Study Teaching in Science. It was also recommended by Sparks *et al* to focus on non-Medelian genetics.

As a relatively new course, SCM 2000 focuses on developing “the skills and mindset of a scientist or mathematician through metacognitive exploration, reflection, and guided inquiry” according to the catalog. The current content on diversity has not received extensive update since the inception of KSU1101. Resources from the current FLC should provide more updated information and concepts for future SCM2000 classes. During the FLC for this upcoming academic year, certain new aspects will be integrated into my classes. This will be carried out in a module consists of videos, discussions, and readings. This will center on the topic of current state of inclusivity in the field of natural sciences.

Overall, this FLC has been a very valuable experience with colleagues from a wide variety of background. I look forward to incorporating our discussion into my upcoming classes. I also look forward to any FLC in the future.

Work Cited:

Sparks, R. A., Baldwin, K. E., & Darner, R. (2020). Using culturally relevant pedagogy to reconsider the genetics canon. *Journal of microbiology & biology education*, *21*(1), 55.

Link to Research Presentation:

<https://kennesawedu.sharepoint.com/:p:/r/sites/Team-FacultyLearningCommunityonDiversityandInclusion2021-202/Shared%20Documents/General/FLC%20Reports%20to%20CETL/Final%20Presentation.FLC.DEI.2022_1_FINAL.pptx?d=w3b55b3c859f344b5a97462eee290ada5&csf=1&web=1&e=MJxxWw>