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Title: The Impacts of Seed Grants as Incentives in the Knowledge Transfer Process

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Introduction

Creating incentives for program development by the faculty is a strategy often used by administrators in research and knowledge transfer offices. By using seed grants, matching funding, allocation of equipment and space, some believe that one can “nudge” faculty in directions that an institution considers high priority; however, the justification of such incentives is often based on a philosophical position rather than statistical analysis.

This paper evaluates the impacts of the 80 seed grants provided by the University’s Office of Extension, Engagement, and Economic Development from 2004-2009 to faculty and exempt professionals. Such competitive seed grants are available for innovative program development, professional development of the faculty member to strengthen skills in extension, curricular engagement of students in community-based research, and partnership development – a crucial element in collaborative interdisciplinary and engaged programming. Proposals must address the use of seed funds to achieve sustainability through partnerships and internal or external funding sources.

The hypotheses are that seed grants in extension, engagement and knowledge transfer will stimulate faculty interest in the third mission of the university, serve as incentives to develop programs, result in new partnerships, and serve as a platform to build a larger externally funded program in knowledge transfer and outreach activities. Few studies have treated these hypotheses in a testable fashion.

Research Review and Background

Tornatsky, Waugaman, and Gray (2002) and Zuiches (2009) have argued that specific organizational structures and processes, such as incentives, must be in place to create a positive environment that encourages innovation, engagement, and beneficial impacts. A recent session at the National Outreach Scholarship Conference (Bruns and Kalivoda, 2008) was devoted to understanding what incentives exist to encourage the scholarship of engagement. Although the session identified multiple incentives, no evaluation of the impact of these incentives was provided.

Seed grants serve many functions. For junior faculty, they may be the initial start of a research and extension educational program; for senior faculty they may provide the opportunity to redirect their research and extension activities into new realms. For professionals not on tenure track, they provide a means to initiate new programs.

The source of funds for the seed grants is an important aspect of this project. NC State faculty generated over \$267M in sponsored projects for their teaching, research, public service and extension programs during the 2010 fiscal year. Of that \$267M, \$48M was directly attributable to faculty who generated funding for public service, extension and engagement projects. Externally funded projects usually include some level of indirect costs to support the facilities, the administration, and other overhead associated with the University managing such projects. Not every organization will pay overhead costs, for example many foundations or other nonprofit organizations that provide funding will not pay for the overhead; they expect the University to provide that as part of the cost share. State agencies will pay some overhead but their philosophy is often that the State is already paying for the administration of the University and that this should be cost-shared. Similarly, the federal government, which negotiates the overhead rates with the University, does not fully pay for the costs of the facilities and project oversight by University administrators.

The University, however, does generate some, but not full, overhead that is designated to pay for these kinds of costs. Some of the recovered funding is dedicated to reinvestment in the departments, colleges, and offices of the vice chancellors. The Vice Chancellor for Extension, Engagement, and Economic Development receives \$225,000 from the \$2.8M generated in public service overhead, to support the office and we dedicate \$160,000 to the Extension Seed Grant Program. Some funds are also reserved for the Just-In-Time program, a bridging grant program, and for program development and support activities within the office. This rationale for reinvestment in program development then drives the expectation that faculty will use the seed grant funding to invest in programmatic development and grow the programs with additional external funding.

Methodology

The analysis includes, first, a description of the seed grant process and characteristics of awardees, second, a review of each seed grant to assess the type and character of the partnerships proposed. Third, the principal investigator of each project was tracked in the NCSU grants and contracts system to determine if they submitted one or more proposals for external funding on the topic of the seed grant in the years following the project. Finally, each proposal also has a code on the funding decision of the proposed sponsor, and if funded, the level of funding.

The methodology includes a detailed analysis of the 80 grants awarded over the last five years, measuring the success in bringing new faculty to the knowledge transfer process. It evaluates the development of partnerships with government, nonprofits, private sector, and other academic units and the likelihood of generating external grant proposals, awards, and impacts.

The Review Process

The University Standing Committee of faculty and non-tenure track exempt professionals, whose charge is to advise the Office of Extension, Engagement, and Economic Development, manages the entire seed grant process.

I. General Information

The purposes of the University Extension, Engagement, and Economic Development Seed Grant Program are to stimulate faculty and exempt professionals to address the needs of citizens of North Carolina, to encourage external and multidisciplinary partnerships, to involve students in the application of knowledge to societal problems, and to leverage additional funds for extension and engagement endeavors.

Seed Grants are available for NC State faculty and exempt professionals to pursue one or more of the following program goals:

1. Program Development – initiate new and innovative programs that utilize NC State personnel expertise to address critical issues.
2. Professional Development – develop skills of faculty and other professionals to enhance the application of appropriate methodologies and the capacity to do extension work.
3. Student Engagement – Engage students with faculty and professionals to address critical issues and participate in the selection and implementation of appropriate methodologies.
4. Partnership Development – Develop and position collaborative, interdisciplinary and external partnerships to create comprehensive responses to critical issues. Position interdisciplinary teams to attract external funding and resources for extension efforts by providing support for grant writing expertise and assistance.

Successful proposals must address the use of the seed funds towards sustainability of the project, whether through internal or external funding sources. A pilot effort that will strengthen applications for clearly identified upcoming state, federal, or foundation grant competitions is another good use of these funds. They may also be used to develop a self-sustaining program through receipt generation. No equipment may be purchased with EEED Seed Grant funds.

Proposals that are deemed by reviewers to be only research proposals will not be considered. Extension, engagement, and economic development proposals are distinguished from research proposals in that EEED projects:

- Apply research-based knowledge to a well-defined problem;
- Test innovative solutions and applications for expected results;
- Influence professional practice;
- Improve quality of life and benefit the public good, particularly NC citizens;
- Identify and develop reciprocal relationships with external constituencies;
- Include a communication and dissemination plan.

II. Eligibility Information: Any NC State faculty or exempt professional is eligible to apply.

III. Award Information

Approximately \$160,000 is available for each fiscal year. The maximum Seed Grant award is set at \$10,000. The funding cycle ends June 30. Projects are not renewed, but carryover of funds may be approved.

IV. Proposal Preparation and Submission Instructions

Proposals should follow the Proposal Outline Form and be no longer than five (5) pages in length using 12-point font and 1-inch margins. The Proposal Budget Form must also be completed and attached to the proposal. In preparing the budget, awards may not be used for salary supplements. Awards may be used for student support, temporary labor, travel, communications, and supplies. A 50% match is required from either internal and/or external sources. The match from external sources may be in-kind or cash. For internal sources – we prefer a split of 25 percent cash and 25 percent in-kind.

V. Proposal Review and Selection Information

Faculty and other professionals who are members of the University Standing Committee on Extension and Engagement will review proposals. Following an initial screening by the Committee for eligibility, each proposal will be evaluated electronically by at least three members based on the following eight criteria:

- (1) Is the proposal an extension and engagement proposal as defined in RFP?
- (2) Does the proposal address a critical need facing North Carolina, as evidenced by literature, core studies, audience analysis, or needs assessment?
- (3) Will the proposal strategies adequately address the identified need?
- (4) Does the principal investigator(s) and/or implementation team have the capacity to carry out the proposal?
- (5) Is there evidence of a collaborative, multidisciplinary partnership – internal or external to the University?
- (6) Does the proposal provide opportunities for students to become engaged in this work?
- (7) Can the project be completed or show significant impact by June 30?
- (8) Is the project sustainable with either internal or external funding after the seed grant funding ends?

Each proposal will be rated by its reviewers on a scale of 1 (high) to 10 (low), based on a proposal's ability to meet each prescribed criteria.

VI. Award Administration

Those receiving grants must conduct an appropriate evaluation of the project to determine the benefits to the population being served. Faculty and staff who plan to develop new skills and abilities must identify how the professional development experience will enhance a target population or address a critical issue. Awardees are expected to complete a final report, no longer than three (3) pages in length, to be submitted to the Office of Extension, Engagement, and Economic Development no later than mid-September following the award.

The final report should include the following information:

Required:

- Program Objectives and Impacts – How was the identified need or opportunity addressed and how were these impacts evaluated? How did this project contribute to the economy or overall quality of life of North Carolina or the target population?
- Human Enrichment – Describe the involvement of and impact on individuals who worked with the project, including principal investigator(s), students, collaborators and program participants. How were these impacts evaluated?
- Sustainability and Future Funding – Will the program continue? Describe additional funds for this program that have been sought and obtained or are pending.

Additional Contributions:

- How did this project contribute to the University?
- How did you communicate the outcomes of this project to the broader community (department, college, university, state or nation)?
- Describe and include when possible any media coverage of this project.
- How did this project contribute to your scholarship?

Findings

The seed grants program was initiated in 2004 with a flurry of interest as 61 proposals were submitted and 18 funded. Perhaps, the low success rate (30 percent) caused the fall-off, but in 2005, only 21 applications were received and 13 were funded (62 percent success rate). Applications have since fluctuated with 35 in 2006 and 16 funded, 22 in 2007 and 17 funded, and 34 in 2008 and 16 funded. Although the study covers only the data for the first five years, the next two years have had 54 applications each year and funding levels of 16 each year, which is back to a 30 percent success rate. This recent increase may be due to the fact that during new faculty orientation every year, one session is devoted to Extension and Engagement Programs and a panel of faculty talk about their programs and the opportunity provided by seed grants.

An analysis of all five cohorts demonstrated an increase in the diversity, if not the number, of applications as faculty from more colleges submitted applications. The average size of seed grant awards was \$8850, and they ranged in size from \$2500 to \$10,000. Sixty-eight different faculty have won seed grants; with 60 receiving one; four receiving two; and four others receiving three over the five years. Describing the awards by faculty status shows that 38 percent went to tenured associate or full professors, 19 percent to tenure track assistant professors; 12 percent to county Cooperative Extension field faculty; and 31 percent to non-tenure track professionals leading outreach and extension programs.

Table 1 summarizes the distribution of seed grants over the five years among the units of NC State University. The largest number of proposals and awards came from the College of Agriculture and Life Sciences through both its on-campus departments and its county Cooperative Extension offices. Over 37 percent of all awards went to the College of Agriculture and Life Sciences, however, the success rate of 41 percent is less than the overall rate of 46 percent.

Seed grants have been made to every single college within the University. Units that report to the Chancellor's office, the Provost's office, the Vice Chancellor for Research, and Student Affairs are also eligible to apply for seed grant funding and have been successful as well.

Table 1. North Carolina State University EE&ED Seed Grants, 2004-2009

College/Unit/Organization	Applications	Awards	Success Rate (%)
College of Agriculture and Life Sciences (CALS) Departments (22), Cooperative Extension Counties (8)	74	30	41
College of Design	11	8	73
College of Education	9	6	67
College of Engineering	19	5	26
College of Humanities & Social Sciences	10	8	80
College of Management	10	4	40
College of Natural Resources	14	7	50
College of Physical and Mathematical Sciences	5	4	80
College of Textiles	6	1	17
College of Veterinary Medicine	2	1	50
Other Units: EE&ED/Shelton Leadership Center (1) Chancellor's Office/Kenan Institute (1) Provost's Office/Honors Program (2) Research and Graduate Studies/North Carolina Sea Grant (1) Student Affairs/Athletics (1)	13	6	46
TOTAL	173	80	46

Partnerships

A core expectation of engagement with communities of interest, place, and purpose, requires the development of working relationships and strong partnerships to accomplish mutual goals of all the partners, including students, faculty, and administrators in the university as well as the local partners. As part of the analysis Cheryl Lloyd (2009) initiated a study to determine the degree of engagement with community partners and the connection of these projects to the areas of responsibility of a faculty member. A partial analysis by Lloyd of 47 of the 80 seed grants showed that every grantee engaged others as partners, either internal to the University or externally. Partnerships included government agencies, nonprofits, the business sector, and student organizations. Approximately 1/3 of the grants also generated a secondary partner, primarily with Cooperative Extension.

In Table 2, we summarize the primary partnerships across all 80 seed grants. The nonprofit and governmental agencies each reflected about 30 percent of the partnerships. These nonprofit, community-based organizations are often the recipient of the program as well as the source of collaborative support, co-funding, and ideas for the delivery of programming. The government agencies range from local school districts, state agencies – such as the Department of Environmental and Natural Resources or the Department of Agriculture and Consumer Affairs, and county offices in which the needs of the county were brought to the local Cooperative Extension office for educational support and assistance. Many of the projects focused on students and linked to student organizations, youth groups, or family organizations, but only about 15 percent had such partners. Finally, 26 percent of the projects work with the private sector, including businesses, manufacturing firms, farmers and farm organizations, and entrepreneurs.

In addition to the primary partners, 31 percent of the projects had secondary partners, typically with county Cooperative Extension offices. In the description of individual projects, some of the partners are identified.

Table 2. Primary Partnerships in Seed Grants

Partner	Number	Percentage
Nonprofits (Community-based organizations)	23	29
Government Agencies (Local, state, county, school districts)	24	30
Students, Youth, and Families	12	15
Private Sector (Businesses, farmers, entrepreneurs)	21	26
TOTAL	80	100

In 2006-07, we reviewed in-depth the annual reports of awardees. Some of the collaborative efforts in these projects are particularly noteworthy. Dr. Andrew Behnke developed a community-wide event to share health and safety information with Latinos in rural Western North Carolina. The event occurred in 2007 and again in 2008, and the number of community collaborators increased from 32 in 2006-2007 to 142 in 2007-2008. Dr. Christine Grant's faculty-student mentoring summit for underrepresented minority girls and their mothers utilized 76 volunteers and faculty from engineering schools across the country. Dr. Chris Reberg-Horton's project to advance the organic grain industry in North Carolina comprehensively connected individual farmers to buyers, seed cleaning companies, crop consultants, county agents, and a number of other partners in the industry. Dr. David Tarpy tapped into the Cooperative Extension Service network of over 100 agents to distribute publications, press releases, CD ROMs and other publication materials regarding the Africanized "Killer" Honey Bee in North Carolina.

Seed Grant Success

The 80 seed grant awards resulted in 80 percent of project leaders applying for at least one additional external grant to expand and support their effort. Detailed analysis of the 64 awardees seeking added external funding showed that 84 percent were successful. This success often involved multiple grants, cumulating over time. Third, even for projects unsuccessful in growing programs with added grant funds, the creation of partnerships and the ability to generate funds from gifts and fees often sustained the program. Some programs have been terminated as faculty left the institution or simply completed the project.

In Table 3, we have shown the 80 seed grant awards by cohort for the last five years. For each year, we reviewed the external grant proposals submitted by the individual faculty members to state, local, or federal agencies as well as foundations and other funding organizations. We looked at the proposals submitted in the years following the award, assuming that in the year of the award the faculty member is undertaking the work and developing the partnerships, documentation and track record that will then be incorporated into future proposals.

Table 3. Percent of Extension Seed Grant Cohorts with External Proposals/Awards

Project Period (State fiscal year)	Number of Seed Grants	Number Submitting External Proposals	Percentage %	Number Successful External Awards	Percentage %
2004-05	18	13	72	11	85
2005-06	13	11	85	8	73
2006-07	16	13	81	12	92
2007-08	17	13	76	11	85
2008-09	16	14	88	12	86
TOTAL	80	64	80	54	84

As we discovered very quickly, not every seed grant is likely to result in a proposal for external funding. The professional development seed grant is more likely to be used by the faculty member in the development of their

professional expertise, and while this might benefit them in future grant proposals, it is unlikely to result in a proposal for more professional development unless the faculty pursues a Fulbright Scholarship or something like that. Similarly, some projects are really institutional investments and the goal is to review the feasibility, and justify an institutional investment in a project. Nevertheless, in each cohort between 72 and 88 percent of the projects resulted in external proposals being prepared and submitted in the years immediately following the project. Many faculty submitted multiple proposals to multiple agencies, but for purposes of this analysis, we determined whether or not at least one proposal had been submitted and then whether or not at least one had been successful.

Many faculty have multiple programs, but we focused on the topic of the seed grant. In a few cases, the award winners did not write a proposal based on the work of the seed grant, nor did they move their program in that direction. Again, of the faculty cohorts who submitted proposals, between 73 and 92 percent of them were successful in getting additional funding in the domain of the seed grant. Overall, eighty-four percent were successful in generating additional funding.

Comparing Seed Grantees and Other Faculty Success Rates

An important comparison is between the external grant activity and success of the faculty who received seed grants and those who did not. Over the five years of the study, 68 faculty won 80 seed grants, and 78 other faculty had submitted at least one seed grant proposal, but had not been funded. Although this is not a perfect control comparison, it does provide some basis for testing the hypothesis that faculty do fulfill the expectation of external proposals to grow their programs in Extension and Engagement, and that the seed grants spur an increase in external grant activity and success.

To eliminate the effect of multiple applications and/or successes, there is no double-counting. If a faculty member won one or three seed grants, she/he is counted only once; the same is true for applicants, regardless of how many times they applied for a seed grant; similarly, if a faculty won a seed grant in one year, but was declined in other years, we only counted the faculty once in the grantee column.

In Table 4, it is clear that having won a seed grant stimulates efforts at external funding of the seed grant topic, and it is also associated with higher application and award activity generally. Since those faculty who did not receive seed grants were unlikely to pursue funding in seed topic areas, we evaluated their efforts and success in all research, instruction and public service topics in which they applied for funding and were successful. For comparability to seed grantees, we compared seed grantee overall applications and success as well, regardless of topic or activity.

Table 4. Comparison of Seed Grantees and Unfunded Seed Grant Proposals and External Sponsored Program Success, 2004-2010.

	Funded Seed Grant Faculty	Unfunded Seed Grant Faculty
Number of Faculty	68	78
External Application Rate		
Seed Grant Topic	76% (52/68)	Not Available
All Topics	88% (60/68)	64% (50/78)
Success Rate		
Seed Grant Topic	81% (42/52)	Not Available
All Topics	84% (57/68)	86% (43/50)
Overall Success Rate	84% (57/68)	55% (43/78)

Seed grant winners were more likely to submit external proposals both on the topic of the seed grant and other areas of their interest. Both groups of faculty had comparable success when applying for external funding. The bottom line, however, is a significantly (albeit not using a statistical test) greater percentage of seed grant winners wrote proposals and increased the size and scale of their extension and engagement programs.

Seed Grants and Their Impacts

In a detailed analysis of individual projects, specific faculty have been extraordinarily successful in extending their programs beyond that of a seed grant. Three excellent examples include the following: (1) for forensic anthropology that resulted in a Center for Forensics Research and Education, and a recent NSF \$1.3 million grant to strengthen forensic sciences; (2) seed funding was provided to the General H. Hugh Shelton Leadership Initiative, which is now a Center and has developed four Shelton Challenge Summer Institutes for high school students – completely funded by gifts and fees; (3) in the College of Design, one faculty member has built on two seed grants and generated eight community-based projects, leveraging \$247,000, and involving dozens of students and partners.

One could sum the external funding generated by faculty with seed grants, but attributing all such funding to the seed grant would be overreaching. Very conservatively, we estimate that the follow-up grant funding building on the seed grants exceeds \$5.0 million, a return of 7:1 on the \$708,120 invested. An aggressive accounting on all funding post seed grants to these faculty would show well over \$12.7 million in grant awards on projects associated with the seed grant topics, as well as millions of dollars of fee-based programs and significant foundation gifts.

Specific institutional successes include the following:

- In 2004, Dr. Chris Brown and the Kenan Institute won a seed grant to develop a strategic approach to involving the public and private sectors in strengthening and developing the aerospace economy in North Carolina. During the next five years, a number of studies, workshops, conferences, and state of the industry assessments (Asheville, NC, January 30, 2009), were completed (Brown, et al., undated, circa 2008). In 2009, NC State University created the North Carolina Aerospace Initiative (NCAI) with a goal to create an NC Center for Aerospace Research and Development. Internal resources of over \$100,000 were marshaled for NCAI.
- In the College of Education, Jessica DeCuir-Gundy received a seed grant to strengthen the achievement of minority students in the Raleigh area. She then partnered with Dr. Christine Grant in Engineering to win an NSF ADVANCE Leadership Award. This program provides networking support for minority women across the country in STEM disciplines. Dr. Christine Grant, College of Engineering, received seed funding for an innovative engineering faculty-student mentoring summit in which underrepresented minority girls and their mothers were invited to learn more about engineering. Dr. Christine Grant was especially effective at receiving in-kind support for her mentoring summit from seven partners.
- The Center for Environmental Farming Systems (CEFS) won a seed grant in 2007 to develop a community-based food system in Wayne County. CEFS recently announced a W. K. Kellogg Foundation grant (\$1.5 million) to extend its local food systems efforts across the state and a Kellogg gift of \$3.15 million for two endowed professorships.
- The College of Textiles conducted a needs assessment and developed a series of short courses for textile leaders and industry participants. The Textiles Extension Program last year generated nearly a million dollars in fees for its educational program to the industry.
- The NC Sea Grant program received a seed grant to develop a UNC-Television program on North Carolina Now. This very successful three-part series of stories about Sea Grant research and outreach programs has been seen across the state.
- The North Carolina tax system has huge implications for economic development. With two seed grants, Dr. Roby Sawyers, College of Management, has engaged the business community in a comprehensive state and local tax modernization conversation in meetings and workshops. This project supports the Institute for Emerging Issues “Financing the Future” work. If tax laws were changed, the impact of this work on the State will be enormous.
- The diversity of our student body in the next ten years will change dramatically as more Hispanic students come to NC State. With three different seed grants, Dr. Andrew Behnke, Department of 4-Youth and Family and Consumer Sciences, and his colleagues have developed programs that create a Latino parent education network, provide rural safety and health education, and focus on school success of Latino children.
- The Great Smokies Community and Leadership Development Institute was held in Waynesville with partial funding from the seed grant to Mr. Robert Hawk, CES county community development field faculty member.

- The Science House has received two seed grants to extend science related outreach to K-12 students and teachers across North Carolina. It recently announced two major NSF grants to expand and extend its efforts on preparing rising 10th graders for careers in scientific fields, and in the FREEDM System Center for K-12 outreach with its pre-college partners to provide energy related outreach and educational programs. A Golden LEAF Foundation grant is supporting satellite offices in Asheville, Edenton, Fayetteville, Jacksonville and Lenoir, providing services to 4,400 teachers and 27,000 students annually.
- Dr. John Begeny, assistant professor Department of Psychology, received two seed grants. He works not only with community partners at the institutional level: the school teachers, counselors, and volunteers; but also directly with parents and elementary school children. He has created a nonprofit organization Helping Early Literacy with Practice Strategies (HELPS), a One-on-One Program and associated HELPS Curriculum. John is an active and prolific scholar, having 25 current publications, including two books, and 18 more completed projects that are in the process of being written for publication. Many publications are co-authored with students and community partners, demonstrating his commitment to collaboration and engagement. The nonprofit foundation John has created, the HELPS Education Fund, is home to two of his books and all his instructional materials, so that his reading programs are available free to schools everywhere. In 2010, NERCHE recognized the work of John Begeny, Assistant Professor of School Psychology at North Carolina State University, with a *Citation for Distinguished Engaged Scholarship*.

Issues for Future Consideration

In addition to the expectation that an awarded seed grant will result in external funding or other forms of institutional support, we have expectations that the faculty will demonstrate the scholarship of engagement (Scholarship of Engagement, 2010), and that their work will result in journal articles as well as reports to the community. We have not analyzed the scholarly output associated with the seed grants and programs that have developed, but it would be a legitimate area of study. Similarly, the impact on a faculty member's reappointment, promotion and tenure would also be an area for follow up. Anecdotally, it is clear that the seed grants have made some faculty members very marketable and they have left for other institutions and in the same vein, faculty have been recommended for successful promotion and tenure within NC State University. The successful reputation for collegiality and partnership has resulted in requests by external agencies for NC State University to become a partner in proposals that these agencies submit. This is particularly the case in the College of Design where they have been actively solicited as a partner in proposals for major housing, urban development, transportation, and environmental design projects.

In the last two years NC State University has also produced, through the help of faculty task forces, two major reports, Benchmarking Economic Development Impacts I & II (2009, 2010) in which we not only want to record the inputs to a program, its activities and outputs, but also the outcomes and impacts including impacts on students and communities involved. Clearly, in such a study as this, we do not address the final outcome or impacts, but we are considering an opportunity to include the benchmarking process as part of our required final report.

The seed grant process itself deserves serious review, insofar as issues of recruiting proposals, reviewing them, the criteria for review, and the follow-up associated with the reporting at the end of the project and the evaluation of the connection with partners and long term impacts are efforts that NC State must seriously consider as next steps.

Implications

In sum, this seed grant program has generated a significant interest on the part of the faculty, the creation of partnerships in all dimensions of the triple helix, external proposals submitted, and generating significant external funding to grow the diversity of programs in extension, engagement, and economic development at NC State University.

Both the statistics and the anecdotal analysis reflect a positive assessment of the value and impact of the seed grant program. Junior faculty are able to initiate extension and engagement programs, build community partnerships, grow the program with external funding, and demonstrate a scholarship of engagement with their publications and reports. Senior faculty initiate new areas of public service and extension work, not likely to be funded by research

agencies, and with demonstrated results are able to expand their efforts with alternative sources of funding from state agencies, foundations, private grants, and fees-for-services, such as the Textiles Extension Education Program. Non tenure track professionals in programs such as The Science House or in the counties have also been able to leverage partnerships and funding to continue efforts started with the seed grants.

These results argue for a continuation, if not an expansion, of the seed grant program.

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