MONTCLAIR
S T A T E   U N I V E R S I T Y

Course-Based Undergraduate Research Experience (CURE) in Linguistics

Updated: 6/3/2024
Compiled by: Lauren Covey

Program

Teaching Innovations Program (TIP): a year-long program that supports faculty teams in developing or redesigning a course or academic program

Intervention

Undergraduate research experiences have positive impacts for all students, including increased retention, persistence, satisfaction and graduation rates, improved confidence in research and professional skills, increased preparation for graduate school, and clarification on future career pathways (Lopatto 2010; Craney et al., 2011; Luchini-Colbry et al., 2013; Kahu & Nelson, 2018). For underrepresented minority students in particular, research experiences help to increase students' academic and social integration, as well as strengthening their sense of belonging, competency, confidence, and self-efficacy (Fechheimer et al., 2007; 2011; Haave & Audet, 2013; Kim & Sax, 2009; Quaye & Harper, 2014). In order to broaden participation and engagement in this high-impact practice, the faculty team developed a course which involves hands-on research training and experience, exposing students to active laboratory experience within the Linguistics Department (a "CURE").

Participating faculty

Lauren Covey, Jonathan Howell, Larissa Goulart (Linguistics faculty)

Implementation

The first version of the course was offered in Spring 2024 as a special topics seminar intended for juniors and seniors (LNGN 450-01: Research in Linguistics). Students were divided into three groups based on their research interests; the course was taught by one of the faculty (Covey), with the other two team members serving as mentors for one of the groups (Howell; Goulart). The course syllabus was designed following best practices outlined in the literature, meeting relevant learning objectives that align with field standards (Boysen et al., 2020).

To empirically study the effectiveness of the CURE, we took a two-pronged approach to collect data from linguistics majors more widely as well as students enrolled in the Spring course. The first step took place in the Fall 2023 semester where linguistics majors were invited to respond to an online survey adapted from the Undergraduate Research Student Self-Assessment (URSSA) (Weston & Laursen, 2015). The second survey was administered to students enrolled

in the CURE, a skills-based self-assessment given at the beginning and end of the semester. This survey was adapted from the Research Skill Development Questionnaire (RSDQ) (Dvorak et al., 2021).

TIP Program Goals and Analysis

Summary

Goal 1: Develop and offer the first section of a Linguistics CURE
Status: Completed
Discussion: Over the Fall 2024 semester, the faculty team designed a course syllabus following best practices outlined in the literature, implementing five relevant learning objectives that align with field standards for linguistic, psychological, and educational research, which spans the range of methods and techniques used in our department. The syllabus covers core aspects related to conducting empirical research on language and linguistics, while also providing students with ample opportunities to gain hands-on experience working closely with their faculty mentor. This balanced approach allowed both the faculty and the students to benefit from a course-based undergraduate research experience. Please see the appendix to review key aspects of the syllabus for the Spring 2024 course LNGN 450.

Goal 2: Broadening participation and engagement with undergraduate research in linguistics
Status: In progress
Discussion: The goal of developing this course was to create a department mechanism for our undergraduate population to get research experience that is not linked to specific faculty offerings that are available on an ad-hoc basis, dependent on grant funding, availability, and student interest. To that end, only a minority of Linguistics students have benefited from these experiences, as there was previously no department-wide framework or guiding principles for recruiting, training and supporting undergraduate researchers. By creating this course, we have established a new way for students to not simply join research laboratories, but to get the critical training and mentoring necessary to encourage them to develop from research assistants into independent researchers. The reason we list this goal as 'in progress' is that we plan to continue to offer this course annually, with potential for expanding the course depending on faculty interest and availability, allowing us to touch base with at a minimum 20 students per cohort. This is a marked increase from the 1-5 students we are able to mentor individually, and we expect that as this "CURE" develops, we will see exponential growth in the number of students who gain linguistics research experience prior to graduation.

It is also worth mentioning that the *type* of student who is able to gain undergraduate research experience will diversify as part of the way we implemented this CURE. Because students enroll in a credit-bearing course, students are able to build out at least 3 hours/week to dedicate to research and laboratory time, something that many students struggle with as they are highly involved in other classes, jobs, and other activities. During the Spring 2024 semester, we had several students explicitly tell us that they never would have been able to participate in research as an extracurricular activity due to these time constraints; by building in these experiences as part of the curriculum, we are able to mentor a wider range of students than we otherwise can via solely implementing volunteer and/or paid research assistantships.

Goal 3: Increase student research abilities as they are directly related towards transferable career skills, as measured via pre-/post-survey responses
Status: Data analysis in progress
Discussion: As part of the Spring 2024 course, we implemented a self-assessment which was administered at the beginning and end of the course. Students rated their research skills and abilities, as well as their experience with activities such as conducting a literature search, reading texts and data, and analyzing sources for quality. The survey also measured students' dispositions, investigating whether students felt that they could think creatively and critically, engage intellectually with new topics, and present research findings. We are in the process of analyzing this data, which will give us insights into the effectiveness of the course itself and allow us to see individual student trends across the semester. In the Student Perspectives section below, we highlight some of the post-semester survey responses to highlight that as a whole, students tended to report high levels of engagement with the research content and indicated their satisfaction with the research experience via their qualitative comments. As this dataset only represents 20 students, we aim to continue to implement this survey in the next section of the course so we can reach a representative sample.

Goal 4: Increase the impact of our work by sharing it widely as a published case study via scholarly presentations and publication(s)
Status: In preparation
Discussion: This goal represents a far-reaching aim to share the results of our CURE with the linguistics community and wider educational community. We believe offering three sections of this course-based undergraduate research experience will provide us with sufficient representative data to prepare a report about our findings with respect to Goal #3, increasing students' self-efficacy and confidence in their research skills, abilities, and dispositions. As we will build upon this Spring 2024 semester, we look forward to analyzing three cohorts separately and individually to be able to share what we have learned and to help other departments/institutions implement this high-impact practice.

Student Perspectives

Although we have not been able to conduct a thorough analysis of our pre-/post-semester survey responses given that the course was implemented in Spring 2024, we will highlight just some of the responses from the post-semester survey, which 18 students completed.

Out of 540 Likert-scale responses which ranged from [Very Poor, Poor, Fair, Good, Excellent]. Overall, 45% of responses were rated as Excellent and 41% of responses were rated as Good. Less than 1% of responses were considered 'negative', with only 4 total responses rated as Poor. Below, we highlight responses to a set of four diverse questions which showcase the range of abilities and skills that students gained during the CURE.

- "I am able to employ primary and secondary evidence (texts and/or data) as support for the argument or findings." → Responses: 10 Excellent, 7 Good, 1 Fair
- "I am able to evaluate sources/data for relevance to your topic question, remembering that such sources do not need to agree with your findings nor focus entirely on your topic to be valuable resources." → Responses: 8 Excellent, 10 Good

- "I am able to think creatively and critically to create a compelling project." → <u>Responses</u>: 7 Excellent, 9 Good, 2 Fair
- "I am able to present research findings with clarity, thoroughness, and confidence at a defense/symposium/conference." → <u>Responses</u>: 8 Excellent, 9 Good, 1 Fair

Finally, students were given the option to provide a written response regarding the development of your research skills this semester. Below, we have highlighted portions of student responses, unedited and directly copied from the survey.

- *"This class is very critical in my current experience in Linguistics and I am very happy that I took this class. This class not just helps me in my current work as a research assistant, but it also exposed me to just how many options I have within this field, both inside and outside of academia. With the knowledge I have now from this class, I am planning for the future of my linguistics career, both inside and outside of the classroom."*
- *"I loved this class. I think this is of much benefit for many linguistics majors especially those who are interested in research. The class offers many skills that can be implemented in a career."*
- *"Throughout this course, it opened my mind to how realistic it is to pursue a career in research linguistics. Even though being a research assistant is a small part of what it takes to fully execute an experiment, I learned how possible it could be."*
- *"I really enjoyed this course because it showed me the difficult side of research. It truly is not always perfect. My group went through a lot of trial and error this semester. I was expecting a pot of gold at the end of a rainbow but this felt more like rain upon rain. However, I feel so much more experienced that I think I would have if the semester did go smoothly."*

Next Steps

We plan to offer the next implementation of this course in Spring 2025. To do so, we will spend the Fall 2024 semester analyzing the data we collected in order to implement any revisions to the existing syllabus and course structure that will improve the CURE. We plan to prepare our results for dissemination after we have been able to offer the third cohort of this course, after which we will also create a new course section (rather than offering the course as a special topics seminar). This will formally introduce the course as part of our curriculum as an undergraduate elective course, providing a solid foundation for undergraduate research experience that can take place within the classroom, diversifying and broadening student involvement in mentored research experiences within our department.

Appendix

LNGN 450 Syllabus (Appended for Length)

Course Description:
The course will focus on conducting research in linguistics, with students receiving hands-on research training in a laboratory setting. Students will be assigned to one of three research teams, each led by a faculty member with a different area of expertise. Students will work in small groups and be involved in all aspects of the research process - developing the ability to ask research questions, utilizing cutting-edge research tools in language science (e.g., related to speech, language, and corpus linguistics), analyzing language data, and preparing scientific presentations. Throughout the course, we will cover topics such as research ethics, methodological approaches, diversity in linguistic research, information literacy in linguistics, and related career paths. Our goal is to train undergraduate researchers, while also highlighting the ways in which we can use linguistics tools as researchers in order to better understand the nature of human language.

Learning Objectives:
- Develop your ability to read, discuss, and synthesize primary research articles
- Become familiar with the methods and key concepts in linguistics research
- Conduct and interpret basic linguistics research, incorporating sociocultural factors into scientific inquiry
- Apply ethical standards to evaluate linguistic science and practice
- Demonstrate effective writing and presentation skills for research purposes

Method of Instruction:
This course is an in-person course. Some classes, we will meet in our assigned classroom; other work sessions, you will meet with your research mentor in a laboratory setting. We expect from students that they make every effort to complete required readings and assigned research tasks, to be fully prepared for class discussions and presentations, and to attend all class meetings.

Instructional Materials:
This course will make use of readings from a variety of sources that will illustrate the diversity of the field. This will include a mix of textbook chapters and research articles from the primary literature. All required readings are available for download on Canvas.

Course Requirements:
1. Whole Class Activities (20%)
Regular attendance and participation in 'whole class' meetings is essential. Students will be periodically graded on effective participation, which involves coming prepared to class, contributing questions and insights to the discussion, and engaging in class activities.

In-person and online reading quizzes may be administered, so it is important to complete assigned readings prior to coming to class.

2. Mentored Research Activities (40%)

The biggest part of your grade comes from your contributions to your research team (RT). Each RT week, you will prepare a written journal entry outlining the research activities you participated in, as well as a short reflection on your work. This journal will be used to track your research output and contribution to the RT.

3. Written Assessments (20%)

Each student will prepare two written assignments, worth 10% each, which involve translating research findings from the primary literature into a summary for a public-facing blog. These blog posts will be prepared in conjunction with in-class Journal Clubs, which are RT group discussions about the article. You will be provided with detailed guidelines for preparing each blog post.

4. Oral Presentation (20%)

As part of your research team, you will work together to prepare a presentation and present it orally to the class. Detailed guidelines and a rubric will be provided.

Course Schedule
Research Team = RT

Week	Date	Topic	Readings	Assignments
1	Th 1/18	Course introduction and expectations		Pre-semester survey
2	M 1/22	Basics of empirical research	V&K, Ch. 1 (1.1)	
	Th 1/25	Aspects of the research process	V&K, Ch. 1 (1.2)	
3	M 1/29	Intro to faculty research		Interest survey
	Th 2/1	Research ethics	Eckert (2013)	CITI training
4	M 2/5	Research methods	V&K, Ch. 2	
	Th 2/8	Journal article workshop	Raff (2018)	
5	M 2/12	Research methods (RT)	Assigned by mentor	
	Th 2/15	RT meeting		Journal #1
6	M 2/19	Information literacy in linguistics	Kelly et al. (2014)	
	Th 2/22	Evaluating linguistics research	Evans & Levinson (2009)	
7	M 2/26	RT meeting		
	Th 2/29	RT meeting		Journal #2
8	M 3/4	Introducing journal club	Assigned by mentor	
	Th 3/7	Journal club #1		Blog post #1
9	M 3/11	Spring Break		

	Th 3/14			
10	M 3/18	RT meeting		
	Th 3/21	RT meeting		Journal #3
11	M 3/25	Critiquing linguistics research	Assigned by mentor	
	Th 3/28	Journal club #2		Blog post #2
12	M 4/1	RT meeting		
	Th 4/4	RT meeting		Journal #4
13	M 4/8	Linguistic bias	Easton & Verdon (2021)	
	Th 4/11	Linguistic diversity	Baugh (2017)	
14	M 4/15	RT meeting		
	Th 4/18	RT meeting		Journal #5
15	M 4/22	Careers in linguistics	Linguistics Career Launch (video)	
	Th 4/25	Transferrable skills	Gawne & Cabraal (2023)	
16	M 4/29	RT meeting		
	Th 5/2	RT meeting		
17	M 5/6	Final presentations		

References

Boysen, G. A., Sawhney, M., Naufel, K. Z., Wood, S., Flora, K., Hill, J. C., & Scisco, J. L. (2020). Mentorship of undergraduate research experiences: Best practices, learning goals, and an assessment rubric. Scholarship of Teaching and Learning in Psychology, 6(3), 212.

Craney, C., Mckay, T., Mazzeo, A., Morris, J., Prigodich, C., & de Groot, R. (2011). Cross-Discipline Perceptions of the Undergraduate Research Experience. The Journal of Higher Education, 82(1), 92-113.

Dvorak, A., Hernandez-Ruiz, E., & Weingarten, K. M. (2021). Course-Based Undergraduate Research Experience: Music Education and Music Therapy Student Outcomes. Journal of Music Teacher Education, 30(3), 26-39.

Fechheimer, M., Webber, K., & Kleiber, P. B. (2011). How well do undergraduate research programs promote engagement and success of students? CBE—Life Sciences Education, 10(2), 156–163.

Haave, N., & Audet, D. (2013). Evidence in support of removing boundaries to undergraduate research experience. Collected Essays on Learning and Teaching, 6, 105–110.

Kahu, E. R., & Nelson, K. (2018). Student engagement in the educational interface: Understanding the mechanisms of student success. Higher Education Research & Development, 37(1), 58–71. doi:10.1080/07294360.2017.1344197

Kim, Y. K., & Sax, L. J. (2009). Student-faculty interaction in research universities: Differences by student gender, race, social class, and first-generation status. Research in Higher Education, 50(5), 437–459.

Lopatto, D. (2010). Undergraduate research as a high-impact student experience. Peer review, 12(2), 27-31.

Luchini-Colbry, K., Wawrzynski, K. S., & Shannahan, M. (2013). Feeling Like a Grad Student: A Survey of Undergraduate Researchers' Expectations and Experiences. Paper presented at the American Society for Engineering Education Annual Conference and Exposition, Atlanta, GA. www.asee.org

O'Donnell, K., Botelho, J., Brown, J., González, G. M., & Head, W. (2015). Undergraduate research and its impact on student success for underrepresented students. New Directions for Higher Education, 2015(169), 27-38.

Quaye, S. J., & Harper, S. R. (2014). Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations (2nd ed.). New York, NY: Routledge.

Weston, T. J., & Laursen, S. L. (2015). The undergraduate research student self-assessment (URSSA): Validation for use in program evaluation. CBE—Life Sciences Education, 14(3), ar33.