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Strengthening Extension's Capacity to Conduct Public Issues Education Programs: Results of a National Needs Assessment

Loretta Singletary

University of Nevada Cooperative Extension, singletaryl@unr.edu

Marilyn Smith

University of Nevada Cooperative Extension, smithm@unce.unr.edu

George Hill

University of Nevada, Reno, ghill@unr.edu

Steven Daniels

Utah State University, sdaniels@est.usu.edu



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Strengthening Extension's Capacity to Conduct Public Issues Education Programs: Results of a National Needs Assessment

Abstract

This article reports the results of a national survey of Extension professionals to assess their needs to acquire skills to conduct Public Issues Education (P.I.E.) programs. Survey respondents rated all 35 skill needs as either high or moderately high priorities regardless of their geographic region. Some differences in skill need priorities exist at the individual state level, however. These results illustrate a demand for professional development opportunities. While one national curriculum may suffice, professional development may be fine-tuned to address differences in individual states. Professional development may target beginner, intermediate, and advanced skill development levels, depending on individual state needs.

Loretta Singletary

Extension Educator
University of Nevada Cooperative Extension
Yerington, Nevada
singletaryl@unce.unr.edu

Marilyn Smith

Area Specialist
University of Nevada Cooperative Extension
Elko, Nevada
smithm@unce.unr.edu

George Hill

Associate Professor
University of Nevada, Reno
Reno, Nevada
ghill@unr.edu

Steven Daniels

State Extension Specialist
Utah State University Cooperative Extension
Utah State University
Logan, Utah
sdaniels@est.usu.edu

Steven Smutko

State Extension Specialist
Natural Resources Leadership Institute
North Carolina State University
Raleigh, North Carolina
steve_smutko@ncsu.edu

Janet Ayres

State Extension Specialist
Department of Agricultural Economics
Purdue University
West Lafayette, Indiana
ayres@purdue.edu

Kay Haaland

Regional Faculty Leadership and Public Issues Education
Washington State University Extension

Introduction

Increasingly, citizens ask Extension professionals to provide education on contentious public issues involving multiple stakeholders. Public Issues Education (P.I.E.) provides a framework for an educational process that informs and assists citizens in order to improve group decisions about complex issues (P.I.E. Task Force, 2002). Conducting effective P.I.E. programs requires that Extension professionals possess specific knowledge and skills (Patton & Blaine, 2001).

The P.I.E. Task Force is a national group of Extension professionals who have worked together since 1999 to identify skills that enable Extension professionals to conduct effective P.I.E. programs. They have established a set of "core competencies" that include the following broad categories:

- Collect and interpret information about issues, audiences, and educational settings.
- Design, conduct and evaluate the impacts of P.I.E. programs.
- Communicate effectively.
- Facilitate group discussions and decision-making.
- Manage and transform conflict.
- Work with scientific and technical information.
- Create an environment of professionalism (P.I.E. Task Force, 2002).

A complete description and explanation of these core competencies are available through the P.I.E. Web site <www.publicissueseducation.net>.

In 2005, the P.I.E. Task Force conducted a national survey to assess Extension professionals' needs to acquire P.I.E. skills in order to conduct more effective programs. This article discusses the results of this assessment and suggests directions for development of a P.I.E. curriculum for Extension professionals. Additionally, the authors were interested in determining if skill needs differed geographically by Extension region so that future professional improvement opportunities might be tailored to fit each region's unique needs.

Methods and Procedures

For the purpose of the study, a questionnaire was designed to assess Extension professionals' needs to acquire specific skills to conduct P.I.E. programs. Skill items for the assessment were adapted from the "core competencies" described in the previous section. The questionnaire was revised based on the suggestions of a national panel of Extension professionals.

The resulting questionnaire featured 35 skill items considered important for conducting effective P.I.E. programs. Using a Likert scale of 1 (high priority) to 4 (not a priority), Extension professionals prioritized their needs to acquire these skills. In addition, the questionnaire included a number of items to help the authors understand something about the Extension professionals interested in P.I.E. skills and programs.

Because the Task Force desired to survey all Extension professionals nationwide, an Internet survey was designed, and the survey was administered by Internet only (Dillman, 2000). Because state address lists are confidential, in order to contact Extension professionals nationwide, e-mail addresses for each state Extension director were acquired from the USDA-CSREES. Each state Extension director received an e-mail requesting him or her to forward via e-mail the survey cover letter to all Extension appointments statewide. Additionally, to increase response rates, permission was requested to e-mail the cover letter and URL to all 2005 members of National Association of County Agricultural Agents (NACAA), Association of Natural Resource Extension Professionals (ANREP), and National Association of Community Development Extension Professionals (NACDEP). These organizations were targeted because they are perceived to represent substantial Extension programming efforts in public issues and public policy education.

The e-mailed cover letter explained the purpose of the Internet survey and included instructions for completing the survey, the URL for accessing the survey, and an exemption statement approved by University of Nevada Institutional Review Board (IRB). A statement of exemption explained that voluntary completion of the Internet survey indicated their consent to participate in the study. To qualify for an IRB approved exemption, no repetitive contacts with survey participants to encourage survey completion were made.

Results

Approximately 766 completed questionnaires served as the data source for this study. Because some participants did not answer all survey items, the number of responses varies by survey item. Cronbach's coefficient alpha was used to estimate internal consistency of the 35 Likert-type scale items. The Cronbach score was high ($r = .97$) and indicates that there was high internal consistency between the skill items (Carmines & Zeller, 1979).

Survey Participants

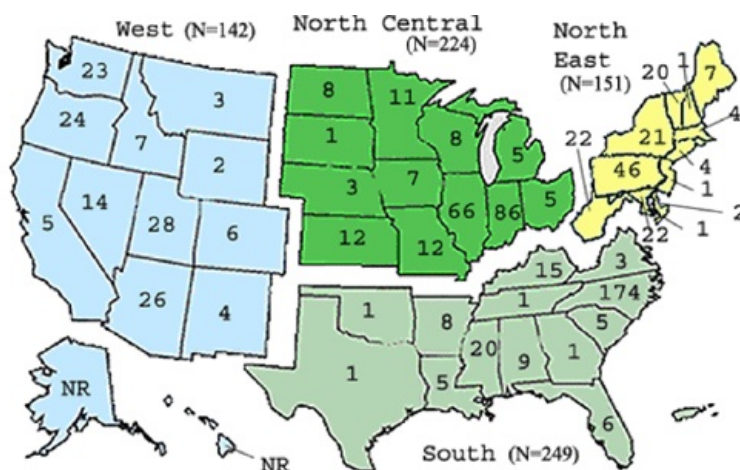
Of the survey respondents, the majority, 49.5% ($n=383$) indicated that they were employed as county educators, while 15.8% ($n=122$) reported they had multi-county responsibilities. Of the remaining respondents, 24.7% ($n=191$) were state specialists, and 7.2% ($n= 56$) were area Extension specialists. Only 2.2% ($n=17$) of the respondents indicated multi-state appointments, while 0.5% ($n=4$) indicated federal appointments.

In terms of Extension work experience, 25.8% worked 5 or fewer years; 27.5% worked 6 to 15 years; 29.7% worked 16 to 25 years; and 17% worked 26 or more years. The majority of survey respondents (29.3%) spent the majority of their Extension time in the area of Agriculture. Other areas represented by survey respondents included Community Development (17.6%); Family Services (16.2%); 4-H and Youth Development (14.6%); Natural Resources (10%); and "other" (12.3%).

In terms of current P.I.E. skills, the majority of survey respondents (49.6%) indicated they were "beginners," while 42.4% described their P.I.E. skills as "intermediate" and 8% as "advanced." The majority of survey respondents (44%) also indicated that they had never received P.I.E. training. Approximately 33% indicated they had received between one and two trainings, while the remainder (23%) had received at least three or more trainings. Finally, the majority of survey respondents (70%) indicated that P.I.E. trainings should be offered at annual professional meetings. In addition, 61% indicated they preferred "in-person" trainings to distance and self-paced trainings.

Figure 1 illustrates the four CSREES-established Extension regions and survey responses by region and by state. Regional participation is fairly evenly distributed, with the largest number of survey respondents representing the Southern region. Because the survey relied on a "relay" e-mail protocol, in some states only one Extension professional, presumably a state Extension specialist, may have received and completed the survey. Thus, the P.I.E. skill rankings for some states represent the perceptions of one Extension professional within that state. In contrast, NC had the highest response rate (174). Due to NC's higher response rate, compared with all other southern states, NC was given special consideration in the statistical analyses. The results from these analyses indicated no significant differences between NC and the rest of the southern states.

Figure 1.
Number of Survey Respondents by Extension Region and by State



Map Outline Source: <http://srdc.msstate.edu/about/rdmap.htm>

Table 1 illustrates mean scores for the 35 skill need priorities nationwide and by region, number of survey respondents, and, in parenthesis, skill rankings. Nationwide, Extension professionals who responded to the survey ranked all 35 skill items as either high or moderately high priorities for acquisition. In fact, no skill item was ranked "not a priority." The top five priority P.I.E. skill needs nationwide are:

1. Help participants move sequentially from problem definition to problem resolution;

2. Help participants define and agree on the problem to be solved and 2. Help participants engage in collaborative decision-making (tie);
3. Help participants separate their interests from their positions on a public issue;
4. Help participants incorporate diverse viewpoints about public issues into their own decisions; and
5. Understand methods for evaluating P.I.E. program impacts and 5. Help participants interact with diverse stakeholders and 5. Help participants evaluate and apply scientific data to resolve a public issue (tie).

Additionally, a Kruskal-Wallis (K-W) test was conducted to determine if there were statistically significant differences between Extension regions' ratings of the 35 skill needs. Results indicate that only 10 of the 35 skill priorities differ significantly by region, and these items are noted with asterisks in Table 1. It is interesting to note that seven of the 10 skills are among the top five nationally ranked skill needs.

A closer look at Table 1 provides some insight into these differences. For example, the skill "Help participants move sequentially from problem definition to problem resolution" is ranked as the highest priority training need nationwide and in all regions with the exception of the Northeast region, which ranked the item as 1.77 on a 4-point scale (a tie for second on their list of priorities). However, the top three skill needs in the Northeast only differ by .01, indicating little difference in ratings of the top three skill need priorities for that region.

Other differences are also noted. For example, while most Extension regions rated the skill item "Help participants incorporate diverse viewpoints about public issues into their own decisions" as 4th or 6th in their list of priorities, the Southern region rated this skill as 12th in their list of prioritized skill needs.

Table 1.
Ranked P.I.E. Skill Needs Means: Comparison of National and Regional Rankings

P.I.E. Skill Acquisition Needs	Nation	South	North East	West	North Central
	N = 766	N = 249	N = 151	N = 142	N = 224
**Help participants move sequentially from problem definition to problem resolution.	1.73(1)	1.86(1)	1.77(2)	1.63(1)	1.62(1)
*Help participants define/agree on problem to solve.	1.77(2)	1.88(3)	1.77(2)	1.66(3)	1.71(5)
**Help participants engage in collaborative decision-making.	1.77(2)	1.91(4)	1.76(1)	1.68(4)	1.67(2)
**Help participants separate their interests from their positions on a public issue.	1.80(3)	1.93(6)	1.81(5)	1.75(7)	1.68(3)
**Help participants incorporate diverse viewpoints about public issues into their own decisions.	1.83(4)	2.01(12)	1.79(4)	1.74(6)	1.70(4)
Understand P.I.E. impact evaluation methods.	1.84(5)	1.91(4)	1.78(3)	1.75(7)	1.84(11)
*Help participants interact with diverse stakeholders.	1.84(5)	1.94(7)	1.90(10)	1.69(5)	1.80(8)
*Help participants evaluate and apply scientific data to resolve a public issue.	1.84(5)	1.87(2)	1.88(8)	1.65(2)	1.88(15)
Protect participants and their ideas from attacks.	1.86(6)	1.94(7)	1.89(9)	1.76(8)	1.83(10)
Understand program impact	1.88(7)	1.97(9)	1.84(7)	1.79(9)	1.87(14)

evaluation criteria.					
Understand how to report P.I.E. program impacts.	1.88(7)	1.93(6)	1.83(6)	1.88(14)	1.85(12)
Help participants create and follow ground rules.	1.89(8)	1.96(8)	1.88(8)	1.88(14)	1.83(10)
Listen actively and respectfully to opposing views.	1.89(8)	1.92(5)	2.05(18)	1.89(15)	1.77(6)
Know when to ask more skilled professionals to help.	1.90(9)	1.92(5)	1.89(9)	1.85(13)	1.91(17)
Help participants improve their listening skills.	1.91(10)	1.91(4)	2.00(14)	1.91(16)	1.84(11)
*Help manage conflict over scientific data.	1.91(10)	1.95(7)	1.98(13)	1.75(7)	1.93(19)
*Help participants use principled negotiation.	1.92(11)	2.06(15)	1.93(11)	1.83(11)	1.82(9)
Help participants evaluate agreements reached.	1.93(12)	2.04(13)	1.90(10)	1.84(12)	1.87(14)
Increase hopes for resolving contentious issue.	1.95(13)	2.05(14)	1.94(12)	1.85(13)	1.90(16)
**Incorporate a range of viewpoints into program.	1.95(13)	2.08(17)	2.00(14)	1.92(17)	1.79(7)
Deal with difficult participants during meetings.	1.95(13)	1.97(9)	2.04(17)	1.80(10)	1.95(20)
Help participants improve relationship-building skills.	1.97(14)	2.00(11)	2.00(14)	1.92(17)	1.95(20)
Help participants improve their communication skills.	1.99(15)	2.04(13)	2.03(16)	1.97(19)	1.92(18)
Sensitivity to gender, ethnic and cultural diversity.	2.00(15)	2.08(17)	2.07(20)	1.99(20)	1.86(13)
Help participants learn technical aspects of issue.	2.01(16)	1.99(10)	2.10(21)	1.88(14)	2.05(24)
Design an educational approach for a P.I.E. program.	2.02(17)	2.07(16)	2.01(15)	2.01(21)	1.97(21)
Manage conflict during a P.I.E. program.	2.02(17)	2.07(16)	2.10(21)	1.89(15)	2.00(22)
Manage technical information to enhance learning.	2.04(18)	2.09(18)	2.06(19)	1.96(18)	2.04(23)
Determine your role in a P.I.E. program.	2.14(19)	2.16(19)	2.13(22)	2.04(22)	2.18(28)
Conduct a situation assessment.	2.15(20)	2.17(20)	2.15(23)	2.11(23)	2.15(26)
Separate your personal values from professional role.	2.17(21)	2.23(21)	2.20(24)	2.12(24)	2.12(25)
Acknowledge participants' political relationships.	2.24(22)	2.29(22)	2.22(25)	2.14(25)	2.27(30)
Structure and facilitate P.I.E. program meetings.	2.29(23)	2.37(23)	2.39(27)	2.24(26)	2.17(27)
Recruit participants and market a P.I.E. program.	2.30(24)	2.39(24)	2.23(26)	2.36(27)	2.23(29)
Conduct a P.I.E. program outside your expertise.	2.61(25)	2.65(25)	2.75(28)	2.51(28)	2.53(31)
Rating Code: 1=High Priority; 2=Moderately High Priority; 3=Low Priority; 4=Not a Priority; Skill ranking shown in parenthesis; **Indicates statistically significant at $p < .01$ and * $p < .05$.					

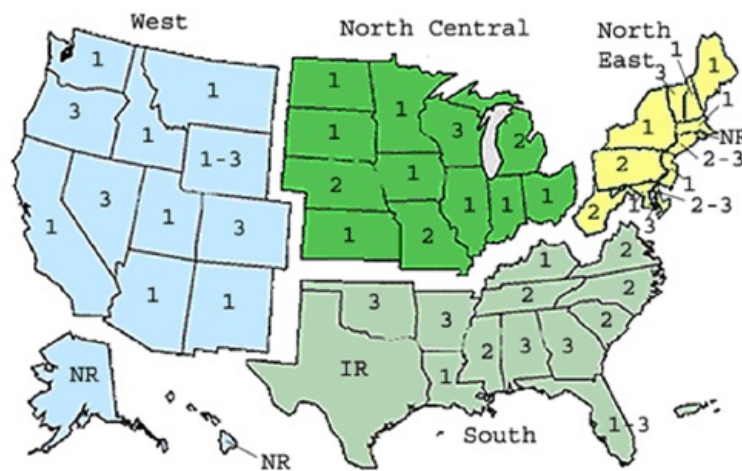
Prioritized P.I.E. Skill Needs by State

To further investigate geographic differences of P.I.E. skill needs, a cluster analysis was conducted for all states that participated, using the top five nationally ranked skill items (8 items total, including tied items). The results show that the majority of states placed either a high (1) or moderate (2) priority on acquiring the top nationally ranked P.I.E. skills (Figure 2). Only 10 states indicated that acquiring this set of skills was a low priority, with four states evenly split between high and low or moderate and low priority ratings. Those states with only one respondent or a high number of skipped items are indicated as IR for "insufficient response" (skipped question items) or NR for "no response."

The results of the cluster analysis by states illustrate that not all Extension regions have uniform perceptions regarding P.I.E. skill needs. When the results are examined from this perspective, several states indicate less extensive skill acquisition needs than others. Wisconsin, for example, is the only state within the North Central region to place a low priority on P.I.E. skills acquisition. Similarly, in the West, only three out of 11 states place a low priority on P.I.E. skill acquisition as compared with a high priority. In contrast, in the South, only Kentucky and Louisiana place a high priority on acquiring P.I.E. skills, with Florida being evenly divided between high and low priority. Finally, in the Northeast, the majority of states indicate a high priority or moderate priority, while only two states place a low priority on skill acquisition. Still, it is interesting to reiterate that at both the national and at the individual state level, no P.I.E. skill need was rated as "not a priority" for acquisition.

The results of the cluster analysis also suggest that although one national curriculum would suffice for teaching P.I.E. skills, definite differences exist with regards to individual state needs. These differences in needs might best be addressed through tailored teaching approaches that identify existing skill levels as beginning, intermediate, and advanced. It is possible, then, that those states that place a low priority on P.I.E. skill acquisition have professional development that targets this need. Thus, those Extension professionals may already possess intermediate to advanced skill mastery. However, another consideration for interpreting the results concerns very low response rates in several states, which may not adequately reflect the perceptions or skill needs for all Extension professionals within that state.

Figure 2.
Cluster Analysis Illustrating Individual States' P.I.E. Skill Priorities



Code: 1 = high priority; 2 = moderate priority; 3 = low priority; NR = No Response; IR = Insufficient Response

Conclusions

Extension professionals who are asked to work with citizens to address contentious public issues can play a critical community role nationwide (Singletary, Hill, Smith, & Corcoran, 2004a, 2004b; Corp & Darnell, 2002). Results of a national needs assessment indicate that the majority of Extension professionals who responded rate their priority for acquiring P.I.E. skills as high or moderately high, regardless of their Extension region. The results of this assessment clearly establish the need to develop a P.I.E. curriculum as well as support trainings in order to help Extension professionals acquire and/or strengthen skills to conduct effective P.I.E. programs. The demand by Extension professionals for such educational materials and trainings is evident nationwide.

Furthermore, the results of the assessment suggest that, in designing a P.I.E. curriculum, one national curriculum may suffice. Professional development trainings, however, should be fine-tuned to reflect the unique skill acquisition needs of individual states. For example, trainings may be tailored to address specific needs of Extension professionals at the beginner, intermediate, and advanced levels. Some states may already have professional development opportunities in place

that enable Extension professionals in those states to possess stronger and more advanced P.I.E. skills. At the least, individualized state trainings could target combinations of adjacent states with similar P.I.E. skill acquisition needs. It must be reiterated, however, that small response rates for some states may not accurately reflect the skill acquisition needs of all Extension professionals within those states. One way to address this issue is to replicate the needs assessment at the state level, stipulating that all Extension appointments, including campus and field faculty, complete the survey.

The P.I.E. Task Force plans to use the results of the national needs assessment presented in this article to begin developing a national curriculum and support trainings that they will test or pilot in individual states. The P.I.E. Task Force is applying the LOGIC model to strengthen the quality and relevance of this program effort. The LOGIC model provides a rational set of procedures for the development of dynamic Extension programs based on an objective assessment to determine program needs (Singletary, 2004). As a precondition for applying the LOGIC model, the task force conducted this national assessment to determine Extension professionals' priorities for acquiring specific skills. The data collected and analyzed for this purpose is being used to determine how best to tailor the educational materials and approach (Hill, 2004). The task force is also attempting to locate funds to support their efforts. Subsequently, the P.I.E. Task Force will provide instruction in P.I.E. skills targeting Extension professionals first. However, the P.I.E. Task Force also recognizes a critical role that involves citizens and other non-Extension professionals as collaborative learning partners in acquiring and strengthening P.I.E. skills.

Recommendations for future research include further scrutiny of these data. Statistical tests could determine, for example, if significant differences exist with regards to perceived P.I.E. skill acquisition needs and years of Extension experience, program subject area responsibility, or geographic program area (state and county). Another question concerns how the P.I.E. skills featured in this survey may be grouped into learning modules, using factor analysis, for example, to ferret out groups of skills that are highly related.

Additional recommendations for future research include replication of a national survey after the national curriculum has been developed and professional trainings provided in the majority of states indicating high priority needs to acquire P.I.E. skills. This survey would again assess skill needs but be used to evaluate the impacts of the national curriculum and support trainings.

Much of what Extension professionals are asked to do in contentious public settings has been defined by Peters (2002a, 2002b) as a kind of "educational organizing." In these settings, Extension professionals develop leadership as well as the capacity for civic engagement. They convene people in order to publicly deliberate and make decisions about important public issues. These types of educational efforts provide practical learning experiences for Extension professionals while also teaching the public how to work together to respond effectively to real problems (Peters, 2002b; Forester, 1999). Thus, future professional development and curricula that seeks to strengthen P.I.E. skills may benefit from inclusion of case studies based on both the successes and failures of Extension efforts. And additional research may seek better understanding of specific skill needs through examination of explicit examples or case studies addressed through community level P.I.E. programs.

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