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Integrating Extension and Research Activities: An Exploratory Study

Abstract

The exploratory study reported here examined Extension-research integration activities. Focus group interviews with Extension and research faculty (N=17) revealed several themes, which included: current status of integration activities, perceptions of the roles of Extension and research, barriers to integration, and opportunities for integration. Time, funding, administration-related communication challenges, need for clarification regarding respective roles of collaborators, and lack of incentives and structural support were viewed as barriers. Utilizing faculty joint appointments, networking, involving graduate students in Extension and research activities, and serving on graduate student committees were strategies suggested. Based on the findings, a framework for integration is proposed.

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Introduction

Increased emphasis is being placed on the need for common understanding, expectations, and project language among research and Extension activities. Research and Extension faculty currently hold partly similar and partly dissimilar views about integration efforts.

Over the past two decades, U.S. Extension and research systems have attempted to work together. However, these two entities remain separate and maintain distinct cultural and organizational identities with varied, yet linked missions (Bennett, 2000). Merging the gap between research and Extension is imperative as the need for accountability and documenting evidence of program impact continues to increase.

The rationale for integrating research, Extension, and education is to have a common language to plan, discuss, implement, and demonstrate program performance and accountability. In addition, it is believed that integration efforts will help 1) market Extension programs and research activities to the general public, 2) show how the investment made in research and Extension activities are benefiting federal, state, and local programs and activities, and 3) provide a mechanism to effectively communicate and influence key stakeholders and thereby help them to better understand

and appreciate research and Extension activities of land-grant universities (Radhakrishna, 2009).

The concept of integrating Extension and research dates back to the enactments of the Morrill (1862) and Smith-Lever (1914) Acts. The rationale for this integration was that new research conducted in labs and other facilities at land-grant universities be transferred into practice via Cooperative Extension. Further, problems faced by farmers and the general public relative to a new technology or practice would be conveyed to the researchers and laboratories so that corrections could be made to the new technologies. As years passed, the success of integration efforts between Extension and research has been questioned by faculty, researchers, program leaders, administrators, planners, and government, at both federal and state levels.

Warner, Hinrichs, Schneyer, and Joyce (1998) examined challenges and limitations to involving Extension educators and researchers in research projects designed to test theory. According to Warner et al., collaborations between researchers and Extension educators have traditionally been viewed as a division of labor that distances Extension agents from the research process and the researchers from Extension practice (p.4). They identified several challenges to Extension-research collaboration: 1) diverging views on research design and methodology, 2) the lack of theory used in Extension practice, and 3) different organizational styles and cultures.

Gorsuch (1999), a professor at Clemson University with over 25 years of experience, alluded to weaknesses in the coordination between Extension and research when he wondered why no common codes exist for reporting in the Current Information Research System (CRIS). He made the case for closer collaboration, stating, "the public looks at the end result, not at whether research or Extension was the group that did it" (Gorsuch, 1999). Based on this observation, we must ask what is the value of Extension-research efforts to the public good? Answers to this question will help position us to address accountability issues and stakeholder engagement (Rennekamp et al.; n. d.).

According to Daniel Decker (2004), the Director of Cornell University Agricultural Experiment Station, the traditional model of Extension-research was simple and worked somewhat well, for the roles of Extension and research faculty were rigid and clearly defined. However, given changes in academic expectations and communications technology, a more "transactional" approach to Extension-research integration is needed, in which engagement of researchers, educators, and stakeholders is meaningful and continuous. Key elements of the "transactional" approach include:

1. Educational needs, and related new information required, are identified by engaging stakeholders, Extension educators, and researchers through dialogue and collaboration;
2. The research agenda and priorities are verified by Extension engaging stakeholders, Extension educators, and researchers,
3. Extension educators and researchers work together during the research process, especially at local field sites,
4. Researchers, working collaboratively with Extension educators, identify and provide opportunities to share the purposes and progress of the research with the broad community of relevant stakeholders, and

5. Research findings are integrated with existing knowledge and shared in meaningful terms with stakeholders who can put this knowledge to work.

Several questions must be addressed to develop strategies for effective joint Extension-research activities.

1. How can research and Extension faculty work collaboratively to develop, implement, and evaluate projects/programs?
2. Do they share common views of what a project/program entails?
3. What mechanisms currently exist to encourage and support integration efforts?
4. What are the barriers that limit integration efforts both on campus and in the field, and what strategies do they believe are good for effective integration?

Purpose and Objectives

The overall purpose of the study reported here was to assess the current status of joint Extension-research activities. Objectives of the study were to:

1. Ascertain the views of Extension and research faculty regarding integration activities,
2. Identify facilitating factors and inhibiting barriers to joint Extension-research-activities, and
3. Based on the results obtained from the above two objectives, develop a framework for integrating research, Extension, and teaching activities.

Methods

Upon approval by the Institutional Review Board (IRB) for human subjects, potential study participants were identified from the College of Agricultural Sciences (CAS) at The Penn State University and included faculty with 50% or greater appointments in research or Extension. Department heads/unit leaders in the CAS provided faculty contact information in the form of email addresses, and a purposive sample of faculty possessing the aforementioned appointment criteria were contacted and asked to participate in focus group interviews. Recruitment of faculty across different disciplines within the CAS was attempted in order to maximize diversity in perspective (Creswell, 2007).

To further investigate the experiences and perspectives of faculty regarding their integration strategies and activities, a qualitative research approach was used (Creswell, 2007; Creswell & Clark, 2011; Krueger & Casey, 2009). Two focus group interviews were conducted: one including a sample ($n = 8$) of research faculty and one containing a sample ($n = 9$) of Extension faculty members. Interviews with research and Extension faculty were conducted separately in order to create a comfortable atmosphere among faculty members that would elicit honest and critical reflection

(Morgan, 1997).

A nine-question interview protocol was developed and comprised of open-ended questions that emphasized the purpose of the study. Interview guides are important to structure the dialogue to ensure that critical topics are addressed (Creswell, 2007). Participants were provided a brief introduction and background for the study and subsequently asked to respond to the nine interview questions. However, the protocol was semi-structured in design to allow for deeper, probing questions based on the participants' responses. Flexibility during interviews allows participants to actively contribute to the direction of the conversation so that important themes not anticipated by researchers can be explored (Weiss, 1994). Probes were used to deepen the responses to questions, increase the richness and depth of responses, and provide cues to the interviewee about the level of responses desired (Patton, 2008).

The Survey Research Center (SRC) at Penn State assisted in conducting the focus group interviews. Representatives from the SRC served as facilitators for the interview sessions to reduce bias and increase interview efficiency. Focus group interviews were audio recorded and transcribed, with transcriptions serving as the primary data source. Open coding was performed, and the codes were subsequently integrated thematically to allow for an inductive analytic process guided by what the participants said instead of any predetermined ideas of the researchers (Creswell, 2007; Emerson, Fretz, & Shaw, 2011). To enhance validity, member checking was used to confirm the findings and themes that emerged out of transcribed data (Cho & Trent, 2006).

Findings

When the transcribed interviews were analyzed, several themes emerged. The themes and a brief discussion of the themes are provided below.

1. Current status of integration activities,
2. Perceptions of the roles of Extension and research,
3. Barriers existing to integration, and
4. Opportunities for integration

Status of Integration Activities

When asked about their views regarding Extension and research integration activities, participants in both groups agreed that collaborative efforts were occurring throughout many disciplines, which were primarily driven by the mandates of external funding agencies. However, both research and Extension faculty perceived that partnerships were primarily superficial in order to fulfill grant requirements as opposed to building any long-term, mutually beneficial linkages. As one research faculty expressed, "We need to build mechanisms that really just pay more than lip service to this idea [of integration]. We should be meeting with Extension groups that are out there delivering programming in our scientific discipline."

While this insinuates a respect for the contributions that Extension can make to research, Extension faculty expressed feeling that they were less valued than research faculty and that they were incorporated into grant proposals simply to fulfill the requirements. One Extension faculty member explicitly addressed the issue of the ways in which researchers use Extension for the purposes of attaining grants: "I think a lot of examples were researchers wanted to get a grant, and they jumped in at the last minute, a week beforehand. 'We need an Extension [member].' And not only does that make a less proposal; it's kind of an insult to what Extension has to offer."

Roles of Extension and Research

Although Extension faculty felt their work was undervalued, research faculty articulated their respect for their Extension colleagues and the work that they do. Extension, according to one research faculty member, performed an instrumental role in the functioning of the college as the link between the university and the public: "I've learned to value Extension because it's our face to our stakeholders in the state." Research faculty also perceived that Extension grounded their research activities so that they were not abstract exercises but relevant and important to the needs of citizens. One research member described the mutually supportive roles of Extension and research: "We provide the discovery science and the innovation; they then feedback with the need. And that should then enter our pipeline of thinking in terms of what should be done."

Extension faculty agreed with the research faculty that their work was highly important to the land-grant mission, but felt that research was nonetheless more highly valued within the college. Although a few exceptions were reported, Extension faculty perceived that their research colleagues often did not show interest in their work or understand the purpose of Extension: "I don't think research faculty actually understand what we do. I have been in my department for years, and I feel like I have to constantly explain to my colleagues what I do." This is unfortunate, according to Extension faculty, because their applied perspective means that they can help researchers consider the practical implications of their work: "Sometimes we understand better how they apply their science than they do. They're thinking about the next grant, the next step. They really don't think how I can take what I've learned and actually apply it."

Barriers to Integration

Between both the Extension and research groups, lack of funding was cited as a primary barrier that inhibited integration. Although external grants were beginning to increasingly require integration, both groups explained that budget cuts had created difficult financial conditions that made collaboration difficult. Financial barriers extended to the incentive system within the college. As one research faculty explained, "I know clearly what's going to determine whether I get tenured or promoted – number of publications, numbers of grants, and make sure I don't screw up on teaching. And anything I do going out to the farms and doing field days, they'll say, 'Nice job,' but that doesn't show up anywhere." Likewise, the research emphasis created an environment in which Extension faculty felt an imperative to dedicate more of their time to research activities instead of Extension work. Lack of time further prevented higher levels of integration. Even if faculty wanted to collaborate, one research faculty wondered "how flexible can you be when you've already signed all

the contracts and have yourself up to your ears in obligations?"

Although not in the same ways, both the Extension and research faculty groups indicated that the organizational structure of Extension also presented challenges to integration. According to research faculty, rigid requirements within Extension prevented the faculty from having more time to collaborate with researchers. For example, one research faculty identified the expectations of monitoring and evaluating burdensome for Extension faculty: "I feel Extension spends half their time doing stuff and the other half recording and reporting on what they do. And I think the burden of reporting on Extension now is ridiculous." Extension faculty disagreed, explaining that evaluation was essential to document the actual changes that were occurring in society. However, they did also identify a rigid administrative structure that inhibited communication both horizontally across the college and vertically within Extension. One Extension faculty expressed that those perspectives of faculty needed to be better incorporated into decision-making within Extension, and another Extension participant explained that "a growing chasm" existed between department heads and Extension administration.

Opportunities for Integration

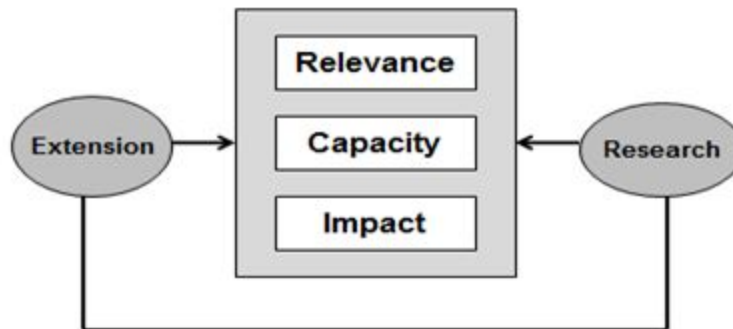
Despite the divergences in perspectives between research and Extension faculty, both groups recognized the value in encouraging their interaction. Both groups perceived that the most viable strategy to support collaboration was through structural changes. Funding opportunities needed to be made more available at the college level that required integration to show its value. As one research faculty described, administration was "doing a fairly decent job of trying to encourage people verbally to [collaborate], but I don't see any mechanisms. There's no money." Likewise, an Extension faculty identified funding as an important attraction to spark collaboration: "You need leadership to put some funds out there to kind of be the glue or be the bait to get people." Leadership within the college could also encourage integration by allowing faculty to explore new areas of specialty as their careers evolved.

In addition, the value of Extension activities needed to be increasingly recognized and rewarded so that the primary motivation to become involved in a project was no longer the potential for publications. One Extension member detailed an experience in which a research colleague declined to collaborate "because it's not publishable." Better communication needed to occur with both administrators and stakeholders. While research faculty expressed concern that the structure of Extension was outdated so that it could not create linkages with emerging stakeholders like in private industry, Extension faculty also recognized that modes of communication needed to be improved so that they could reach a wide range of stakeholders directly instead of through local Extension educators. Another mechanism identified was joint appointments: "The fact that a given faculty member has both a research and an Extension appointment provides for natural integration and is quite beneficial." In addition, networking opportunities available through conferences and seminars, working together in departmental unit teams, and serving on graduate student committees could also spur Extension-research integration.

A Framework for Integration

Based on the findings of the study, we propose a framework for integrating Extension and research activities (Figure 1). The intention of this framework is to address the structural shortcomings identified by research and Extension faculty, as well as to enhance communication networks. Not only was a lack of communication between faculty and administration explicitly identified as a barrier to integration, but the gaps in perceptions between the two groups regarding their roles within the land-grant university indicates a need for better communication networks among faculty members.

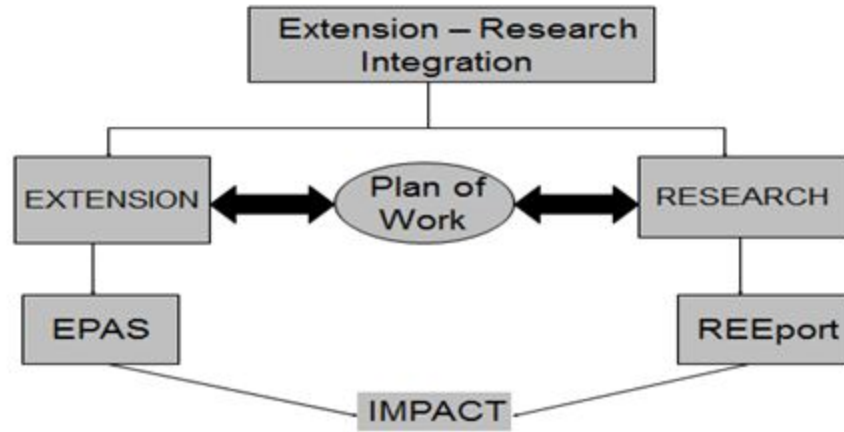
Figure 1.
Framework for Integration



As shown in Figure 1, integration must occur between Extension and research. This is a first requirement to make any dent in integration efforts. The Extension and research administrations should emphasize the importance of integration and collaboration. Integration should occur at the departmental, college, and university levels in order to address critical issues facing society. In addition, three key elements—relevance, capacity, and impact should be considered. Relevance involves addressing critical issues (needs) facing society. Capacity refers to the knowledge, skills, and resources needed to address critical issues. And finally, impact asks the question, "Did we make a difference?"

From the stakeholder and accountability perspectives, efforts should be made to integrate research and Extension activities (Extension Planning and Reporting System-EPAS at Penn State and REEport system, the former CRIS system at the federal level). According to Hewitt (personal communication, October 24, 2012), a majority of states are now submitting integrated plans of work for planning and reporting purposes. We suggest that this should go further. First, one signature program/project in each of the five strategic goals of USDA-NIFA should be identified. Second, the identified programs/projects should be assessed for integration efforts. Third, a systematic and a comprehensive evaluation of integrated efforts should be conducted not only to document outcomes of integration efforts, but also assess of impact of programs/projects on societal impact (Figure 2).

Figure 2.
A Framework for Extension-Research Integration at Planning and Reporting Level



Conclusions and Next Steps

As indicated in the title of this article, the study reported here was exploratory. Results from focus groups have provided the groundwork to develop and design a survey to address the relevance, capacity, and impact of joint research-Extension efforts. Currently, we are crafting a survey using the above themes to collect data from all stakeholders—Extension educators, program leaders, Extension and research faculty, and other advisory groups. Input from these stakeholders will help us develop a strategy to improve and strengthen Extension-research integration efforts.

The study reported here can be useful in determining the value of Extension-research integration efforts. A strong research-Extension linkage will help in broader understanding of past and future benefits of research and Extension efforts to the public good. Further, Extension-research integration will help develop better institutional mechanisms for connecting innovations in research and new knowledge developed to a diverse public who are the consumers of that knowledge.

A greater emphasis of linking basic and applied research must be pursued. Faculty and educators must consider ways to effectively translate the work of Extension that is understandable and impactful to others in the university.

We suggest that a Center for Extension-Research Integration be established in all land-grant universities. The goal of this center should be to identify, develop, implement, and evaluate Extension-research integration efforts. In addition, the center should also serve as a springboard for securing resources for faculty and Extension educators to carry out integration efforts. Further, both research and Extension administration should commit resources to facilitate integration. Perhaps a percentage of research grants secured from both private and public entities should be earmarked for integration efforts.

We believe that Extension-research integration facilitates the integration of a deep understanding of science and technology (through research) with practical knowledge, a hands-on orientation (through Extension), and experimental skills and insights (Extension-research integration).

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