

## **Report: Summer Program for Diversity in Logic for Undergraduates**

Sunday May 22, 2016 – Saturday May 28, 2016

### **Summary**

The pilot run of the Summer Program for Diversity in Logic for undergraduates was successful on a number of measures. We discovered that student demand was strong. Students from a wide spectrum of colleges and universities applied, more than we could possibly accommodate (24 complete applications for 12 spots). The diversity of student applicants was powerful, representing the full range of minority groups in philosophy we hoped to attract. Student surveys indicated very high satisfaction with the program. As a pilot run, we discovered ways to improve future versions of the program. Student needs with respect to skills in logic proved diverse, and our curriculum, which included graduate teaching assistants, was what was required –we found that even more skill-based tutorials would enhance student experience. Student evaluations indicate there may be two roads future programs could take (1) presenting Logic not only as an area of specialization, but also as an area of general competence for students interested in all areas of philosophy. And (2) gearing the program even more specifically towards students aiming at logic and formal philosophy as areas of specialization. The generous addition of funding from the APA allowed us to increase the student stipends to \$300. Our report includes data collected from student surveys collected at the end of the program. Following PIKSI's model, we will contact each student and their faculty sponsors in the Spring of 2017 to gather information about the outcomes of program attendance.

Website: <http://www.umassd.edu/logic/>

Director: Maureen Eckert

Assistant Director: Keota Fields

Faculty: Charlie Donahue, Keota Fields

Guest Speakers: Gillian Russell, Liam Kofi-Bright, Stephen Yablo, Margaret Cuonzo, Otavio Bueno

Graduate Assistants: Jennifer MacDonald (CUNY Graduate Center), Iago Francesco (University of Miami)

Students:

Chelsea Crook (Kansas State University)

Katie Deaven (New Mexico State University)

Alfredo Fernandez (Florida International University)

Mahmoud Jalloh (Northeastern University)

Robert Matthews (Sienna College) (Unable to attend at the last minute, due to hospitalization – costs for his airfare and stay were non-refundable)

David Mwakima (Harvard University)

Alejandro Navas (University of South Florida)

Anthony Nguyen (Reed College)  
Sara Purinton (Hamilton College)  
Nichole Smith (Valparaiso University)  
Kierstan B Thomas (Loyola University)  
Elizabeth Waldberg (University of Kansas)

## **Application**

Our student application form was based on the PIKSI application, with additions tailored for the focus on logic in our program. One of the goals of the program was to provide students with tutoring and resources to increase their knowledge base and skills in logic. Students were asked two questions: (1) What systems, concepts, techniques, in logic do you find most interesting and wish to learn more about? (Answers can include, for example, Modal Logic, Natural Deduction, Relevance Logics, Proof Theory, Paraconsistent Logics, Applications of Logic and so on) and (2) What systems, concepts, techniques in logic with which you are already familiar (if any) do you find challenging and want additional practice and development to enhance your abilities?

These questions proved valuable in planning the details of our program curriculum. We were able to plan ahead of time for seminar and tutoring sessions that met the needs of the incoming cohort of students.

Questions regarding students' identities were geared towards intersectional self-identification, thus students could self-identify in multiple ways. Gender identity could be non-binary, for example, and students could specify their group memberships. We were able to inform guest speakers about the skills of their student audiences, helping them develop presentations that were inclusive and lead to fruitful discussions.

## **Student Diversity**

Our accepted student applicant group of 12 students included 6 students identifying as women and 6 as men. Four students identified as Black/African-American, two as Hispanic, two as disabled, one as Muslim, one as Transgendered, one as a returning, older student. In our week together students lived side-by-side in an environment that welcomed diversity and was a safe space.

**Program Schedule:** See Addendum

## **Student Experience and Comments**

Feedback from participant surveys indicates that the first summer institute was excellent. The survey consisted of 20 questions. Fifteen were Likert scale and the remaining five asked participants to provide detailed feedback for improvement. The Likert scale

questions (with five choices: Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree) were as follows:

1. The program was well organized.
2. The program met my educational needs and expectations.
3. I had adequate support from program staff.
4. It was clear who I should speak to about any problems I encountered during the program.
5. Any problems I encountered during the program were adequately addressed.
6. The program activities were clearly explained.
7. Expectations of me as a program participant were reasonable for the program purpose and timeframe.
8. The program experience has enhanced my interest in a career in philosophy.
9. The residence hall is well maintained (painted, cleaned, and repaired, with adequate facilities).
10. There were adequate social/recreational activities provided to program participants.
11. The program provided high quality logic instruction.
12. The program offered exposure to a diversity of logical systems and paradigms.
13. The program design, structure, participants, and administration were inclusive of race, ethnicity, sex, gender, gender identity, gender expression, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs, or other ideologies.
14. I would recommend this program to a fellow student.
15. Overall, I liked the program.

Participants scored the program as follows:

1. 100% either Strongly agreed (8/11) or Agreed (3/11).
2. 81% either Strongly Agreed (7/11) or Agreed (2/11).
3. 100 % Strongly Agreed.
4. 100% Strongly Agreed.
5. 91% Strongly Agreed (10/11).
6. 100% either Strongly Agreed (7/11) or Agreed (4/11).
7. 81% either Strongly Agreed (8/11) or Agreed (1/11).
8. 100% either Strongly Agreed (9/11) or Agreed (2/11).
9. 82% Strongly Agreed.
10. 100% either Strongly Agreed (8/11) or Agreed (3/11).
11. 82% either Strongly Agreed (7/11) or Agreed (2/11).
12. 91% either Strongly Agreed 8/11) or Agreed (2/11).
13. 100% either Strongly Agreed (9/11) or Agreed (2/11).
14. 91% either Strongly Agreed (9/11) or Agreed (1/11).
15. 100% either Strongly Agreed (10/11) or Agreed (1/11).

These results speak for themselves. Participant satisfaction was extremely high – far beyond the organizers’ expectations.

Questions 16-20, which asked participants to provide detailed feedback for improvement, were as follows:

16. Summarize your overall assessment of the experience and the effect you anticipate it will have on your choice to apply for graduate philosophy programs, or to study logic in graduate school.
17. Evaluate specific aspects of the program, such as the director, visiting faculty (if any), colleagues, topics, organization, discussions, and activities.
18. Evaluate the host institution particularly with respect to hospitality, housing arrangements, the suitability of library facilities, and computer facilities.
19. Do you have any suggestions for improvements?
20. (Optional) Suggest topics for future summer programs for diversity in logic.

The overall assessment of participants was overwhelmingly positive, as was assessment of topics, colleagues, discussions, activities, and visiting speakers. Assessment of facilities, housing, and meals was also overwhelmingly positive.

Several aspects of the program emerged from participant comments as possible areas in need of improvement or re-evaluation. Charlie Donahue, who served as the program's main instructor and led most of its sessions, was explicitly cited by several participants as needing improvement. The consensus among those comments was that Charlie's sessions were often beyond the skill level of the participants, even with the support of tutors ("long and hard to follow;" "geared towards those who have intermediate experience in logic"). Participants also suggested that the program schedule more working groups, that reading materials be provided to participants before arriving at the program, and that the program cover fewer topics in order to provide more in-depth coverage of selected topics.

Participant comments also suggest that, rather than narrowly encouraging students to study logic (i.e., get a PhD in Logic, or in Philosophy with an AOS in logic), the program might benefit a broader community of students by offering students semi-intensive preparation for the kind of training in logic that *all* PhD candidates in Philosophy must complete, no matter their AOS, while nonetheless providing opportunities for underrepresented students who also have a specific interest in logic to study their interests more intensively.

## **Discussion**

Student comments indicate that different primary teaching faculty could easily improve this model. We worked with faculty that we had on campus, and Charlie Donahue generously took responsibility for teaching sessions each day of the program. This particular staffing is not intrinsic to the model. Issues like getting readings ahead of time were difficult to organize in our circumstances due the fact that we had to hold the program one week after classes ended. Timing is everything. The program needs to be held later on in the summer in future iterations.

There appears to be an issue regarding student expectations about the purpose of the program. The aim of the program was to increase diversity in the field of logic and formal philosophy. That means encouraging students towards graduate program applications with formal philosophy and logic as an area of interest. It appears that a significant number of

students didn't appreciate the recruitment factor that underlying the reason to have the program. There is a problem with lack of diversity in areas of logic and formal philosophy. While training students with interests in *any* area of philosophy in logic is a truly great goal, this had not been not the main purpose of our targeted intervention. There seems to be a "disconnect" between student expectations and what was fairly explicitly offered through the program. The model curriculum we have developed could be tailored towards either a more general logic education diversity program or refined towards student cohorts with more explicit dedication to the fields of logic and formal philosophy.

## Funding

APA Diversity and Inclusiveness Grant	\$12,000
UMASS Dartmouth Cost Share	2,000

Funding allocations of the grant went mostly as expected. Cases in which there were changes from the funding allocations specified in the grant proposal were validated by inquiry with the APA prior to the changes. In one case, a student required airfare well beyond the \$400 allocated for travel for each student. The student elected to add \$100 from his stipend towards airfare. APA funds that were unspent at the end of the program were given to students to increase their stipends from \$250 to \$300.

The Dean of UMASS Dartmouth College of Arts and Sciences opened the cost share funds of \$2,000 to support the attendance of two students from outside of UMASS Dartmouth. Originally these funds were dedicated to internal students, but the program applicant pool proved so strong that the funds were reallocated. Buses were not utilized during the program, so that the additional \$350 was used to compensate student travel expenses.

10 Students: Room, Board & Meals	
\$470 X 10	4,700
10 Students: Travel Awards	
\$400 estimate per student	4,000
Student Stipends	3000
Technology Fee	150
<del>Buses for local outings</del>	<del>350</del>
	11,850

Outside of the APA Grant the UMASS Dartmouth College of Arts and Sciences contributed \$2000 for two students to attend the program.

The Universities of the Graduate Assistants covered the costs for them, \$1,270 each.

## Future Plans

In the spring of 2017, Maureen Eckert will be part of a panel convened by Audrey Yap on Diversity in Logic at the Pacific APA meeting, presenting the model and results of the pilot program for discussion and dissemination.

We have determined that UMASS Dartmouth is not an ideal location to host the Summer Program for Diversity in Logic. This is due to its distance from airports and train stations. During the summer months, institutional transportation services are not available at affordable rates. The area of North Dartmouth is not that of a college town, so hiring transportation is required for students to leave campus. The severe budget cuts UMASS Dartmouth faces make requests for supplementary funding prohibitive. We are currently in discussion with philosophy faculty at Northeastern University to collaborate on the next grant application to continue the Summer Program in Logic. With the knowledge we have acquired, collaboration with PIKSI and Northeastern, we hope to improve the program and offer it again in the summer of 2018.

	Sunday May 22	Monday May 23	Tuesday May 24
8:00 AM		Breakfast	Breakfast
9:00 AM		Full Group Class w/Charlie D Classical Tables K3	Full Group Class w/Charlie D Modal Logic 1
10:30 AM		Small Group Review, Practice	Small Group Review, Practice
	Arrival Day		
12:00 PM		Lunch	Lunch
1:00 PM		Small Group Tutoring	Small Group Tutoring
1:30 PM		Full Group Class w/Charlie D LP	Full Group w/ Keota Fields Modal Logic 2
2:45		Snacks	Snacks
3:00 PM	Snacks	<b>Gillian Russell</b> The Liar Paradox as Motivation for Para- Conststent Logic and Dialethiesm	<b>Liam Kofi Bright</b> Epistemic Paradoxes
5:00 PM	Dinner	Dinner	Dinner
7:00/7:30 PM	Introductions	Graham Priest Sykpe  Game Night	Activity Movie Night: Millenium Actress Discussion led by Liam Kofi Bright

Wednesday May 25

Breakfast

Full Group Class w/Charlie D  
Revenge Paradoxes

Small Group  
Review, Practice

Lunch

Small Group Tutoring  
Full Group Class w/Charlie D  
Natural Deduction 1

Snacks

**Stephen Yablo**  
Overview: Paradoxes

Dinner

Guest CAS Dean Riley  
Welcome

Thursday May 26

Breakfast

Full Group Class w/Charlie D  
Many valued logics challenged  
- with a rebuttal

Small Group  
Review, Practice

Lunch

Small Group Tutoring  
Full Group Class w/Charlie D  
Nihilism (Russell, Bueno,  
& Estrada-Gonzales)

Snacks

**Margaet Cuonzo**  
Solutions: Paradoxes

Dinner

Activity  
Juliet Loranger  
Yoga for relaxation  
and joy

Friday May 27

Breakfast

Full Group Class w/Charlie D  
Curry Paradoxes 1

Small Group  
Review, Practice

Lunch

Small Group Tutoring  
Full Group Class w/Charlie D  
Curry Paradoxes 2  
Paraconsistent Logics

Snacks

**Otavio Bueno**  
Paraconsistent Logics  
and Paradoxes

Dinner

Activity  
Music



Saturday May 28

Breakfast

Departure Day