Challenges of Implementing the NIH Extramural Associate Research Development Award (EARDA) at a Minority-Serving University

Jeffrey Pickens, PhD
Professor
St. Thomas University
16401 NW 37th Avenue
Miami Gardens, FL 33054 USA
Tel: (305) 628-6557
Email: jpickens@stu.edu

Author's Note

Presented at the Symposium of the 2008 Society of Research Administrators International meeting in National Harbor, Maryland, this project was made possible by a grant (#G11HD054970-01) from the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD). Its contents are solely the responsibility of the author and do not represent the official views of NICHD.

Abstract

The impacts and challenges of implementing an NIH/NICHD Extramural Associate Research Development Award (EARDA) at a private Minority-Serving-Institution (MSI) are examined. This article outlines efforts to gain institutional buy-in and challenges encountered in creating a functioning Office of Sponsored Research and implementing research policies where none existed previously. The model combines NIH training and pilot research funds with on-campus outreach and professional development, to effect change in the research culture at a primarily undergraduate teaching university. Challenges discussed include how best to engage faculty with heavy teaching loads, managing unrealistic faculty expectations about grants and funding, the need to engage institutional leaders in creating a strategic research development plan, locating researcher-appropriate funding opportunities, and developing partnerships to augment research opportunities at non-research institutions. The successes and challenges that emerged can inform research administrators of the needs of faculty while they act as agents of change at universities seeking to increase faculty-student research and funding.

Keywords: research administration, professional development, minority-serving institutions

Introduction

In fall 2007, a National Institutes of Health (NIH) Extramural Associates Research Development Award (EARDA) was implemented at St. Thomas University in Miami, Florida. The NIH EARDA award was designed to build research infrastructure

and encourage development of externally funded research at minority-serving institutions to encourage more minority students to enter the sciences and pursue biomedical research careers.

St. Thomas University, an undergraduate teaching institution, is a designated Minority Serving Institution (MSI) and Hispanic Serving Institution (HSI). Its enrollment is comprised of 47% Hispanic, 27% African American/Caribbean and 10% International undergraduates. The award helped establish the university's first Office of Sponsored Research and to initiate a research development program.

The Boyer Commission Report on undergraduate education (1998) recommended providing every undergraduate student with research opportunities beginning in the freshman year. Historically, teaching institutions without strong research components have experienced greater financial risks due to stiff competition from more established research institutions (Kenny, 2003). Research participation has been effective in promoting retention of students at greater risk for college attrition, especially minority students (Nagda, Gregerman, Jonides, VonHippel, & Lerner, 1998). Evidence suggests the need for teaching institutions to expand research opportunities for faculty and students, to enhance both academic quality and financial sustainability (Strassburger, 1995). However, institutions that transition from a teaching to a research focus typically experience difficulties with funding and personnel support (Harman & Selim, 1991). The NIH EARDA grant helps address this challenge by providing infrastructure and support to stimulate research activities at MSIs that historically have not engaged to a great degree in externally funded research.

What is the NIH EARDA Program?

The NIH established the Extramural Associates Program in 1978 to produce a cadre of academic research administrators who could promote the participation of institutions with high ethnic minority student enrollments in rigorous biomedical and behavioral research programs. The program is administered within the Division of Special Populations of the National Institute of Child Health and Human Development (NICHD). The EARDA Program was created to develop institutional capacity to support external research grant proposals, provide administrative structure to manage grant awards, and increase biomedical and behavioral research at minority-serving institutions.

As part of the award requirements, the participating institution nominates an Extramural Associate (EA) who is trained in grant processes used by the NIH and other federal agencies to support biomedical and behavioral research and training. The program instructs the EA in the role of academic research administrators in research development. EARDA is designed to stimulate the building of research infrastructure and development, and to facilitate a sustainable capacity in research administration at institutions with limited resources for implementing fundable biomedical and behavioral research.

To strengthen research administration infrastructure at minority-serving and women's institutions, the EARDA Program trains the EAs to: 1) be leaders for research administration at their institutions; 2) help colleges acquire trained sponsored research staff and establish the infrastructure for grants acquisition and management; 3) identify best practices and encourage the MSI to institutionalize sponsored research practices; 4) establish

a process for evaluating capacity development in research administration; and 5) encourage student participation in faculty research. EAs participate in distance learning and on-site residency training at the NIH in federal grants terminology and funding mechanisms, receipt and referral of applications, peer review, program funding cycles, grants management basics, use of human and animal subjects in research, electronic grant submission, best practices for sponsored research, and development of a network of contacts at federal funding agencies.

This author was the EA for St. Thomas University and was trained in a 10-week residency at NIH in the topics shown in Table 1.

Table 1. Components of the Extramural Associates Training

1. The organization and function of the NIH and other federal funding agencies
2. Common federal grant compliance and regulatory issues
3. Extramural funding mechanisms and opportunities
4. Best practices in program administration, evaluation, financial management of grants, subcontract awards, and research project administration in resource-limited settings
5. Technologies for information and data retrieval, dissemination, and grant applications
6. Office of Sponsored Research planning and management strategies
7. Common federal extramural funding program policies and procedures; federal extramural scientific review policies and procedures
8. Other federal and private or non-profit funding programs and opportunities
9. Grantsmanship – grant writing and budget development skills
10. Understanding NIH guidelines and protocols on issues in human subject research
11. Institutional review boards, use of laboratory animals, research misconduct, conflicts of interest, and policies on intellectual property management

Once the NIH residency is complete, EAs possess a working knowledge of federal support for biomedical and behavioral research and training, and skills in preparing research applications and postaward management, and are prepared to expand research infrastructure and development at their MSIs.

Engaging Institutional Leaders

One of the first activities undertaken at St. Thomas University was to establish a committee to advise and oversee the implementation of a new Office of Sponsored Research and to plan research development efforts. The university deans were invited to participate, along with key faculty, business office staff and administrators. The goals of the EARDA program and the EA's implementation plan were shared to gain feedback and foster the support of these key stakeholders and campus leaders. Involving the deans, faculty and staff in the oversight and planning of the new office helped the EA to gain buy-in from key campus stakeholders.

Among the most important individuals to cultivate as allies were the university president and provost. A commitment by these leaders was needed to establish a strategic research vision for the university and to plan development of research infrastructure and resources important to the

overall mission of the institution and its academic programs. These leaders were instrumental in establishing faculty evaluation criteria that reward efforts in research and grant writing, as well as policies to free up faculty from teaching to permit pursuit of research activities without disrupting the university operations and culture. Frequent meetings were held with the president and provost to apprise them of actions taken by the new Office of Sponsored Research. Thus, the university leadership actively supported initial efforts of the EA in confronting the many challenges of redirecting the culture of this teaching institution towards research.

Outreach and Professional Development

Changing the culture at a primarily teaching university is not an easy task, and, as stated earlier, the role of research administrators in such an effort is key. During his training, this EA developed a network of contacts and mentors at the NIH and other federal agencies, many of whom stressed that building trust and reaching out to faculty were crucial to success. Faculty engaged primarily in teaching and advising may not have the skills or interests to pursue funded projects. Therefore, professional development and outreach activities are needed to motivate faculty to explore grants preparation. A series of seminars were offered, including one entitled, "What can the Office of Sponsored Research do for you?" Here, the EA introduced faculty to the functions of the new office and the EARDA implementation plan. Faculty members were surveyed via the seminars, email and attendance at departmental faculty meetings to identify their needs and interests. Professional development training was subsequently planned for faculty, business office and other university staff on a variety of research and pre- and postaward issues. Seminars were offered several times during the semester, often taking place in computer labs so faculty could gain hands-on experience in searching for funding opportunities and working with electronic submission and grant management systems. Seminar topics are listed in Table 2.

Table 2. Faculty Research Development Seminars

1. Office of Sponsored Research – What can we do for you?
2. How to identify funding opportunities using grants.gov and other web resources
3. How to evaluate and read a funding opportunity announcement
4. Ethical issues in the use of human participants in research
5. Ethical issues in the use of animal subjects in research
6. Grants writing workshop – I Beginners; II Intermediate
7. Preparing your faculty pilot research award application
8. Using CRISP/NIH RePORTER to identify funded projects and potential collaborators
9. Developing your proposal and budget
10. Partnerships and collaborations – How to form and sustain them
11. Grants for minority serving institutions in STEM and health disciplines
12. Statistics and research design and methods assistance forum
13. Preparing for summer student/faculty research internships
14. Following-up after your faculty pilot research

Surveys indicated that the faculty needs for training and assistance varied greatly. Thus, both beginning and intermediate grant-writing seminars were offered, during which some faculty for the first time drafted a needs statement, specific aims, and program narrative, while others delved deeper into issues of research design, sampling, human subjects and budget justifications. Many workshops began with a wish list exercise in which participants were asked to envision what resources they hoped to gain as they moved their careers into new directions by conducting funded research projects. In the first year of operating the new Office of Sponsored Research, the EA circulated newsletters to inform faculty about research opportunities, highlighted faculty and student research achievements and announced upcoming seminars and workshops. The Office of Sponsored Research also created a website portal to grant opportunities, new university policies, forms and guidelines needed to initiate grant proposals, institutional review board (IRB) review, and other key resources for research grant development, compliance and reporting. Thus, in its first year, the EARDA award helped stimulate a new, visible research support system at this MSI, and initiated conversation among faculty in conducting research at this teaching institution.

Faculty Pilot Research Awards

It is difficult to engage in research those faculty members with heavy teaching responsibilities. The basic teaching load for faculty at St. Thomas University was four courses (12 credit hours) per semester. At smaller universities, many faculty also assume additional course loads, heavy advising, committee responsibilities, and other duties. In a preliminary survey, lack of time was the most common reason faculty gave for not engaging in grant writing and research. The perception that research activities will only add to an already high teaching load is a barrier to research involvement, and requires a creative, on-going effort to overcome.

Another reason making faculty less inclined to write grant proposals is the perception that this effort would not be recognized for advancement and evaluation. Not all universities recognize grant writing in the same way they recognize publishing or the development of new courses. Grant writing consumes time and is risky because many grants are not funded, especially on the first round. That grant writing may not be explicitly recognized in evaluations makes it more difficult for teaching faculty to pursue funded research projects. Early meetings with faculty therefore stressed that research involving students would complement the teaching mission. It was necessary to reassure the staff at departmental meetings that only some faculty would pursue funded research; the university was not asking all faculty (especially those who were satisfied in their teaching roles) to become externally funded researchers. However, the availability of EARDA pilot research seed money to assist faculty in starting their research programs helped motivate some to make their first forays into grant writing.

The EARDA award includes funding to establish a Faculty Pilot Research Award competition, with small grants that faculty could apply for to jump-start their research programs, typically during the summer months, when teaching loads are reduced. Faculty could propose small-scale projects and receive funding for themselves, student assistants, travel, and supplies and equipment to undertake a research activity of limited scope. Typically, these research projects could be conducted within a year. Faculty were required to submit their proposals on PHS 398 grant application forms and to undergo an NICHD review. Pilot research funding of up to $40,000 per year was built into the EARDA budget. Faculty were encouraged to apply for

awards under $20,000 so that at least two awards per year could be made. The faculty pilot applications were developed in the first year of the EARDA, for funding to begin in the second year of the award. The use of standard grant application forms, with a full review and revision process, encouraged faculty to follow the federal grant application process. In this way, faculty would be more prepared at the end of their pilot research projects to undertake a federal research grant proposal (such as an NIH R03). Thus, these awards required a rigorous application and review process to provide the faculty experience in the effort required to create sustainable, externally funded research programs.

Challenges

One of the most interesting challenges in the first year of the EARDA was managing unrealistic faculty expectations about grants and funding. The EA was surprised at how many of the faculty initially visited the Office of Sponsored Research to ask how they could increase their salary through writing grants. Many had no specific ideas about developing a research project, but they had a long wish list of desired equipment, travel money and other resources. Many faculty wanted funds to serve academic needs (classroom computers and new buildings) or for travel, with little consideration of how to justify the need for these resources to an external funding source. Faculty in the humanities and arts were disappointed when they learned from the workshops that much federal funding is geared toward projects concerning public health, security issues, or scientific disciplines. The EA spent considerable time providing faculty with realistic estimates of the most fundable projects and the best funding sources. While the focus of the EARDA program was clearly geared to enlist faculty from the sciences and health disciplines, it was not surprising that interest in seeking funding arose across all disciplines, including the arts, humanities, faith-based initiatives, and community service projects. Therefore, one challenge was coordinating a science- and health-oriented research development program while at the same time managing faculty expectations within the multi-disciplinary context of the university.

A related challenge was convincing the university to create a strategic research development plan. Given that not all disciplines or projects are equally fundable, it was important to prioritize areas that had the greatest potential for scholarship and likelihood of earning external funding. The president, deans and campus leaders collaborated with the EA to identify key areas of scholarship and research that complemented the university's broader mission. The survey data helped identify some of the stronger researchers and faculty areas of research interest. A strategic plan was developed that emphasized STEM (Science, Technology, Engineering, and Math) disciplines, teacher training, and projects that focused on diversity (e.g., minority health, cross-cultural, and international issues). The university strategic research development plan helped faculty and administrators to focus efforts on areas of expertise and fundability. The EARDA program research development plan emphasized pursuit of funding that best matched existing faculty expertise and talent with current funding trends and climate.

One final challenge was the need for developing partnerships with external agencies. Many grant opportunities and funding proposals are enhanced by the collaboration of different organizations, and each brings its own unique resources and expertise to the proposal. For example, teacher training initiatives benefit from supportive partnerships with local educational agencies and schools. Partnering with other local universities can

extend limited grant budget resources to larger target audiences, and letters of support and memoranda of understanding (MOUs) attesting to their partnerships are a necessary component of many applications for external funding. The challenge was not only in how to form partnerships, but also in how best to institutionalize and document this partnering process. The following questions emerged:

1. Who represents the university with regard to external partnerships?

2. What is the function of Sponsored Research and other university units in developing, authorizing or reviewing letters of support or MOUs related to grant-funded projects?

3. What do university-community partnerships convey in terms of new roles and responsibilities for grant-funded project directors and external partners?

There are other issues in dealing with organizations external to the university. Along with implementing new forms and policies for grant proposals, as well as new practices for managing external funding and dealing with federal grant compliance issues, the university also needs to examine how to deal with external entities in partnerships. The first year of EARDA support for this MSI was an interesting one, both in terms of the EA assuming the role of a change agent to advance the research culture of a teaching university, and in managing the many unanticipated impacts of stimulating more research and external funding proposals.

Conclusion

As most members of the profession have acknowledged, the role of research administration exceeds grant oversight, fiscal accountability, and compliance with federal funding policies. Research administrators at smaller academic institutions are often seen as change agents tasked with strengthening the research culture by: 1) encouraging administrative and faculty buy-in to perform research; 2) providing opportunities for training in research policies and grants development; 3) promoting reward systems for faculty engaged in research; 4) providing opportunities for faculty training in compliance and regulatory policies; 5) overseeing sound project management; and 6) serving as an informational and networking resource.

Successful research administrators know how to find information about funding, explain the actions of review panels, and assist in budget development, as well as how to deal with issues of contract negotiation and grants compliance. According to NIH, the EARDA supported EAs in fostering a culture of research at their institutions by bridging science and administration, stimulating development of seed funding for research, providing resources for faculty and students, and influencing institutional research policies. The EARDA model was successful in establishing an office of sponsored research at this MSI, developing new grants policies and procedures, stimulating faculty to apply for pilot research awards, and increasing the level of research and number of grant submissions. Significant challenges remain in sustaining institutional support for research development and encouraging additional faculty to initiate funded research. Despite the challenges of creating a research culture at a teaching-intensive institution, great rewards are possible through activities aimed at increasing faculty research and engaging students in the sciences.

References

The Boyer Commission on Educating Undergraduates in the Research University (1998). *Reinventing undergraduate education: A blueprint for America's research universities.* Princeton University: Carnegie Foundation for the Advancement of Teaching.

Harman, G., & Selim, M. (1991). *Funding for higher education.* Report from the UNESCO Principal Regional Office for Asia and the Pacific, Bangkok, Thailand.

Kenny, S. S. (2003). New challenges in a post-Boyer world. *American Scientist, 91*(2), 103-105.

Nagda, B.A., Gregerman, S.R, Jonides, J., VonHippel, W. & Lerner, J.S. (1998). Undergraduate student-faculty research partnerships affect student retention. *The Review of Higher Education 22*(1), 55-72.

NIH/NICHD Extramural Associates Research Development Awards EARDA [PAR-05-053]. Retrieved October, 2008, from http://grants.nih.gov/grants/guide/pa-files/PAR-05-053.html

Strassburger, J. (1995). Embracing undergraduate research. *American Association of Higher Education (AAHE) Bulletin, 47*, 3-5.