

What's in a Name? A Brief History of Undergraduate Research

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CUR Fellow's Address at CUR's 2012 National Conference at The College of New Jersey

Let's begin with a pop quiz about when important events occurred in the history of undergraduate research. (The answers appear in the following text.)

Pop Quiz Identify the Year (A Brief History of Undergraduate Research)

For fun, test your knowledge of the history of undergraduate research. Score 1 point for each correct year.

QUESTION	WHAT YEAR?
The merger of CUR and NCUR becomes official.	
Undergraduate research designated as a "high impact educational practice" (Kuh).	
<i>Bio 2010: Transforming Undergraduate Education for Future Research Biologists</i> , encouraging undergraduate research, published by the National Research Council.	
The Boyer Report, <i>Reinventing Undergraduate Education: A Blueprint for America's Research Universities</i> , which emphasizes undergraduate research, is published, and the Reinvention Center is established at Stony Brook.	
Project Kaleidoscope (PKAL) organizes to reform STEM education.	
National Conferences on Undergraduate Research (NCUR) holds its first conference.	
The National Science Foundation (NSF) introduces the Research Experiences for Undergraduates (REU) program.	
CUR hosts its first National Conference in this year.	
Bonus Question: On what campus was the first CUR National Conference held?	
Considered the first undergraduate research program, the Undergraduate Research Opportunities Program (UROP) was founded at MIT in this year.	
Bonus question: Name the first director of UROP at MIT.	
NSF co-sponsors a conference on strengthening college physics teaching on the undergraduate level. NSF is encouraged to expand research opportunities for college faculty and to encourage undergraduate research, which it will do in the ensuing years.	
At Union College, two terms of undergraduate research are required for the physics BS degree beginning in this year.	
William A. Noyes speaks at the American Chemical Society: "Two purposes should be constantly in the mind of the teacher who directs research work of undergraduates. First, the student should be trained in the use of chemical literature. He should learn how to find for himself the results of previous work on the problem he is studying. Second, he should be taught to develop personal initiative in attacking a problem. He should never be considered merely an agent to carry out an experiment which the teacher wishes to be performed."	
The University of Chicago establishes an undergraduate research prize in honor of Howard Taylor Ricketts, American pathologist, who uncovered the cause of Rocky Mountain Spotted Fever.	
Cecil K. Drinker publishes the results of his survey "Undergraduate Research Work in Medical Schools" in <i>Science</i> .	
A group of students and faculty at Cornell establishes the honor society Sigma Xi for "Companions in Zealous Research."	
Bonus Question: Women were admitted to Sigma Xi in what year?	
A German professor, Wilhelm von Humboldt, recommends unity between research and teaching with a commitment to discovery—"an unceasing process of inquiry."	

The quiz provides a way to engage us in thinking about the history of undergraduate research, as it seems important that we understand what has come before. This can be of tremendous help not only to the present but also to the future and to any plan of action. As Eugene O'Neill writes in *A Long Day's Journey into Night*, "The past is the present, isn't it? It's the future, too."

The assignment for a CUR Fellow address is to offer a brief history of the work that has led to this tremendous honor. Past CUR Fellow addresses have done this exceedingly well. I remember, in particular, the 2006 address by John Mateja, who called for action by CUR members to ensure that research becomes the standard by which we educate our students.

I'll begin with a brief history of undergraduate research, before discussing my own work as a faculty member and as a director of an undergraduate research program.

Deconstructing the task for a CUR Fellow, I found that the focus on history led me to consider the etymology of the term *undergraduate research*. As a humanist, I wanted to explore its origins. When was undergraduate research popularized and branded as such? As Shakespeare put it, "What's in a name?" Within a name lies a great deal of meaning and power. My curiosity about the history of undergraduate research had actually been building before my designation as a CUR Fellow. One of my colleagues at Utah State University teased me about our 35th anniversary celebration of undergraduate research in 2010; he said he had done undergraduate research at the Polytechnic Institute of Brooklyn in the early 1960s, well before our program's 1975 start. He even brought his thesis to prove it! (I began terming him "the world's oldest living undergraduate researcher.")

My interest in undergraduate research's history was also aroused by a comment in an *Inside Higher Education* article that focused on a pair of archaeologists from the University of Central Florida who started their digs in 1983. They said, "We've done undergraduate research since before there was undergraduate research" (Redden 2012). 1983? Hmm.

Edward Ayers, president of the University of Richmond, in a plenary address delivered at this year's CUR National Conference, noted that undergraduate research is a "relative-

ly recent" educational phenomenon. Several written sources, such as Carolyn Ash Merkel's report to the Association of American Universities on undergraduate research (2001), suggest that the practice began in 1969 with the founding of the Undergraduate Research Opportunities Program (UROP) at the Massachusetts Institute of Technology (MIT), under the direction of the visionary Margaret MacVicar. Certainly that was a key date in the development of undergraduate research, both on the MIT campus and nationally. But as I dug further, I found that undergraduate research was in place much, much earlier.

Several historical timelines provided clues. The National Science Foundation traces its history from the 1940s, even before it was authorized by Congress in a bill signed by President Truman in 1950. (See http://www.nsf.gov/news/special_reports/history-nsf/timeline/index.jsp.) A key player in stimulating educational innovation, NSF has been interested in undergraduate research certainly since its 1953 meeting to discuss improving undergraduate education in the sciences. Likewise, the Research Corporation for Science Advancement, which celebrates its centennial in 2012, marks on its calendar important dates beginning soon after its establishment of influencing science education in secondary schools and colleges. (See <http://www.rescorp.org/about-rdsa/history/timeline>.) As founder Frederick Gardner Cottrell famously said, "Bet on the youngsters. They are long shots but some of them pay off."

Brian Andreen, program officer at the Research Council, was instrumental in the formation of the Council on Undergraduate Research when he began compiling a directory of undergraduate research opportunities in chemistry at primarily undergraduate institutions (PUIs) in 1978. It is from this action that CUR charts its own beginning. (See http://www.cur.org/about_cur/history/timeline/.) It is fitting that the student award that accompanies the CUR Fellowship is named in Andreen's honor. CUR focused on faculty development and undergraduate research, evidenced in its first National Conference, hosted by Colgate in 1985.

CUR has suggested programming and educational innovations to foundations as part of the fulfillment of its advocacy mission. Just as MIT's centralized office galvanized undergraduate research on its own campus, CUR, as a national

organization devoted to undergraduate research, has stimulated further activity. The National Science Foundation (NSF) began its Research Experiences for Undergraduates (REU) in 1986. The National Conference on Undergraduate Research (NCUR) held its first meeting in 1987. Project Kaleidoscope (PKAL) organized in 1989 with a mission to reform education in science, technology, engineering, and math (STEM)—although at that time, this thrust was abbreviated as SMET! Important white papers such as the Boyer Report in 1998, *Reinventing Undergraduate Education: A Blueprint for America's Research Universities*, and, more recently, the *Bio 2010* report (2003) spurred action on campuses. George Kuh's work (2008) provided demonstrable evidence that undergraduate research has significant impact on students.

The more I explored the origins of undergraduate research, the more fascinating the search became. Very few contemporary accounts of the historical origins of undergraduate research exist, however. Laursen et al (2010) offer a brief—but fuller than others—history of undergraduate research in the sciences in their *Undergraduate Research in the Sciences: Engaging Students in Real Science*, which helped set me on the path to uncover instances of undergraduate research prior to the 1969 formation of MIT's UROP. Following is a sampling of what I found.

Undergraduate research was present throughout the twentieth century. For instance, Hope College notes in its history of undergraduate research that Professors Van Zyl and Kleinheksel began a program in chemistry in 1947. Wooster College reorganized its curriculum in 1948 to emphasize student research. Pacific Lutheran College received its first grant from the Research Corporation to support undergraduate research in 1958 and its first NSF grant for undergraduate research in 1962 (<http://urc.arizona.edu/A%20Compendium%20of%20UndergraduateResearch%20Programs.cfm>).

Undergraduate Research at the Beginning of the Twentieth Century

Even earlier, in the first part of the twentieth century, undergraduate research is frequently mentioned in the pages of *Science*, the magazine of the American Association for the Advancement of Science (AAAS). William A. Noyes speaks of the “Proper methods of conducting undergraduate research”

in a 1922 report from the American Chemical Society (Parsons). Noyes says the student is not just a go-fer, but a learner and contributor:

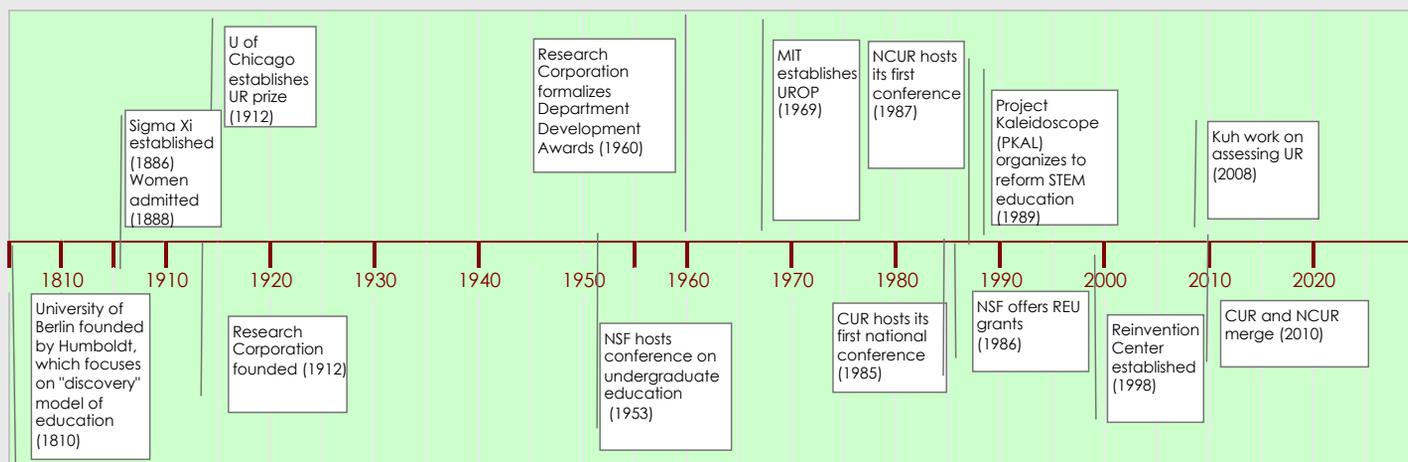
Two purposes should be constantly in the mind of the teacher who directs research work of undergraduates. First, the student should be trained in the use of chemical literature. He should learn how to find for himself the results of previous work on the problem he is studying. Second, he should be taught to develop personal initiative in attacking a problem. He should never be considered merely an agent to carry out an experiment which the teacher wishes to be performed.” (Parsons, 400)

In the same year, 1922, Union College, a leader in undergraduate research, began requiring two terms of undergraduate research for a BS degree in physics; more science fields soon followed suit (Peak 1995). Peter Wold, the physics department's chair from 1920-1945, arrived at Union from the Western Electric Company and brought with him the perspective that learning by doing was better than learning from textbooks. Under Union's president Eliphalet Nott (“president before Lincoln was born and still president after Lincoln was dead,” according to Peak), Union became the first institution in America to replace the traditional Latin and Greek requirements with French and German, the latter change reflecting the growing influence of German higher education.

Sigma Xi was a frontrunner in terms of supporting students interested in research—or as the students and faculty members at Cornell called them when they organized in 1886—“Companions in Zealous Research.” (A side note: It is disconcerting in this age of gender-neutral language to have all scientists referred to as he or him even though women were doing research and Sigma Xi had admitted women just two years after its initial formation. A 1913 report from a Kansas Sigma Xi chapter listed among its members Inez Smith, whose work on “The Ciliates of Kansas” was to be published in the *Kansas University Science Bulletin*.) (Abrams et al 1913, p. 18).

Sigma Xi chapters regularly awarded prizes for undergraduate research in the 1930s, but prizes for undergraduate research in fact had been awarded much earlier, such as at the University of Chicago, which established an award in

Undergraduate Research



1912 in memory of pathologist Howard Ricketts. He is credited with identifying the source of Rocky Mountain Spotted Fever, and, as did many scientists of the day, he used himself as a human subject in testing typhoid pathogens—with fatal results.

Evidence exists that practical application of undergraduate research was emphasized but not at the expense of the undergraduate's personal and professional growth. At its 1919 meeting, the Indiana Academy of Science heard a report on "Undergraduate Research in Our Colleges and Universities" by members of the Sciencetech Club. The club's members had carefully surveyed colleges and universities in the state, and Harold A. Shonle reported their findings, including a recommendation to require a thesis to ensure scientific training of undergraduates. Shonle called attention in his report to the dual (and dueling) approaches to education labeled knowledge and discovery, preferring the advantages of discovery in undergraduate research. As he put it:

A recent cartoon depicted a graduate groaning under a load of books marked Knowledge and unable to accept the volume of Wisdom offered him. The wisdom and judgment secured from using this knowledge acquired [are] lacking. Their knowledge is too often unorganized and disconnected. They know their theories perhaps, but they do not know how to apply them. We do not expect the universities to turn out men in four years who are capable of solving hard problems, but it is discouraging when a

chemist cannot prepare a simple soap without being minutely instructed or when an engineer is unable to apply his theories to a bridge which differed from the one in the text. (*Proceedings*, 75)

The debate between the philosophical approaches toward undergraduate education—providing knowledge (filling an empty vessel) versus wisdom (application or discovery)—profoundly influenced the undergraduate curriculum.

The Sciencetech Club held that students benefit greatly from engaging in research: "The Club believes that the fulfillment of the above thesis requirement, the conditions laid down in the resolutions, will in all instances be a great mental asset to the individual *irrespective of his future activities*, will induce in great measure the development of latent research in the student body, and will distinctly promote the research atmosphere of the institution" (*Proceedings*, 77). These words from almost a century ago could be seen as just as appropriate today.

The Indiana Sciencetech Club was joined in its fervor for undergraduate research by the authors of a 1906 article in the *American Gas Light Journal*, a professional journal for engineers, which reported on the 29th annual meeting held by the Western Gas Association in Cleveland in May of that year. Professor Burgess of the University of Wisconsin made the following statement to the assembly:

The primary object in requiring a student, before graduation, to carry on a piece of investigation is

to throw him as largely as possible upon his own resources; to develop his capabilities of reasoning and thinking; to give play to his ingenuity; and to impress him with the importance of planning and laying out a piece of research in advance of its execution." (Burgess, 224)

These sentiments were echoed precisely in a 1921 report on land-grant colleges and universities from the U.S. Office of Education that noted that "Undergraduate research first and foremost should be of benefit to the student" (*Statistics of Land-grant Colleges and Universities*, 109). As a faculty member at a land-grant university, I found this attitude heartening and particularly appropriate given the current sesquicentennial celebration of the Morrill Act, signed by President Lincoln, that established these institutions.

The pragmatic nature of undergraduate research meant that students might very well contribute to the knowledge base in their fields. Certainly Inez Smith, the undergraduate member of Sigma Xi at Kansas mentioned earlier, did so, but she was just one of many students across the nation cited in notes from Sigma Xi chapters who achieved publication before graduating.

The theme of undergraduate research and recommendations for its incorporation into an undergraduate's education carried through many journals in the early 1900s. In addition to *Science* and *American Scientist*, other periodicals such as the *Journal of the American Medical Association (JAMA)* discussed the efficacy of undergraduate research. In a 1901 issue of *JAMA*, authors debated its merits. W. S. Christopher privileged knowledge and experience: "The time for the medical man to undertake research work is when his experience has become sufficiently ripe for him to formulate his own problems. Then his research work will have some life in it" (737).

In a contrasting view in the same issue, a lengthy overview of "University Work in Medical Education," another author notes that "'research work' may be unreservedly recommended to all undergraduates. ... It will no longer do to urge students to gain their principal knowledge from books. The knowledge which a student really makes his own has to be wrested with a certain amount of difficulty from Nature herself" (767). Within a decade, the prevalence of undergraduate research for medical students was underscored in a 1912 article in *Science*, "Undergraduate Research Work in Medical

Schools," in which Cecil K. Drinker published a lengthy and detailed report of a survey he conducted.

While it may seem that the sciences held sway in undergraduate research, it was not uncommon for undergraduates to undertake research in the humanities, as a Smith student did in studying in Spain in 1904: "My experience in studying in Spain is limited to work done in libraries and with private individuals. Women are admitted to the University of Madrid both for graduate and undergraduate research work in Spain" (*The Smith College Alumni Monthly*, p. 521). In the pages of the *Journal of the National Association of Biblical Instructors*, it was suggested in 1933 that "a modest journal ... devoted to the publication of selected examples of undergraduate research, might be useful both to the members of the NABI and to their students" (90).

Higher Education in the Nineteenth Century

The appropriate education for an undergraduate in this century generally was acquiring knowledge through studying the traditional curriculum: Latin, Greek, and classical literature—with a good dose of moral education—as the aim of eighteenth and nineteenth century education was usually to educate the clergy. But as higher education became more diversified, charged with the education of scientists as well as clergy, a debate erupted. The examination of the purpose of undergraduate education is rooted in the tug of war in higher education in the United States between a British model—the tutorial—and a German model—the seminar and also the laboratory. Wilhelm von Humboldt, who founded the University of Berlin in 1810, where a good many Americans would undertake graduate work, is credited with stressing an approach to education that unified teaching and research, coupled with "an unceasing process of inquiry" (1970). In doing so, he was enacting the philosophy of his teacher, Friedrich August Wolf, who made "research and discovery, not initiation into a closed body of knowledge, the primary goal of an academic philologist" (Diehl 1978, 147-148).

Just as the Boyer Commission report of 1998 offered a blueprint for America's research universities, "It was from blueprints drawn after the German academic pattern, transported across the ocean by these scholars and many of their compatriots, that the ground was prepared for a successful

reorganization of American institutions of higher education” (quoted in Diehl; original by Jurgen Herbst, *The German Historical School in American Scholarship*, Ithaca, 1969, p. 2).

While there were detractors concerning the German model, such as the *Yale Report of 1828*, the curriculum of American higher education would change, eventually resulting in specialized disciplines and majors. (See Larry Cuban’s *How Scholars Trumped Teachers: Change Without Reform in University Curriculum, Teaching, and Research, 1890-1990* for a discussion of curriculum change and specialization in majors.)

It is from this German model of discovery that America’s research-driven universities emerged. Americans went to Germany for graduate education as access to education in England was largely cut off to them during the Revolutionary War and the War of 1812. By the end of the nineteenth century, in fact, Yale had changed its tune and become a leader in the German approach, hiring faculty educated at German universities.

What I’ve tried to demonstrate in this brief overview is that undergraduate research has certainly been in existence for 200 years, not just since the formation of the Council on Undergraduate Research in 1978. It was the formation of CUR, though, that institutionalized undergraduate research in higher education and led to its being termed a “movement,” notable for the tremendous impact it has on both students and faculty. Likewise, NCUR gave voice to undergraduate researchers, scholars, and artists. The “Joint Statement” by CUR and NCUR (2005) that put forth the belief that “undergraduate research is the pedagogy of the 21st century” builds on work done in the 19th and 20th centuries.

How well did you perform on the pop quiz?

A Personal History

Impact is a good term for the effect of undergraduate research on my own career. But I have to confess that I didn’t always think of the collaborative work I did with students as *undergraduate research*. That was simply not a term common to my discipline of English.

My own philosophy of education has been influenced by three theorists in language arts and English: Louise Rosenblatt and her *Literature as Exploration* (1938), which

introduced reader-response theory; James Moffett and his *Student-Centered Language Arts Curriculum, K-12* (1968); and Walter Loban (e.g., *Language Development: Kindergarten through Grade Twelve*, 1976). Loban suggested at a professional conference that I attended early in my career, some thirty years ago, that students should engage in “meaningful, authentic work.” From these three theorists, I adopted a philosophy of student-centered teaching and learning, a philosophy that laid the groundwork for becoming an advocate for student-faculty collaboration. Loban’s idea translated into my designing writing assignments that might be worthy of publication in professional venues. In my seminar for Writing Fellows, for instance, well over a dozen students wrote essays accepted for publication in a professional journal. In one instance, two students took the lead in designing “an ideal space” for a writing center in an interdisciplinary research project; a colleague in interior design and I came on as secondary authors, and that essay was published in an edited volume (Hadfield et al 2003). More recently, two colleagues, two students, and I wrote an essay for another edited volume, *Undergraduate Research in English Studies* (Cooper-Rompato et al 2010).

My efforts to involve students in my own scholarship began even earlier. In my book *A Schoolmarm All My Life*, there is a brief line, “Susan Boor proved a capable research assistant.” That statement doesn’t really fully illuminate the important contribution that Susan, an undergraduate, made. She and I traveled to Salt Lake City weekly to transcribe personal narratives and journals located in the archives there. Susan was crucial to my development as a mentor to undergraduates. When I touched base with her recently, she recalled, “I remember your project fondly—stopping at Hardee’s for breakfast biscuits early in the morning (you bought—an important incentive for a poor undergrad), hours scrolling through microfilm.” We uncovered three dozen historic diaries through our joint efforts.

As I mentioned, when I first began collaborating with students on scholarly projects, I did not term it *undergraduate research*. The reasons for this are tied to how scholarship is viewed in the humanities, which includes as the gold standard for research, working alone—the iconic writer in the tiny garret apartment—or as Virginia Wolfe memorably put it, having *A Room of One’s Own*. It often takes years of reading and experience to be a scholar, a characteristic that human-

ists share with mathematicians. There is also a lack of models for research apprentices, worsened by a paucity of funding to hire assistants. And, finally, instruction in the responsible conduct of research in the humanities is often limited to one standard of avoiding academic dishonesty, plagiarism. While there are challenges in the humanities, there are also possibilities: summer undergraduate research assistantships, NEH-style summer seminars, departmental symposia, the poster as a different medium for dissemination, and new approaches to collaborative research. The latter also means that faculty roles and rewards must take into account mentorship of undergraduates.

A decade ago, Ron Dotterer noted that “the humanities have been slow to participate” in undergraduate research (2002). Since then, CUR has established a new Division of Arts and Humanities, added humanities presentations to its annual Posters on the Hill, and published an edited volume on *Creative Inquiry in the Arts & Humanities* (Klos et al 2011), as well as Behling’s *Reading, Writing, and Research* (2010). In my own state, the Utah Humanities Council established fellowships for undergraduate researchers (Buckingham et al 2012).

It is only in the past fifteen years that I’ve come to realize that “meaningful, authentic writing assignments” have the capacity to be termed undergraduate research. My own personal and professional goal as a professor of English is to ensure that the students with whom I work have opportunities for such research. I aim to achieve the objective of ensuring that undergraduates in the humanities have the same opportunities as those in the sciences to benefit from undertaking real research that can inform and have an impact on a field. On a larger canvas, as an administrator of a centralized undergraduate research program, my intention is to ensure that all students have the opportunity to *get their hands on research*—a phrase that became our tagline.

Utah State University’s Undergraduate Research Program was established in 1975. Using that foundation and history as a basis, for eleven years as its director, I have worked with my colleagues to showcase student researchers, including an undergraduate research day at the state capitol and the Utah Conference on Undergraduate Research (Kinkead and UCUR 2012). I have integrated instruction on ethics in research, established the Research Fellows Program for early immersion in undergraduate research, and improved public rela-

tions and marketing so that undergraduate researchers figure prominently in the university’s external communications.

Assessment is crucial to improving a program, and in this effort, we have made several strides. The application for a transcript designation of “Undergraduate Research Scholar” helps us collect information on students’ dissemination successes. A large-scale curriculum-mapping project in which a team of undergraduates reviewed and analyzed all syllabi on campus for evidence of skills and ethics important to undergraduate research provided essential information to us and authentic educational research for them (Kinkead and Fox 2012). We expect to use the students’ report to encourage administrators and faculty to be more inclusive of UR in their syllabi, including having faculty members become more transparent about their own work as researchers, scholars, and artists. In fact, I urge all faculty members to talk in their classes or include on their syllabi how their work as a researcher, scholar, or artist influences their teaching. This is made easier when the course-management software system includes a standard template for faculty biographies. I credit our USU Undergraduate Research Advisory Board—composed of faculty and student representatives from every college—not only with advocating student research on campus but also with establishing an assessment agenda.

My belief in the transformative power of undergraduate research has also guided my scholarly agenda. My volume, *Valuing and Supporting Undergraduate Research* (2003), is considered the first volume on undergraduate research published outside of the conventional CUR publications venue, and it also includes a chapter on undergraduate research at the two-year college. My book *Advancing Undergraduate Research: Marketing, Communications and Fundraising* was published by CUR early in 2011. It offers pragmatic advice about promoting undergraduate research on individual campuses and draws from a wealth of examples derived from undergraduate research programs across the nation.

Undergraduate Research in English Studies, which I co-edited and wrote with Laurie Grobman (2010), is the first volume to address the role of undergraduate research in this field; we seek to mobilize the profession in enhancing opportunities for students. I am currently at work on a textbook, *Research*

Methods in Writing Studies, which may be the first that is directed to an undergraduate audience. This volume will feature essays from students published in *Young Scholars in Writing*, a peer-reviewed journal for students doing research in writing; it will celebrate a decade of high-quality essays with its next volume.

Call to Action

As I conclude, let me ask some questions that suggest actions that CUR members and CUR as an organization might take. In making these recommendations, I admit that I was influenced early in my childhood by the pharaoh in *The Ten Commandants*, who ended each pronouncement with these words: “So let it be written. So let it be done.” My version of the pharaoh’s command is: “If it’s not written, it didn’t happen.”

- First, what are the histories of undergraduate research in our various fields? Is there a history of undergraduate research for your home department? For the larger field? Might I suggest as CUR nears its 40th anniversary in 2018 that its divisions consider how they might record this history?
- What is the history of the undergraduate research program on your campus? In the recent *Undergraduate Research Offices & Programs* (Kinkead and Blockus 2012), we ensured that each chapter describing a program began with its history. And we wrote such a history at Utah State University for our research magazine (“Undergraduate Research and Creative Opportunity Grants” 2008).
- Is there a role for a CUR/NCUR Historian to ensure that valuable archives are maintained and that they are mined for information, histories, and development opportunities?
- Shouldn’t there be an overarching history of undergraduate research? My address today skimmed the surface of the rich resources that might function as the basis for such a written history.
- And let’s not forget undergraduate research in an international frame. In 1907, the British House of Commons used the term “undergraduate research” and noted: “Do not you think it is one of the functions of a University not only to communicate

existing knowledge but to extend the boundaries of knowledge” (Great Britain 1907).

- Might some dissertation research focus on the history of undergraduate research?
- While it may seem mundane, there are no entries on *undergraduate research* in the *Oxford English Dictionary (OED)* or in Wikipedia. Likewise, there is, at this moment, no entry for CUR in Wikipedia. These gaps need to be filled.
- As noted above, I encourage faculty to make their research, scholarship, and artistic endeavors transparent to students in the classroom by including such information on their syllabi or course-management systems and by talking about their work in their classes, as appropriate.

I echo John Mateja’s 2006 call to action in his CUR Fellow Address about the importance of funding for undergraduate research, but I add and stress the need for increasing or starting funding for undergraduate research in the humanities, where funding is rare, if not non-existent. My first funded project—to work on *A Schoolmarm All My Life*—was a grant of \$3,000, big money for a humanities faculty member in the 1980s. Frankly, funding for humanistic scholarship is under attack. Recently, a 10-percent cut in National Endowment for the Humanities (NEH) funding and the possible deletion of the Mitchell Scholarship for study in Ireland and Northern Ireland have been proposed.

When I look at the timeline I’ve sketched of the past 200 years, it is possible to see the tremendous impact of collaborative work between faculty and students and by the organizations that have supported them. It is, however, the institutionalization of undergraduate research through the organization of the Council on Undergraduate Research and the National Conference on Undergraduate Research that have given formal meaning to the term *undergraduate research*.

My passion for ensuring that undergraduate research is accessible to as many students as possible, not only on my own campus and in my own field of study, but also to students beyond my home territory is rooted in my belief that hands-on learning can change lives. Undergraduate research

provides the possibility for life-long relationships between mentors and students, enhanced learning, and impact on the scholarly fields themselves. As a first-generation college student myself, I found college to be an exhilarating experience, filled with the potential for inquiry and discovery. I want nothing less for the students with whom I work.

Acknowledgement

My nomination for the prestigious CUR Fellow Award is the result of work by my friends, colleagues, and students, particularly Laurie Grobman of Penn State-Berks, who initiated the nomination, and Christie Fox, Director of Honors at Utah State, who assembled the portfolio. I'm grateful to all of those who wrote on my behalf and to the CUR Fellow Committee for selecting me. Additionally, I want to thank the staff members of the CUR National Office, who have always been supportive and helpful, as well as my own colleagues in the Research Office at Utah State University. Being at an institution that began its undergraduate research program in 1975 and that has a faculty ethic of working with undergraduates on meaningful research has been an enormous boon to my own professional and personal development. I have learned much from the student researchers with whom I work.

My query to CUR colleagues for input on the history of undergraduate research resulted in several valuable contributions: Bethany Usher of George Mason University offered a very helpful search tool, Google's NGRAM Viewer; Marcus Webster shared a timeline; Michael Nelson chimed in with dates; and David Peak offered a history of physics at Union College. My interest in American higher education was first aroused by David Russell's excellent historical research (1991). David F. Lancy, as always, served as reader, reactor, and partner.

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