Preview of Award 1209169 - Interim Project Report

Cover
Federal Agency and Organization Element to Which Report is Submitted: 4900
Federal Grant or Other Identifying Number Assigned by Agency: 1209169
Project Title: Leadership, Empowerment, and Advancement for STEM Women Faculty (LEAF) at UC
PD/PI Name: Santa Ono, Principal Investigator
Melanie T Cushion, Co-Principal Investigator
Urmila Ghia, Co-Principal Investigator
Steven R Howe, Co-Principal Investigator
Rachel Kallen, Co-Principal Investigator
Submitting Official (if other than PD/PI): Rachel Kallen
Co-Principal Investigator
Submission Date: 06/07/2013
Recipient Organization: University of Cincinnati Main Campus
Project/Grant Period: 09/15/2012 - 08/31/2017
Reporting Period: 06/07/2013 - 06/07/2013
Signature of Submitting Official (signature shall be submitted in accordance with agency specific instructions) Rachel Kallen

Accomplishments

* What are the major goals of the project?

The central goals of LEAF are three-fold:

1. To improve the pipeline for women faculty in STEM by broadening recruitment, improving hiring, increasing retention, and promoting advancement.

While the ideal condition is equity in numbers of male and female STEM faculty across the board, each department differs when compared with national norms for representation. Our goals will be to, at a minimum, increase representation across all departments to surpass national averages. We will increase the percentage of qualified women candidates for STEM scientist positions at University of Cincinnati (UC), increase the percentage of women hired for STEM scientist positions at UC at all levels, increase the percentage of tenure-track women who are tenured, and increase the percentage of women tenured associate professors who are promoted to full professor.

2. To transform the climate for STEM faculty by creating social and collaborative mentoring networks to promote intellectual progress, equity, and an inclusive culture.

We will focus on reducing perceptions of isolation, reducing misconceptions that women are advancing and feeling welcome, as well as instituting transparent, actionable policy. The objectives for this initiative are to increase the proportion of STEM women scientists who report feeling empowered, engaged, and achieving their potential; reduce the discrepancy between men and women STEM scientists who report concerns about UC as a workplace due to work-life balance issues or about UC
as a supportive workplace where they can project that they will be successful. We anticipate our efforts towards this initiative will lead to an increase in the proportion of women STEM scientists who report positively on their career progress and prospects as well as on representation, recruitment, and retention.

3. Create interdependence by enabling sustainable dynamic institutional practice and policy through the Accountability and Advocacy Council (AAC).

Through this initiative we plan to minimize the number of problems reported in surveys and key informant interviews in which program participants complain that their bottom-up change initiatives have been stymied by organizational barriers, inertia, or (and we do not anticipate this) active resistance by heads or deans. An organizational space will be created in which participants, staff, and administrators can communicate outside of formal organizational channels. This will take the form of something like an ombuds office except that instead of focusing on problem remediation (although that can be done here too) the focus will be on enhancing supportive and positive communications, as when a junior faculty might be able to communicate something important about her career at UC and have it get onto the provost’s agenda.

Our goals will be achieved by a mixture of “top-down” and “bottom up” approaches. The “top-down” approaches will be used to increase awareness of the disparities in the STEM disciplines among our top leadership and provide the tools necessary to address and correct these issues For example, such tools will include implementation of logic models, best practices in diversity recruitment. The “bottom-up” approach will focus on empowering women STEM faculty at all career levels by use of interactive workshops, learning communities, pilot grant awards, and responsibility for institutional action projects intended to improve the culture for women STEM faculty at the University of Cincinnati. The AAC will be used to address and manage conflict that arises from these efforts using mediation methods.

* What was accomplished under these goals (you must provide information for at least one of the 4 categories below)?

**Major Activities:**

- UC LEAF Launch Planning. Throughout this period of the grant we continued the process of planning the UC LEAF launch event, scheduled to take place April 8, 2013.
  - The LEAF team secured the services of Dr. Scott E. Page from the University of Michigan to provide the keynote address.
  - The keynote will be followed by two simultaneous group workshops. One workshop will be focused on women STEM faculty with a roundtable discussion by senior STEM women faculty who will provide insights into their personal career trajectories in conjunction with a question and answer period that is intended to be one of positive problem solving. The second session will include selected LEAF allies (defined as key senior faculty that are supportive of the UC LEAF goals and initiatives). This session will be open to both women and men faculty and will be facilitated by LEAF and Dr. Page. It will further explore Dr. Page’s presentation on diversity in organizations and best practices for implementation.
  - Funding of Dr. Page’s visit could not be fully supported by the NSF ADVANCE award. Accordingly, the LEAF leadership team secured additional sponsorships from the Offices of the President, Provost, Graduate School and the Dean of the College of Medicine. Thus, we leveraged resources and in doing so, forged new alliances across the university campus.

**Committees.**

- The second meeting of the UC LEAF Internal Advisory Committee (IAC) was held March 11, 2013. The primary function of the meeting was to update members on LEAF activities and to discuss observations and ideas related to upcoming actions.
- As a result of the meeting the President requested a funding proposal to be submitted to the president’s office for career re-entry grants to aid women in
returning to academia after an absence, or to help in maintaining a continuous research program during leave periods.

- The President also requested UC LEAF to organize a dinner to discuss ideas and opportunities specific to STEM women faculty. UC LEAF has been asked to provide a guest list for the event.
- IAC members identified Departments to demonstrate the Logic model. Dr. Shuk-Mei Ho, the Chair of Environmental Health (EH), volunteered her department to be the first participant. This will be an important benchmark, as EH is the second largest department in the College of Medicine. The Department of Mechanical Engineering was also volunteered.
- UC LEAF was encouraged to pursue a contact in the UC Equal Employment Opportunity Office to increase visibility by having LEAF resources represented in UC faculty orientations.

Dissemination.

- The UC LEAF Program Director will present a summary of the UC LEAF goals and objectives in a round table sponsored by the Graduate Program in Biology, College of Arts and Sciences, which will discuss careers in STEM disciplines and dual career management (April 1).
- The UC LEAF team completed the branding design process and received the artwork for a UC LEAF logo, fliers, and website. The artwork has been incorporated in the design of the UC LEAF website and in e-mail communications.
- The UC LEAF website was formally launched on March 12, 2013 at uc.edu/orgs/ucleaf. The website will serve as a hub for women STEM faculty, campus leaders, and community members to learn about events and gather resources. Throughout the upcoming reporting periods resources related to UC LEAF initiatives will be made available and updated.

Networking.

- UC LEAF leaders continue to meet regularly with Robin Martin, Ed.D., Associate Provost for Diversity and Inclusion. Our partnership serves to ensure collaboration occurs whenever our goals intersect so there is no duplication of efforts.

Research-related efforts.

- UC LEAF has proposed two social science studies that are currently in development. Archival data collection and initial coding and organization of the data for both social networks and discourse analysis have begun, with the assistance of graduate students and undergraduate research assistants.
- The evaluation team is completing a question bank and discussing options to ethically encourage survey participation for the network analysis component. The survey will require effort in retrieving requested information on the participants’ part and will take about 30 minutes to complete.
- To assist the research team in the compilation and analysis of the social network data, the LEAF leadership team has submitted an internal grant to the UC Faculty Development Council (FDC) to support the attendance of Associate Directors (and lead researchers) Dr. Kallen and Dr. Furst-Holloway to attend a 5-day social network analysis workshop sponsored by the Links Center at the University of Kentucky’s Gatton College of Business. Additional funds from ADVANCE will be used to support attendance of two graduate students who will be assisting with the social network study. The workshop will be held June 3-7, 2013.
- The file type the discourse analysis data was received in from the University has
Specific Objectives:  

- UC LEAF supported the Ready Set Go! junior faculty workshops. Over this reporting period three sessions took place: on 1/10/13 titled “Funding Your Research Program: the NIH and Other Funding Processes”, on 2/14/13 titled “Time Management”, and on 3/14/13 titled “Understanding Organizational Structures and Planning for Career Advancement”. Junior women STEM faculty are sent an e-mail reminding them of the opportunity 5 days before the event occurs to encourage them to participate. Attendance at each session has ranged from 17 – 37 faculty members from across the University.
- Meetings have been ongoing with the Director of the Centers for the Enhancement of Teaching and Learning regarding the workshops (Jan. 14, 29 2013).

Significant Results:  

- Top-down approaches.
  - UC LEAF leadership met with the Provost and two associate provosts to discuss their support for participation in logic modeling and assistance in holding departments accountable for logic models.
- Bottom-up approaches.

Key outcomes or Other achievements:

- **What opportunities for training and professional development has the project provided?**

The UC LEAF team organized an nVivo training webinar on January 30, 2013 for several members of the research team, including Dr. Kallen, Dr. Furst-Holloway, and several graduate students, who will be assisting with the social science studies.

As part of the UC LEAF mini-grants program, UC LEAF takes considerable pride in supporting the fellowship of Margaret J. Kupferle, Ph.D., P.E., from the University of Cincinnati College of Engineering and Applied Sciences for the ELATE (Executive Leadership in Academic Technology and Engineering). Dr. Kupferle has been accepted into the second incoming class for ELATE at Drexel University (http://www.drexel.edu/engineering/programs/special_opp/ELATE/)

- The program focuses on increasing personal and professional leadership effectiveness, leading and managing change initiatives within their institutions, using strategic finance and resource management to enhance the missions of their organizations, and creating a network of exceptional women who bring organizational perspectives and deep personal capacity to the institutions and society they serve.
- The fellowship year concludes with the completion of an Institutional Action Project, developed in collaboration with the fellow’s dean or provost. We will leverage this project for UC LEAF goals and objectives. (e.g., a mid-career learning community) or the creation of new programming to support Engineering women faculty in STEM.

UC LEAF co-hosted with the Graduate Fellows,, astronaut and scholar Shannon Walker, PhD. to UC in March. Shannon has a BA in Physics and a PhD in Space Physics from Rice University. As an astronaut that has worked on the International Space Station, she gave a very well attended presentation on what it is was like to live on the International Space Station.

- Shannon also met with UC STEM faculty and students for a discussion on what it is like to be a woman in science today
having worked in a male-dominated arena her entire career. She also discussed working internationally in science, which is a challenge faced with ever greater frequency by STEM women.

* How have the results been disseminated to communities of interest?

Dr. Kupferle was featured for her acceptance into the ELATE program: http://www.uc.edu/news/NR.aspx?id=17561

We have found that word of mouth is a low tech, but simple and compelling way to disseminate the “worth” of a particular workshop or event. It is also important to have a level of redundancy with our announcements for events.

The UC LEAF website is now active so it is also being used to disseminate information on UC LEAF activities and resources in an easily accessible format.

Outreach to College leaders is another strategy to provide an overview of our goals and objectives; progress towards those goals; and identification of Allies. On January 29, 2013, the Program Director presented those topics to a small group at the College of Business, including the Dean (David Szymanski, Ph.D.) and the Directors of the Undergraduate and Graduate Schools. The College of Business is not typically asked to be a participant in STEM initiatives, but there are at least 2 divisions (Economics, Business Operations and Analytics) that are considered STEM therein and as such, we believe it is important to be more inclusive.

* What do you plan to do during the next reporting period to accomplish the goals?

The launch event for UC LEAF will provide an opportunity to the UC community to gain awareness of the positive impacts of diversity and provide an opportunity for discussion strategies for improving the climate. The keynote will present data to support diversity and the workshops being held afterwards will provide opportunity to put knowledge into practice.

Social science research will continue. We intend to have the climate survey distributed in the summer or fall when all faculty members are regularly back in their offices. The networking survey will go out over the summer when interested faculty members will have enough time to contribute thoughtful responses.

- UC LEAF plans to launch its second and third workshop series and the Learning Communities initiative in the Fall.
- Facilitators will be trained, participants recruited, and curriculum developed.
- During the next reporting period we are going to identify potential facilitators from past workshop participants and work with UC Human Resources to get new and recently hired faculty information for workshop participant recruitment.
- Logic model training will begin in May. Curriculum and facilitators will be finalized along with any accountability measures identified. The UC LEAF team continues to evaluate needs of the executive teams that would be using the information to make curriculum relevant.

Products

Journals
Nothing to report.

Books
Nothing to report.

Book Chapters
Nothing to report.

Thesis/Dissertations
Nothing to report.
Conference Papers and Presentations
Nothing to report.

Other Publications
Nothing to report.

Technologies or Techniques
Nothing to report.

Patents
Nothing to report.

Inventions
Nothing to report.

Licenses
Nothing to report.

Websites
Nothing to report.

Other Products
Nothing to report.

Participants

Research Experience for Undergraduates (REU) funding

What individuals have worked on the project?

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<th>Name</th>
<th>Most Senior Project Role</th>
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<td>Sandra Degen</td>
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What other organizations have been involved as partners?
No organizations entered.

Have other collaborators or contacts been involved? N
Impacts

What is the impact on the development of the principal discipline(s) of the project?

A central component of UC LEAF is the bottom-up efforts that promote training, networking, and mentoring opportunities for women faculty in STEM disciplines. Through workshops focused on, for example, setting up a lab, time management, applying for funding, etc., UC LEAF will provide women faculty with the knowledge and tools they need to be productive scholars at each level of their careers. Through networking activities as will occur in learning communities and attendance at best practice workshops, LEAF will provide new opportunities for women faculty to interact with scholars from other disciplines and will thus promote new collaborations that cross disciplines. Accordingly, evidence of impact will be found in the number of collaborations developed within and across faculty in the STEM disciplines within and external to UC.

What is the impact on other disciplines?

While the differences between male and female faculty members are often the greatest in STEM, many disciplines can benefit from the professional development training and logic modeling practices UC LEAF will provide. The professional development training that is offered will cover topics that are relevant to faculty at similar stages of their career in many disciplines. It will be a more efficient use of resources if all disciplines that would usually provide training on the topic can collaborate for one training session. The potential is that this could open even more opportunities for training and encourages cross functional dialogue. Logic modeling is an organizational practice that is transferable to initiatives outside of those UC LEAF is focusing on, units will have the expertise to monitor their progress toward any of their goals and think creatively about solutions.

What is the impact on the development of human resources?

We are poised to begin the transformation of UC to an environment that understands, proactively develops, recognizes, and values the talent within our women STEM faculty. We will accomplish transformation by creating a pipeline that begins with the balanced and transparent recruitment of women STEM scientists, targeting first the areas of greatest need where women faculty are clearly underrepresented. LEAF will initiate programs that address career challenges through early-, mid- and senior-career stages to ensure that women STEM scientists are supported through their academic trajectory and achieve maximal career impact. Critical features will be the use of structured learning programs (year-long workshop series) coupled with learning communities (LCs) that not only introduce necessary skills but also help women situate themselves within social and professional networks that can provide additional support and that will serve as reference groups and supports at earlier stages of their careers. A second critical feature will be the development of unit-level logic models of desired change. This feature acknowledges the great diversity among units in starting conditions while still emphasizing that every unit will be expected to make specific plans that contribute to the proposal’s aims. Collectively, these efforts develop the human resources capacity at UC through a focus on professional skills that extend beyond teaching and scholarship to promote a more functional, inclusive, and effective working environment for all.

What is the impact on physical resources that form infrastructure?

One of the disparities that we discovered between male and female STEM faculty members is in physical resources such as lab space and equipment. Lab space and equipment can have a profound effect on the research a faculty member is able to conduct, which relates almost directly to their ability to achieve job satisfaction and tenure. By empowering women with tools for negotiation and disseminating the values of diversity we hope that the results of our program will lead to more evenly disbursed physical resources. The AAC will be available as a resource to help faculty members explore ways to address and rectify grievances.

What is the impact on institutional resources that form infrastructure?

Logic models will be shared with all departments over the course of the grant period through training and follow up coaching
sessions lead by LEAF leadership. These models will be presented in the context of mapping progress and determining goals for UC LEAF related initiatives but it is anticipated that these groups will take these methods and apply them to their own initiatives to help organize and track progress.

The UC LEAF team will continue to work to make workshops and Learning Communities sustainable at UC. Our effort will be devoted to providing a quality logistics and operations set up for the program and include other areas of the campus (such as the Center for the Enhancement of Teaching & Learning) so that in time a well oiled and established program can be accepted into another division with ease. Through these programs faculty should gain the advice and knowledge they need to be successful, increasing faculty quality and satisfaction. Departments will be encouraged as necessary to provide their own supplementary training but the initial trainings will serve to ensure that the same level and quality of training is available for all faculty members.

What is the impact on information resources that form infrastructure?

The UC LEAF website was launched on March 12, 2013. It will be used to disseminate UC LEAF related information such as resources for common challenges, announcements for and information from UC LEAF events, and will serve as a communication center for women faculty. There will be opportunities for women faculty to share, communicate, and exchange ideas through posts and e-mail. The website will be used in addition to e-mail to share information on LEAF events and related accomplishments to increase visibility and awareness of LEAF programs.

What is the impact on technology transfer?

The UC LEAF team’s contribution of new practices to the campus will consist of logic model implementation, workshops, and Learning Communities. As a result of her participation in ELAM, UC LEAF Program Director Dr. Cushion started the Ready Set Go! series of workshops prior to receiving the ADVANCE grant at UC. The workshops were designed to assist new faculty members successfully navigate the department and university culture. This was a previously unfulfilled need at UC, prior to the establishment of the workshops all departments mentored and grew their faculty through independent process. Each department having their own practices resulted in faculty having vastly different experiences starting their career. The UC LEAF workshops will continue to ensure that coaching is readily available for faculty at all stages of their career. The Ready Set Go! workshops will be maintained and curriculum and facilitators for pre tenure and post tenure faculty workshops are being planned for a fall 2013 launch. Curriculum and facilitators for the accompanying Learning Communities are being developed also with an anticipated fall 2013 launch.

Logic models give departments another planning resource that will be familiar across the University. Some departments will benefit more than others because they have processes in place already for this type of planning. For departments that are new or don't have this type of planning model to work with, the LEAF team will provide training and support to establish logic models as an effective, evidenced based option. The logic models are valuable tools because accountability is critical once goals have been set and the easily referenced visual representation will help team members stay focused.

At this point in the life of the award, the impact on technology transfer is only in a nascent stage. UC LEAF leadership anticipates that the first set of pilot project awards and institutional action projects will see an impact on technology transfer. It will also be a goal to include the vision and mission of the newly built University of Cincinnati Research Institute, which intends to facilitate commercialization of faculty intellectual properties and to aid in entrepreneurialism, as a major focus of planned workshops to encourage women STEM faculty in these endeavors.

What is the impact on society beyond science and technology?

The benefits of inclusion and diversity are not unique to UC or even to a university setting. The methods and developments that are a product of the practices implemented by UC LEAF will be easily transferable externally. We believe that through publications and presentations other organizations such as non-profits, other universities, and corporations will implement the
practices that we develop. The AAC, professional development workshops, Learning Communities, and combined bottom up and top down approach are models that could be used to improve the climate in almost any organization. The ability to join ideas from staff and have them heard by interested leaders, the development of workforce skills in career advancement, teams focused on innovation, and approaching the same issue from the top and bottom are all concepts that are generating great excitement in industry. To be able to translate these new interests into evidence based practices through our research will only increase their popularity.

Changes

Changes in approach and reason for change

We have added Stacie Furst-Holloway, Ph.D. (Depts. Psychology and Organizational Management) as an Associate Program Director to work with Rachel W. Kallen, Ph.D, Associate Program Director to our Leadership Team. Dr. Furst-Holloway was included in the proposal, but not named as an Associate Program Director. Dr. Furst-Holloway provides expertise in both organizational change and women's leadership development. Her industry experience includes leading a number of organizational change efforts focused on promoting broad-based empowerment and accountability. These efforts subsequently informed her research relating to commitment to change, retention, and engagement. Her current research also focuses on the experience of women leaders in the workplace, using role congruity theory to investigate factors that promote or discourage advancement of women into leadership positions as well as factors that predict job and career satisfaction and success. This work is being sponsored by SOAR, a leadership development program for women. With SOAR, Dr. Furst-Holloway is building a research consortium of organizations in the region (e.g., Toyota, UPS) to investigate, for example, tangible and intangible barriers to advancement women face and how an organization’s culture of inclusion influences women’s engagement, well-being, and satisfaction. In addition to responsibilities for programmatic management, as Co-Director of the social science study, Dr. Furst-Holloway will also be responsible for contributing to the existing literature within the field by submitting findings of the proposed research and ADVANCE programs for publication and presentation in scientific journals and national conference proceedings. Dr. Furst-Holloway will be charged with organizing the planned Learning Communities and Career Workshops as primary tasks.

There were no changes to approach or programming.

Actual or Anticipated problems or delays and actions or plans to resolve them

File extensions on the data we received from the University were in .xml format, which is incompatible with the Nvivo software we were planning on using for the analysis. We are currently exploring coding and software options that will allow that data to be extracted with reasonable efficiency. If a sufficient solution is not identified we will consider the sample size necessary to validate what we are proposing to reduce the quantity of data needed.

As a result of University renovations the UC LEAF office has not obtained its permanent office space yet. It is expected that the LEAF office will be housed in a more centrally located position so that it can accessed easily by team members and other collaborators.

The leadership team and program coordinator who are, collectively, charged with the day-to-day activities associated with the grant are continuing to identify appropriate operating norms and procedures. Weekly meetings have allowed the team to discuss activities and strategies in a democratic manner; however, confusion remains regarding the ownership of individual tasks, which has led to delays in work completion or redundancy of effort. Revisiting the governing hierarchy and assignment of tasks will occur at upcoming weekly leadership meetings.

Preparation for the launch superseded other tasks, and more importantly, adjustment and training of a new Program Coordinator who was new to the area and unfamiliar with the university environment, program, and essential contacts, contributed to some of the delays. Ongoing discussions for troubleshooting and problem solving, as well as a growing comfort with the new environment should address some of these problems.
Changes that have a significant impact on expenditures

It has recently been brought to our attention that the per cent efforts of Cushion (50%), Kallen (40%) and Furst-Holloway (40%) were not approved through an NSF process. Subsequently, the Program Director and Associate Directors are only permitted to provide 2 calendar months for the NSF ADVANCE award. While attending the NSF ADVANCE meeting in March, we discussed alternatives and strategies with our Program Officer and Financial Officer. The recommendation was to settle the issues internally. We are currently working on this problem, but it has resulted in increased expenditures of time unrelated to the goals and objectives of the ADVANCE award. Moreover, it now places unanticipated costs on the affected Departments.

Significant changes in use or care of human subjects
Nothing to report.

Significant changes in use or care of vertebrate animals
Nothing to report.

Significant changes in use or care of biohazards
Nothing to report.

Special Requirements

Responses to any special reporting requirements specified in the award terms and conditions, as well as any award specific reporting requirements.

Supporting Files

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