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Non-formal educator use of evaluation results

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Abstract

Increasing demands for accountability in educational programming have resulted in increasing calls for program evaluation in educational organizations. Many organizations include conducting program evaluations as part of the job responsibilities of program staff. Cooperative Extension is a complex organization offering non-formal educational programs through land grant universities. Many Extension services require non-formal educational program evaluations be conducted by field-based Extension educators. Evaluation research has focused primarily on the efforts of professional, external evaluators. The work of program staff with many responsibilities including program evaluation has received little attention. This study examined how field based Extension educators (i.e. program staff) in four Extension services use the results of evaluations of programs that they have conducted themselves. Four types of evaluation use are measured and explored; instrumental use, conceptual use, persuasive use and process use. Results indicate that there are few programmatic changes as a result of evaluation findings among the non-formal educators surveyed in this study. Extension educators tend to use evaluation results to persuade others about the value of their programs and learn from the evaluation process. Evaluation use is driven by accountability measures with very little program improvement use as measured in this study. Practical implications include delineating accountability and program improvement tasks within complex organizations in order to align evaluation efforts and to improve the results of both. There is some evidence that evaluation capacity building efforts may be increasing instrumental use by educators evaluating their own programs.

Disciplines

Curriculum and Social Inquiry | Educational Assessment, Evaluation, and Research | Educational Methods

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Abstract: Increasing demands for accountability in educational programming have resulted in increasing calls for program evaluation in educational organizations. Many organizations include conducting program evaluations as part of the job responsibilities of program staff. Cooperative Extension is a complex organization offering non-formal educational programs through land grant universities. Many Extension services require non-formal educational program evaluations be conducted by field-based Extension educators. Evaluation research has focused primarily on the efforts of professional, external evaluators. The work of program staff with many responsibilities including program evaluation has received little attention. This study examined how field based Extension educators (i.e. program staff) in four Extension services use the results of evaluations of programs that they have conducted themselves. Four types of evaluation use are measured and explored; instrumental use, conceptual use, persuasive use and process use.

Results indicate that there are few programmatic changes as a result of evaluation findings among the non-formal educators surveyed in this study. Extension educators tend to use evaluation results to persuade others about the value of their programs and learn from the evaluation process. Evaluation use is driven by accountability measures with very little program improvement use as measured in this study.

Practical implications include delineating accountability and program improvement tasks within complex organizations in order to align evaluation efforts and to improve the results of both. There is some evidence that evaluation capacity building efforts may be increasing instrumental use by educators evaluating their own programs.

Introduction

Program staffs in organizations of all sizes are increasingly responsible for conducting program evaluations. This study examines how non-formal educators in a complex organization use the results of evaluations that they have conducted. Field-based Extension educators are the program staff conducting non-formal educational programs in the Cooperative Extension System. Extension educators were surveyed to explore if and how they use evaluation results.

The work of professional evaluators has been well researched but little is known about the evaluation work of program staff (Norland, 2005; Patton, 2008). Most evaluation use studies have focused on the fields of formal education and government programs (Johnson, Greenseid, Toal, King, Lawrenz, & Volkov, 2009; Norland, 2005). Growing demands placed on non-formal educators for accountability, outcome reporting and demonstration of program impacts indicate a growing need to understand the evaluation efforts of non-formal educators (Norland, 2005). It is important to understand how program staffs use evaluation results so that educational organizations can continue to meet the increasing demands for accountability and reporting as well as continue to provide programs that meet the needs of the community and stakeholders.

Non-formal educators have many job responsibilities and may not have any formal training in program evaluation (Norland, 2005). These educators may be responsible for some or all of the program evaluation process including evaluation planning, evaluation implementation, reporting and use. If and how evaluation results are used in organizations where program staff conduct evaluations of their own programs may be different from organizations that have professional evaluators conduct evaluations as external reviewers.

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The Cooperative Extension System: A complex organizational system

The United States Department of Agriculture (USDA) established the Cooperative

Extension System (CES) in 1914 to educate citizens with scientific, research-based information.

The cooperating universities are the land grant institutions in each state (Seevers, Graham &

Conklin, 2007). There are currently 57 Cooperative Extension Services operating through the

land grant universities in each state and U.S. Territory (National Institute for Food &

Agriculture, 2009).

Cooperative Extension organizational structures and programming foci differ by state;

however there are some similarities across states. Typically, Extension services offer locally-

based programming in four broad areas; youth development, agriculture and natural resources,

family and consumer sciences and community development (Seevers, Graham, & Conklin,

2007). Educators employed by CES work in local county or city offices to deliver programs

based on community needs. These educators offer non-formal educational programs to local

citizens and have different job titles in different states. For ease of understanding, this study

refers to all field-based educators in CES as "Extension educators."

Funding for local programming typically comes from a mix of federal, state and local

funds (Franz & Townson, 2008). Many Extension educators also take advantage of grant

opportunities. As a result of this funding mix, Extension educators often have to meet reporting

requirements from USDA, state governments, local governments and possibly grant funders.

One recommended method for increasing and improving program evaluation in CES is to use

reporting requirements of funders to encourage locally based Extension educators to conduct

evaluations of their own programs (Lambur, 2008; Taylor-Powell & Boyd, 2008). In this model,

educator conducted evaluations are intended as a means for accountability and program improvement. Extension educators are encouraged to conduct evaluations to meet reporting requirements while also learning more about the impacts of their programs.

Evaluation use

Evaluation researchers have been debating the meaning of "use" since the 1970s when evaluation became a topic of study. Initial definitions of use were narrow in scope and included only "immediate, concrete and observable effect on specific decisions and program activities resulting directly from research findings" (Patton, Grimes, Guthrie, Brennan, French & Blyth, 1977, p. 61). Beginning in the 1980s, researchers began to broaden the concept of use to include activities such as learning from the process of conducting the evaluation, increasing stakeholder awareness of program impacts and outcomes and thinking about the evaluation (McCormick, 1997). More recently, Kirkhart (2000) and Henry and Mark (2003) have called for consideration of a broader construct of use to include evaluation influence. Patton (2008) now defines use as "how real people in the real world apply evaluation findings and experience" (p. 37).

As the discussion and debates on what constitutes use have broadened over time, various "types" of use have been proposed and examined. McCormick (1997) and Crottie (1993) conducted empirical studies based on three types of use first proposed by Leviton and Hughes; instrumental use, conceptual use and persuasive use. In a study of evaluation theories, Fleischer and Christie (2009) identify five types of use from the literature adding Patton's process use and Weiss' enlightenment to those proposed by Leviton and Hughes. This study focuses on four types of use; instrumental, conceptual, persuasive and process use.

Instrumental use occurs when decision makers use the findings to change or modify the program in some way (Fleisher & Christie, 2009; McCormick, 1997; Shulha & Cousins, 1997). It represents what Patton (1977, 2008) and Weiss were originally defining as "use." The information gathered is used in a direct, concrete way or applied to a specific decision (McCormick, 1997). Mayhew (2008) focused on instrumental use in a study of how the relationship between funders and recipients affects use of evaluation findings.

Conceptual use occurs when the evaluation findings help the program staff or key stakeholders understand the program in a new way (Fleisher & Christie, 2009). Conceptual use may be important in educator conducted evaluation situations because it results in a better or new understanding of the program rather than direct action. Weiss, Murphy-Graham and Birkland (2005) point out that conceptual use has also been called "enlightenment," "organizational learning" and "cognitive processing." Inexperienced evaluators may be more likely to exhibit conceptual use as the associated behaviors are within the repertoire of most people (McCormick, 1997). Conceptual use may elevate understanding in a larger context than the specific context of the program (Weiss, Murphy-Graham & Birkland, 2005).

Persuasive use has also been called political use and is not always viewed as a positive type of use (McCormick, 1997). Examples of negative persuasive use include using evaluation results to justify or legitimize a decision that is already made or to prove to stakeholders or other administrative decision makers that the organization values accountability (Fleisher & Christie, 2009). It is sometimes considered a political use of findings with no intention to take the actual findings or the evaluation process seriously (Patton, 2008). Recently persuasive use has not been

viewed as negatively as it once was (McCormick, 1997; Mayhew, 2008). The potential for both positive and negative uses of findings is most evident in the persuasive use category.

The fourth type of use was proposed by Patton and is called "process use." Patton (2008) defines process use as "cognitive, behavioral, program, and organizational changes resulting, either directly or indirectly, from engagement in the evaluation process and learning to think evaluatively" (p. 109). Process use therefore results not from the evaluation findings but from the evaluation activities or process.

The types of evaluation use most widely referenced by the literature include instrumental, conceptual, persuasive, and process. Conceptual use is often the most commonly found type of use as it does not result in direct action based on the findings (Mayhew, 2008; McCormick, 1997). Instrumental use results in direct action as a result of the evaluation findings and may be more common in the smaller scale studies conducted by Extension educators. Persuasive use can be related to accountability efforts. Since Extension educators often initially conduct evaluations to meet accountability or reporting requirements one might argue that there is evidence of some persuasive use in educator conducted evaluations in CES. Process use has been identified in CES evaluation studies by both Patton (2008a) and Duttweiler (2008) and may be most evident in states that incorporate logic modeling as part of the programming process.

Non-formal educational evaluation

The unique nature of conducting evaluations in non-formal educational settings such as CES is captured in a 2005 issue of New Directions for Evaluation dedicated to non-formal educational evaluation. In the opening chapter, Norland (2005) states, "The importance of using evaluation has been heartily argued and widely accepted as all but routine in the traditional,

formal education domain. There is less evidence, however, of that recognition and acceptance in non-formal education programs and settings" (p. 5). Norland points out some of the challenges for evaluating non-formal educational programs including decentralized programming, program elasticity or fluidity, lack of dedicated funding and programmatic outcomes for "person-centered life skills and behaviors" (p. 9). Several other authors describe specific evaluations of non-formal educational programs conducted by external evaluators (Somers, 2005; Wiltz, 2005).

Program evaluation has become a job responsibility for many Extension educators in the last decade (Rennekamp & Engle, 2008). Typically program evaluation is emphasized as a means to reporting requirement ends, although in some Extension services, emphasis has also been placed on building evaluation capacity among field based Extension educators so that results can be used for program improvement (Taylor-Powell & Boyd, 2008; Patton, 2008a). Teaching non-formal educators to conduct their own evaluations typically focuses on traditional evaluation skills and does not necessarily address broader issues of using the findings (Norland, 2005; Taut, 2007). Although there are many evaluation studies of Extension programs published, little evidence was found of studies emphasizing use.

Duttweiler (2009) reviewed the *Journal of Extension* for articles published in the last ten years to examine similar questions of evaluation use and implementation in Extension. Duttweiler identified 669 articles representing work from 48 states as meeting his criteria for evaluation studies. These articles were examined for evaluation level and purpose. Most of the studies were conducted for program improvement (40%) or evidence of effectiveness (35%). The remaining 25% of the studies were conducted for needs assessment. To examine the use of these studies, a small sub-sample of exemplary studies (n=9) was identified. Study authors were

contacted and interviewed to find out if the reported evaluations resulted in changes in practice. Duttweiler concluded that there is clear evidence of "actual and substantive program modifications" (p. 99) as a result of the use of the reported evaluations.

Evidence of evaluation use in Extension is important to establish before factors influencing use and types of use can be examined, pointing to the importance of Duttweiler's work. Patton (2008a) also validated use in an Extension setting by noting the growing use of logic models as part of program planning, which may lead to process use. Other evaluation studies in Extension settings support the development of evaluation skills in non-formal educators through evaluation capacity building and nurturing an evaluation culture (Arnold, 2006; Douglah, Boyd & Gundermann, 2003).

Methods

A panel of Extension evaluation experts identified Extension services that have a strong reputation for conducting program evaluation in each Cooperative Extension region of the country. Extension Directors, the CEOs of Extension services, granted access to the program staff their systems. An Extension administrator in each state was interviewed informally to ensure inclusion of all potential types of professional Extension educators across all programmatic disciplines. Para-professional and part-time educators were not surveyed because their evaluation duties are generally limited to data collection rather than the entire evaluation design, implementation and analysis. Non-formal educators in identified states were invited to participate in an anonymous, confidential online survey.

Procedures

The four Extension systems recommended by the panel of experts were contacted to participate in the study. The first point of contact for each system was an Extension administrator. Once approval for participation had been granted, the Extension Director or his or her designee sent an email introducing the study and informing educators that they would be contacted by the researcher to participate in the study. Each system provided a contact list of field based Extension educators. Invitations were personalized to each educator so that non-respondents could be tracked, however, responses were anonymous. The survey was administered online using SurveyMonkey™ (www.surveymonkey.com, Palo Alto, CA). Web-based surveys have been shown to be an effective way of collecting survey data with audiences that have good access to the Internet such as field based university educators (Dillman, 2009). The first invitation was sent approximately 24 hours after the introductory email sent to participants from their Extension administrator. Three more invitations were sent to non-respondents at intervals of seven to ten days (Dillman, 2009). The first invitation was sent to 1125 Extension educators. Twenty six potential respondent emails were rejected as either no longer valid email accounts or as having previously opted out of SurveyMonkey. A total of 1099 valid emails were sent invitations with 730 (66% response rate) educators responding to the survey. Although differences between respondents and non-respondents are unknown, errors related to non-response are minimized when the study does not generalize to a larger population.

Instrument

The questionnaire was comprised of previously used instruments with the addition of some researcher designed questions. The questionnaire instructed respondents to answer

questions based on the most recent program evaluation that they conducted themselves. The questionnaire included demographic questions as well as items measuring evaluation characteristics, organizational characteristics and type of evaluation use. Demographic questions included institutional affliliation, disciplinary focus, years employed in current position, age and level of education. The question "do you conduct program evaluations as part of your job" was used as a filter question. Respondents answering "yes" continued to the next page whereas respondents answering "no" were directed to the thank you page. Respondents answering "no" were removed from the data set.

This paper focuses on the type of evaluation use practiced by Extension educators conducting evaluations of their programs. The questions related to type of evaluation use are adapted from McCormick (1997). Process use questions were developed by the researcher based on the work of Taylor-Powell and Boyd (2008). Reliability measures for the McCormick items related to conceptual (12 items), instrumental (15 items) and persuasive use (17 items) range from $\alpha = .79$ to .90. Process use items had an alpha of .79. Type of evaluation use was measured on a five point Likert scale from "Strongly Agree" to "Strongly Disagree." Respondents were asked, "to what extent do you agree or disagree that you were able to use results in the way indicated?" Sample items include "encouraged others to accept the evaluation results" and "used results to advocate for the program."   Types of use scales include different numbers of items; therefore sums were then averaged to allow for comparison across type. A score for total use was constructed by summing each type of use. A pilot test of the instrument was conducted with Extension professionals from Virginia to confirm reliability and validity.

Data Analysis

  The primary research question was: How do non-formal educators use the results of evaluations? Exploratory factor analysis was used to examine types of use. Exploratory factor analysis examines the measurement of each type of use and helps determine how distinct the factors are from one another. Factor analysis is a common statistical technique for examining and sometimes verifying measurement constructs. Items that correlate highly with one another are placed together resulting in separate "factors" within an instrument (Keith, 2006). Exploratory factor analysis was conducted on all items measuring evaluation use. McCormick's study did not include factor analysis as part of the process of instrument development due to a small sample size although she did recommend future researchers conduct factor analysis. The instrument originally included seven items measuring process use, 12 items measuring conceptual use, 17 items measuring persuasive use and 15 items measuring instrumental use. Exploratory factor analysis using principal component analysis with a varimax rotation was run on all items. Six factors were identified with eigenvalues of greater than one and loading higher than 0.60. Items that did not fit were removed and factor analysis was performed again using principal component analysis with a varimax rotation. The initial fit for items was determined numerically based on eigenvalues and factor loading. Four components emerged from the second factor analysis with eigenvalues above 1.0 and strong loading. Table 1 presents the rotated component matrix for the four types of use.

Table 1

Rotated Component Matrix (N=610)

Item	Conceptual Use	Instrumental Use	Persuasive Use	Process Use
Criticized validity of the evaluation results	.87			
Criticized usefulness of the evaluation results	.89			
Considered how to oppose the evaluation results	.83			
Rejected/disregarded the evaluation results	.81			
Encouraged others to reject the evaluation results	.67			
Used the results formally in document for readers within and beyond your organization			.67	
Used the results to interest others in the program			.79	
Used results to convince others of the value or merit of the program			.80	
Used results to lobby for support or resources			.70	
Used results to advocate for the program			.73	
Used results to show mis-alignment between organizational values and practices		.74		

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Used results to show unethical behavior of organizational members	.87	
Used results to re-align political opposition for the program	.83	
Used results to radically transform the program	.70	
Used results to decide to cancel the program	.67	
Theory of change written or developed		.73
A logic model was developed or changed		.82
Evaluation planning became part of the overall program		.62
New evaluation skills were learned		.66

ANOVA and t-tests were used to determine differences between groups. Groups explored for differences in use included early, mid and late career educators, educational field (agriculture, natural resources, youth development, family and consumer sciences and community development), and length of program as measured by client contact hours. The assumptions of normality were checked by level of skewness and kurtosis.

Study Limitations

There are several limitations associated with the use of self-reports. Non-formal educators were asked to answer questions about their work from their own perspective without taking into account the potentially important perspectives of others in the organization, stakeholders and community members. Educators may want to be perceived in the most positive

light and therefore over estimate their use of evaluation findings. Educators may also have different ideas of what entails "evaluation." Despite a definition of evaluation appearing early in the survey some educators may believe that they conduct evaluations when in fact, they are conducting satisfaction surveys or evaluating single activities or workshops rather than programs.

A final limitation of the study is that results should not be generalized to the larger Cooperative Extension System or other non-formal educational settings. The organizations surveyed represented exemplary evaluation institutions rather than randomly sampled Extension services.

Results

Demographics

Responding educators worked primarily in the program areas of Agriculture and Natural Resources (35.9%), Family and Consumer Sciences (26.7%) and 4-H Youth Development (21.7%). Community development educators (5.4%), Horticulture educators (4.8%), and Forestry educators (1.9%) represented a small portion of the educators responding and 3.7% of the respondents worked in other program areas.

Years of experience in the educator's current position was dominated by the upper and lower ends of experience, with fewer "mid-career" educators. Almost 20% of respondents had twenty or more years of experience while 23% of respondents had three or fewer years of experience. Eighteen percent (18%) of respondents had four to six years of experience, 11% had seven to nine years of experience and 20% had ten to 15 years of experience. Only 9% of educators had between 16 and 20 years of experience.

More than half (52%) the respondents were over 45 years of age and 45% were between

25-44 years of age with less than 2% between 18-24 years of age, reflecting the requirement for

educators to have a master's degree in some states. The population is well educated with 75% of

educators holding a master's degree and 5% a doctorate. An additional 10% have had some

graduate education but do not hold an advanced degree.

Extension Educator Use of Evaluation Results

The survey measured process use, conceptual use, persuasive use and instrumental use.

The most frequent type of use was persuasive use with a mean score of 3.99 (Table 2).

Instrumental use was the least practiced use with a mean score of 1.89.

Table 2.

Frequency of Type of Use

Type of use	N	Cronbach's Alpha	Mean score (5 pt. Likert)	SD
Persuasive	610	.86	3.99	.66
Process	603	.72	3.12	.73
Conceptual	602	.79	2.22	.88
Instrumental	603	.90	1.89	.53

Persuasive use. Persuasive use occurs when findings from the evaluation are used to

persuade, inform or educate others such as decision makers or stakeholders (Johnson et al., 2009;

Patton, 2008). Persuasive use was measured using 17 items on a five point Likert scale

(McCormick, 1997). Exploratory factor analysis using varimax rotation identified one factor

containing five items (α=.86, eigenvalue=1.95). Items that were removed were, "used results to

teach others about evaluation practice," "used results to enhance organizational commitment to

and understanding of the program," "used results to retain your role in the program," "used results to promote further evaluation," "used results to meet contractual or legal requirements," "used results to meet accreditation/licensing requirements," "used results in application for further funding," "used results to advocate against the program," "used results to re-align political support for the program." Three items that were originally conceptualized as persuasive use were found to fit better numerically and conceptually with instrumental use. Table 3 displays all items with factor loadings for retained items.

Table 3.

Factor Loadings for Persuasive Use Exploratory Factor Analysis (N=610)

Item	Persuasive use
Used the results formally in documents for readers within and beyond your organization	.67
Used the results to interest others in the program	.79
Used results to convince others of the value or merit of the program	.80
Used results to lobby for support or resources	.70
Used results to advocate for the program	.73

Process use. Process use occurs when participants in the evaluation process learn from engaging in the evaluation rather than from the evaluation findings alone. Changes are made based on the process of the evaluation rather than the findings (Johnson et al., 2009; Patton, 2008). The instrument included seven items measuring process use (Taylor-Powell & Boyd, 2008) on a five point Likert scale. Exploratory factor analysis using a varimax rotation revealed four items loaded on one factor (α=.72, eigenvalue=1.31) while three items failed to load with an

acceptable value greater than .60. The items deleted from the scale were, "outcomes were strengthened or improved," "data were used to make decisions," and "lessons learned during the evaluation were applied." Table 4 displays the factor loadings for process use items. .

Table 4.

Factor Loadings for Process Use Exploratory Factor Analysis (N=603)

Item	Process Use
Theory of change written or developed	.74
A logic model was developed or changed	.82
Evaluation planning became part of the overall program	.62
New evaluation skills were learned	.66

Conceptual use. Conceptual use occurs when findings from a program evaluation inform how people understand or think about the program (Johnson et al., 2009; Patton, 2008). Conceptual use was measured using 12 items (McCormick, 1997) on a five point Likert scale (McCormick, 1997). Exploratory factor analysis with a varimax rotation reduced items from 12 to five (α=.90, eigenvalue=5.43). Items removed from the scale were, "thought about evaluation results," "considered how the evaluation results fit with your experience/other evaluation findings," "considered evaluation results/future implications but postponed action," "learned more about the organization or program," "encouraged others to accept evaluation results," "re-envisioned the important effects of the program," "understood others perceptions of the program better." Table 5 displays factor loading for conceptual use items.

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Table 5.

Factor Loadings for Conceptual Use Exploratory Factor Analysis (N=602)

Item	Conceptual Use
Criticized validity of the evaluation results	.87
Criticized usefulness of the evaluation results	.89
Considered how to oppose the evaluation results	.82
Rejected/disregarded the evaluation results	.81
Encouraged others to reject the evaluation results	.67

Instrumental use. Instrumental use occurs when findings from a program evaluation result in direct action or decision making (Johnson et al., 2009; Patton, 2008). Instrumental use was measured using 15 items on a five point Likert scale (McCormick, 1997). Items removed from the scale were, "used results to increase funding," "used results to decrease funding," "used results to initiate small changes/modifications," "used results to intentionally keep the program the same," "used results to redefine program participants or eligibility requirements for program," "used results to make decisions regarding program improvement," "used results to reorganize or restructure the program," "used results to allocate rewards or sanctions," "used results to alter policies that govern the program," "used results as a diagnostic resource for planning," "used results to alter the management or administration of the program," "used results to decide to continue the program," "used results to further evaluation needs." An additional three items were added to instrumental use, "used results to show mis-alignment between organizational values and practices," "used results to show unethical behavior of organizational members," and "used results to re-align political opposition for the program." These items were

originally conceptualized as types of persuasive use, however upon further data reduction these items appeared to be a better fit with instrumental use. The items include the verbs "show" and re-align" which imply that specific action was taken by the evaluator which is consistent with instrumental use. Table 6 shows the factor loadings for instrumental use items.

Table 6.

Factor Loadings for Instrumental Use Exploratory Factor Analysis (N=603)

Item	Instrumental use
Used results to radically transform the program	.70
Used results to show mis-alignment between organizational values and practices	.74
Used results to show unethical behavior of organizational members	.87
Used results to re-align political opposition for the program	.83
Used results to decide to cancel the program	.67

Group Differences

The population was examined for differences in use between program area educators, educator length of time in current position, total client contact hours for the program under evaluation and evaluation purpose. There were no significant differences in total use based on program area, however there were significant differences (p<.05) in mean scores for persuasive use and instrumental use based on program area. Educators identifying themselves as family and consumer science educators (n=165) had higher means on persuasive use (x=4.098) than other program areas with Forestry educators (n=11) having the lowest mean score (x=3.436). The

highest mean score on instrumental use was for Horticulture educators (n=26, mean=1.954) with Forestry educators having the lowest mean score (x=1.580).

There was also no significant difference in total use based on the length of time the educator worked in their current position. There was a significant difference (p<.01) in mean scores for instrumental use based on length of service. Educators working three years or less had the highest mean (x=2.104) scores on instrumental use, followed by educators with 4 to 6 years (x=1.958) and 2 to 9 years (x=1.840). Educators working 16 to 20 years had the lowest mean scores (1.636).

Educators were also grouped according to number of client contact hours for the evaluated program. In Extension, educators often conduct events, activities or workshops in addition to more comprehensive programs. A long standing challenge in Extension is to encourage evaluation of programs rather than shorter events or activities. For the purpose of this study, a minimum of six client contact hours was used to define an educational process as a program. Three hundred forty two (342) respondents indicated that the program that they evaluated lasted at least six hours and 248 educators conducted programs of less than six hours. There was a significant difference between the two groups on process use and persuasive use (Table 7). There was no significant difference in conceptual use, instrumental use or total use between the two groups. The group conducting evaluations of programs had significantly higher mean scores on persuasive use and process use than the group conducting evaluation of events or activities. The group conducting evaluation of events had higher mean scores on conceptual use, and instrumental use than the group conducting evaluation of programs although the differences were not significant.

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Table 7.

Differences in Evaluation Use by Program Hours

Type of use	t	df	Program Group (hours ≥ 6) N=342		Event group (hours<6) N=248	
			Mean	SD	Mean	SD
Persuasive use	3.42**	569	4.07	.63	3.88	.69
Process use	2.39*	563	3.17	.70	3.01	.75
Conceptual use	0.89	562	2.20	.89	2.27	.86
Instrumental use	0.48	562	1.87	.73	1.90	.73
Total use	1.47	517	2.82	.48	2.76	.48

** p<.001, *p<.05, t= ±1.96

Respondents were also asked the purpose of the evaluation they conducted. Respondents could choose the primary purpose from a drop down menu. Table 8 presents the frequencies and percentages for each purpose. The most frequent purpose that motivated an educator's evaluation activity was determining outcomes or impacts, accounting for 63%. This is an expected result based on the reporting requirements for most Extension services. Fourteen percent of respondents indicated that their purpose was customer satisfaction or educational methods improvement. The remaining potential purposes represented less than 5% of respondents.

Table 8.

Frequency and Percentage of Evaluation Purpose (N=628)

Purpose	Frequency	Percent
Determining outcomes or impacts	391	62.3
Educational methods improvement	85	13.5
Customer satisfaction	85	13.5
Audience analysis	23	3.7
Needs assessment	22	3.5
Improvement of internal operations	16	2.5
Curriculum design	5	0.8
Marketing study	1	0.2

Discussion

The purpose of this study was to examine how non-formal educators use the results of program evaluation. In the Cooperative Extension Service Extension educators often have responsibilities for program management and program evaluation. Most published evaluation use studies have been conducted as case studies with evaluations conducted by professional evaluators (Cousins & Leithwood, 1986; Johnson et al., 2009). The conceptual framework used here was based on utilization focused evaluation (UFE) theory and recent comprehensive literature reviews of evaluation studies. Data were collected from Extension educators in four states through an online survey. Exploratory factor analysis revealed four types of evaluation use for this population.

Non-formal educator use of evaluation results

Persuasive use. The most frequent type of evaluation use by Extension educators is persuasive use. Persuasive use involves action to inform or educate others about the program. Extension educators often have to advocate for their programs on the local and state level, particularly in times of tight budgets. The higher frequency of persuasive use also corresponds with higher percentage of respondents indicating their primary purpose for the evaluation was to document impacts and outcomes. This finding may be a reflection of the context of the current state of the economy and the effort of Extension educators to show a return on investment for their programs.

Historically, persuasive use of evaluation results was viewed as a political use and therefor viewed negatively (Patton, 2008). For example, selecting only positive results to present to a funding agency while ignoring or failing to report negative results would be considered a political type of persuasive use. In the context of Cooperative Extension, the prevalence of persuasive use may have more to do with the job expectations and the emphasis on sharing program impacts with supervisors and stakeholders. Most Extension educators submit annual faculty reports that are required to include program impact statements; this would be a type of persuasive use that is not a negative political act but rather a job requirement. Extension educators in the four states surveyed indicated that they used their results in formal reports, to interest others in the program, to convince others of the value or merit of the program, to lobby for support or resources and to advocate for the program.

Process use. Process use indicates a level of learning and application based on the evaluation process rather than the evaluation findings. Greater levels of process use are

consistent with the current emphasis on building evaluation capacity in Extension organizations (Taylor-Powell & Boyd, 2008). Process use included developing a theory of change for the program, writing or altering logic models, integrating evaluation planning in the overall program and learning new evaluation skills. Higher process use is consistent with the notion that most Extension educators are not trained professional evaluators but rather subject matter educators. As educators in specific subject areas, Extension educators may lack the skills needed to conduct high quality evaluations, thus considerable time may be spent teaching Extension educators how to conduct quality evaluations beginning with understanding and using theories of change, logic models, planning for the evaluation and building new evaluation skills.

It is also possible that because of the emphasis placed on evaluation capacity building in the Extension services surveyed there may be an element of social desirability in the responses. The educators know that evaluation learning is valued by their organization and may therefore be inclined to give positive responses to questions related to process use.

Conceptual use. Conceptual use is characterized by changes in how educators, stakeholders or participants understand or think about the program based on the findings. For Extension educators in the sample, conceptual use included criticizing the validity of the results, criticizing the usefulness of the results, considering how to oppose the results and encouraging others to reject the evaluation results. The items respondents had available were a mix of negative and positive statements however, conceptual use for this sample took a negative "tone" with an emphasis on rejecting or opposing results. It is not clear from the study why conceptual use focused on negative uses. Perhaps the results were not consistent with the educators

experience with the program, the results were not useful or they fight a positive self-bias. One respondent provides some insight into negative opinions about the usefulness of evaluations:

>As far as I can tell by observing and listening to other Extension employees, evaluations are largely [to] be conducted at the directive of administration, not because Agents/Specialists are conducting a serious review of program efforts or effectiveness. As a result the evaluations are misguided due to lack of interest by Agents/Specialists and administration's desire to have "successes" to utilize. As a result, the information generated is biased toward producing overly positive results that administration indicates it wants not to gain a full understanding of clientele needs, program improvements, practice adoption, or knowledge gain. (Respondent #624)

Instrumental use. Instrumental use involves taking direct action or making decisions based on the evaluation findings. It has the lowest level of use for Extension educators. Instrumental use for this sample of Extension educators involved using the results to transform the program, using the results to cancel the program or using the results to demonstrate misalignment between organizational values and practices, to demonstrate unethical behavior or to re-align political opposition for the program. It does not appear that major programmatic changes were common among Extension educators based on the findings of the evaluations.

In summary, Extension educators use evaluation results to persuade others about the value of their programs, to learn more about their programs, to change how others think about their program and to a lesser extent, to transform or end a program. Other studies of evaluation use have found that conceptual use tends to be higher than other types of use (Ayers, 1987; McCormick, 1997; Shea, 1991) while in this population persuasive use was more frequent.

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Conclusions

Persuasive use was the most common type of evaluation use, followed by process use, conceptual use, and finally instrumental use. There were some differences in use based on program area and length of service. Family and Consumer Science Extension educators tended to have higher levels of persuasive use and instrumental use. Additionally, less experienced educators exhibited higher levels of instrumental use than educators with more years of experience. There were no significant differences in any other types of use associated with length of service.

There were significant differences in use between Extension educators evaluating programs and Extension educators evaluating events or activities. Those evaluating programs according to the definition of a program used in this study, showed higher process use and higher persuasive use. There was no significant difference in total use, conceptual use or instrumental use between the two groups.

The study adds to the literature on evaluation use by examining non-formal educators as users of their own evaluation efforts. Extension educators use results for accountability activities such as persuading stakeholders of the value of the program. Extension scholars have recommended that the organizational requirement for reporting be used to encourage other types of use such as program improvement (Lambur, 2008; Taylor-Powell & Boyd, 2008). Patton (2008a) calls this practice into question and believes it is not possible for program evaluations to meet federal reporting requirements while simultaneously improving programs.

This study provides evidence that using organizational reporting requirements to also improve programs may not lead to substantive program improvements as measured by

instrumental use. The primary purpose of most evaluations reported for this study was for determining outcomes or impacts while levels of programmatic change based on evaluation results was low according to self-reports. Additional evidence indicates the emphasis on reporting requirements encourages Extension educators to report positive findings which are less likely to lead to programmatic change. Some respondents also indicated that evaluations are an important part of the promotion and tenure process. Naturally, Extension educators will use their most positive evaluation results to support promotion rather than evaluate or report programs with less positive impacts.

This suggests that evaluation capacity building efforts may be increasing instrumental use or programmatic change. Extension educators with less time in their current position showed higher levels of instrumental use than mid-career or late career educators. Administrative efforts to build evaluation capacity and strengthen programmatic improvements based on evaluation results while also meeting reporting requirements are relatively recent. Newer Extension educators have been trained in this system or were hired with evaluation skills; while more experienced educators may be less open to attempts to promote use beyond reporting requirements.

Previous studies have focused on evaluations conducted by internal or external professional evaluators for administrators and practitioners. Non-formal educators working in Cooperative Extension are both the evaluator and the intended user. In general, Extension educators displayed similar types of use as were found in studies of evaluations conducted by professional evaluators with an emphasis on conceptual and process use and less action or instrumental use taken based on the results of the evaluation.

Lessons Learned

Further refinements on measuring types of evaluation use are needed to confirm the four types of use generally accepted in the literature based on case studies. There is currently no standard quantitative measure of any of the types of evaluation use (Johnson et al., 2009). Researchers should attempt to validate the scale used here with other populations to develop a standardized measure of use. Development of standardized use scales may make it possible to identify paths between factors influencing use and type of use.

A random sampling from a national population of Extension educators should also be conducted to have a more complete picture of evaluation uses and influences across CES. This study focused on Extension systems with a reputation for conducting quality evaluations. Three of the four extension services surveyed are large systems with organizational structures supporting evaluation work by educators working in the field. This is not the case for all Extension services and there may be important differences based on level of organizational support for evaluation that this study did not pursue. Expanding this framework and methodology to include a national sample of Extension educators may have different results that can generalized across all Extension services.

Recommendations for Practice

Organizations using program managers or educators to conduct evaluations may benefit from the results of this study addressing evaluation efforts by Extension educators who conduct evaluations of their own programs. Non-formal educators can add value to organizational accountability efforts by conducting evaluations but may need more support for using the evaluation data to make programmatic changes based on results. Engaging non-formal educators

in learning and applying evaluation skills can have positive results in the form of process use and

conceptual use. Organizations wishing to focus on persuasive and instrumental use should focus

organizational support on developing positive attitudes toward evaluation in general and

involving program stakeholders in all aspects of evaluation implementation.

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