Non-formal Educator Use of Evaluation Findings: Factors of Influence

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Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
In
Agricultural and Extension Education

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August 9, 2010
Blacksburg, Virginia

Keywords: evaluation use, Cooperative Extension, evaluation characteristics, organizational involvement, stakeholder involvement

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ABSTRACT

Increasing demands for accountability in educational programming have resulted in more frequent calls for program evaluation activity in educational organizations. Many organizations include conducting program evaluations as part of the job responsibilities of program staff. Cooperative Extension is a national system offering non-formal educational programs through land grant universities. Many Extension services require non-formal educational program evaluations be conducted by its locally-based educators.

Research on evaluation practice has focused primarily on the evaluation efforts of professional, external evaluators. The evaluation work of program staff that have many responsibilities including program evaluation has received little attention. This study examined how non-formal educators in Cooperative Extension use the results of their program evaluation efforts and what factors influence that use. A conceptual framework adapted from the evaluation use literature guides the examination of how evaluation characteristics, organizational characteristics and stakeholder involvement influence four types of evaluation use; instrumental use, conceptual use, persuasive use and process use. Factor analysis indicates ten types of evaluation use practiced by non-formal educators. Of the variables examined, stakeholder involvement is most influential followed by evaluation characteristics and organizational characteristics.

The research implications from the study include empirical confirmation of the framework developed by previous researchers as well as the need for further exploration of potentially influencing factors. Practical implications include delineating accountability and program improvement tasks within Extension in order 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. Non-formal educational organizations are encouraged to involve stakeholders in all levels of evaluation work as one means to increase use of evaluation findings.

Dedication

This work is dedicated to my mother, Toni Musso Baughman who taught me that girls can do anything they want and that women can have families and pursue their own interests and passions.

Acknowledgements

This work would not have been possible without the support of many people and organizations. My husband, Matthew made it possible for me to spend countless hours away from home. His love and support gave me the opportunity to pursue my academic dreams. My children, Eli and Claire, provide me the joy and inspiration to keep working when it would have been easier and more fun to play with them.

I would like to thank Lisa Townson of the University of New Hampshire, Ellen Taylor-Powell of the University of Wisconsin-Madison, Deb Jones of Oregon State University and Scott Cummings of Texas A&M University for providing me access to the study participants as well support for and interest in the topic.

Virginia Cooperative Extension and Virginia 4-H provided me the time, space and financial support to complete this work. I could not have been successful without the support of my Extension and 4-H colleagues, many of whom have travelled this path before me.

The Department of Agricultural and Extension Education helped ground me in the theory and academic rigor needed to complete my degree. I am especially grateful to my fellow students who laughed, cheered and cried with me as we all struggled to find our academic voices.

My committee members have supported, challenged and pushed me throughout this process. As a group I could not have asked for a more intelligent, supportive and fun group of mentors. Our group meetings were as full of laughter as they were academic work.

Heather Boyd has been a true friend and mentor throughout my graduate education. Her laughter, wit and political insights often helped me get through challenging times and her willingness to stay on as my advisor from 600 miles away made it possible for me to finish.

Elizabeth Creamer helped me stay focused on the task at hand. Her passion for research and her ability to speak truth to power reminded me what is important in the academic world and helped me navigate my way through.

Nancy Franz gave me inspiration to keep working and shares my love of Extension and 4-H. Nancy's integrity, honesty and energy inspired me every day. Nancy also stuck with me when her work her took her elsewhere and it would have been easier for her to step away.

Jay Mancini kept me grounded in the reality of evaluation work and Extension work. He pushed me to expand my thinking beyond the conventional and gave me valuable insights from the evaluation world. Jay also chose to remain on committee after leaving Virginia Tech and I am grateful for his willingness to support my work from afar.

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Chapter 1: Introduction

Non-formal educators teach or conduct programs in settings outside of schools or other formal educational environments such as in after-school program sites, museums, community centers or supermarkets. Many non-formal educators conduct program evaluations as part of their educational programming efforts (Duttweiler, 2008). The work of professional evaluators has been well researched but little is known about the evaluation work of non-formal educators (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 non-formal educators 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.

Research in evaluation use has shown that there are many factors that influence if and how evaluation results are used (Clavijo, Fleming, Hoermann, Toal & Johnson, 2005; Fleischer & Christie, 2009; Patton, 2008). Evaluation use has been a topic of study since the 1970s as researchers grew increasingly frustrated with the perceived lack of attention to evaluation findings by decision makers (Fitzpatrick, Sanders & Worthen, 2004; Patton, 2008). Patton's (1977) early work pointed to the influence of the "personal factor" on use of evaluation findings. The "personal factor" refers to a person in the organization who is interested in the results and champions the evaluation process. Others have pointed to

factors such as stakeholder involvement (Johnson et al., 2009), organizational context (Crotti, 1993) and accountability mandates (Mayhew, 2008) as influencing use of evaluation results.

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 non-formal educators conduct evaluations of their own programs may be different from organizations that have professional evaluators conduct evaluations as external reviewers.

Statement of the Problem

Program evaluation is often driven by accountability mandates (Mayhew, 2008; Patton, 2008; Taylor-Powell & Boyd, 2008). Funders and other stakeholders have started requiring that organizations receiving funding measure program outcomes and program impacts (W.K. Kellogg, 2004). Several large grant funders such as the Kellogg Foundation and the United Way have begun to require grantees to submit evaluation plans as well as to report program outcomes. Federally funded programs must also meet reporting requirements established by the Government Performance and Results Act (GPRA) and the introduction of the Office of Management and Budget's Program Assessment Rating Tool (PART) (U. S. Office of Management and Budget; 1993; U. S. Office of Management and Budget, 2004). These accountability requirements have forced many organizations to conduct program evaluations that are not supported by additional funding for the evaluations. As a result, some organizations have program

personnel conduct evaluations of their own programs (Baughman, Boyd & Kelsey, 2009; Taut, 2007). Non-formal program personnel may receive some training in basic research methodology but are not, typically trained as evaluators. Program staff may be encouraged or required to conduct "self-evaluations" as part of their job functions (Taut, 2007).

Self-evaluations tend to be "small-scale evaluation projects carried out by program staff and management as part of their everyday work activities in order to answer questions concerning their work" (Taut, 2007, p. 51). Some organizations, such as the Cooperative Extension System (CES) and international development agencies, use self-evaluations to report program impacts to federal funders as part of accountability requirements (Taut, 2007; Taylor-Powell & Boyd, 2008). In the case of CES, local, state and grant funders may also require reporting of outcomes and impacts.

The Cooperative Extension System

The United States Department of Agriculture (USDA) established the Cooperative Extension System 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. Funding for local programming typically comes from a mix of federal, state and local funds (Franz & Townson, 2008). Many educators also take advantage of grant opportunities. As a result of this funding mix, county based 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 educators to conduct evaluations of their own programs (Lambur, 2008; Taylor-Powell & Boyd, 2008). In this model, self-evaluations are intended as a means for accountability and program improvement. Educators are encouraged to conduct evaluations to meet reporting requirements while also learning more about the impacts of their programs.

Theoretical Grounding

This study draws upon the rich literature in evaluation use to propose a conceptual framework of how non-formal educators use evaluation results and factors that influence evaluation use. Theories of evaluation use are rooted in accountability and control, and focus on how information will be used and by whom evaluation results will be used (Christie & Alkin, 2008; Alkin, 2004). As Alkin (2004) points out, what are typically called "theories" in evaluation are more accurately described as models or frameworks. Theories are "a set of concepts, definitions, and propositions that explain or predict these events or situations by illustrating the relationships between variables" (National Institutes of Health, 2005, p.4). Schunk (2008) defines a theory in education similarly; "a theory is a scientifically acceptable set of principles offered to explain a phenomenon.

Theories provide frameworks for interpreting environmental observations and serve as bridges between research and education" (p. 3). Evaluation "theories" are not predictive but rather prescriptive (Alkin, 2004). Models may draw on different theories to illuminate a problem in a particular context or setting, such as evaluation (National Institutes of Health, 2005). Models are not as specific as theories. Alkin defines a prescriptive model as "a set of rules, prescriptions, prohibitions and guiding frameworks that specify what a good or proper evaluation is and how evaluation should be done…" (p. 5).

Alkin (2004) traces the roots of evaluation theories to three major branches, "use," "methods," and "valuing." This study draws upon the evaluation use theories and literature to build a conceptual framework to guide the study. Conceptual frameworks present a map of related concepts that tend to draw on a variety of theories and have not been tested rigorously enough to be elevated to the level of a theory (National Institutes of Health, 2005).

Several theorists including Patton, Alkin, Fetterman, King and Preskill have proposed frameworks emphasizing use (Alkin, 2004). However, Patton's utilization focused evaluation (UFE) is one of the most prominent theoretical explications of use and as such is the basis for much of the evaluation use research (Alkin, 2004; Stufflebeam & Shinkfield, 2007). At the heart of UFE theory is the "personal factor." The personal factor is the presence of a particular person or group in the organization that is invested in and engaged in the evaluation process and the evaluation findings. Other researchers have also found the presence of at least one caring, committed individual to be a key factor in influencing use (Hofstetter & Alkin, 2003; Weiss, 1990). A UFE approach

includes a commitment to use by identifying potential users (stakeholders) and engaging them in the evaluation process from design through interpretation and decision-making (Patton, 2008).

The conceptual framework for this study as presented in Chapter 2 draws on the work of Patton and other evaluation use researchers to explore how non-formal educators use the results of evaluation findings and what characteristics or factors influence their use. At the center of the proposed framework are some of the assumptions of theories of evaluation use. One assumption of use theories is that use of evaluation findings is possible and important in the context of the evaluation setting. A second assumption is that how results are used is also of importance.

Purpose

The purpose of this study was to examine how non-formal educators use the results of program evaluation. It explored the influences on evaluation use in non-formal educational settings. By focusing on non-formal educators, this study added to the evaluation use literature by examining an organizational context in which program evaluations were conducted by the educators rather than by professional evaluators. The study developed and empirically tested a conceptual framework for non-formal educator use of evaluation results based on the literature on evaluation use.

Significance of the Study

This study informs two fields of study; evaluation and non-formal education. The majority of evaluation use studies have been either case studies or literature reviews (Cousins & Leithwood, 1986; Johnson et al., 2009; Mayhew, 2008). This study sought to quantitatively explore factors influencing use of evaluation findings by non-formal

educators conducting self-evaluations. The proposed framework empirically explored how three concept domains (evaluation characteristics, organizational characteristics and stakeholder involvement) developed from the most recent comprehensive literature review on use (Johnson et al., 2009) influence the dependent variable (type of use). The study informed gaps in the evaluation use literature in two ways. First, the study tested elements of the most recent framework identified through literature review and second, by exploring use with a population that conducts evaluations but does not consist of professional evaluators. Additionally, organizations relying on program staff self-evaluations as a means to meet accountability requirements may be informed by learning how non-formal educators use evaluation results and what factors influence that use.

This chapter introduced the gap in the literature regarding how non-formal educators use the results of self-evaluation. In the context of Cooperative Extension, non-formal educators often conduct evaluations of their own programs to meet reporting requirements by federal, state or local funders. Conducting evaluations involves the process of planning, implementing and administering a program evaluation. A utilization focused evaluation theoretical approach has informed much of the literature of evaluation use, leading to an identification of three factors influencing evaluation use that were tested for the first time. Chapter 2 presents the conceptual framework guiding the study followed by a review of the relevant literature on evaluation use theory, broad factors that influence use and types of evaluation use. Evaluation use within the context of non-formal education will also be discussed. Chapter 3 presents the research questions, design and methods for this study. Chapter 4 presents the results with conclusions and implications presented in Chapter 5. A definition of relevant terms is presented next.

Definition of Terms for this Study

Accountability - To hold an organization to account for its' actions (Ranson, 2003).

Evaluation - The systematic investigation of the worth or merit of an object (Joint Committee on Standards, 1994).

Instrumental use - Findings from a program evaluation result in direct action or decision making (Johnson et al., 2009; Patton, 2008).

Impact - A focus on how a program or intervention changes participants, larger systems and communities (Patton, 2008).

Conceptual use - Findings from a program evaluation inform how people understand or think about the program (Johnson et al., 2009; Patton, 2008).

Framework - A map of related concepts that tend to draw on a variety of theories and have not been tested rigorously enough to be elevated to the level of a theory (NIH, 2005).

Model - A set of rules, prescriptions, and prohibitions and guiding frameworks that specify what a good or proper evaluation is and how evaluation should be done (Alkin, 2004).

Non-formal education - Educational programs that occur outside a formal academic setting (Norland, 2005).

Process use - Participants in the evaluation process learn from engaging in the evaluation rather than from the evaluation findings. Changes are made based on the process of the evaluation rather than the findings (Johnson et al., 2009; Patton, 2008).

Persuasive use - Findings from the evaluation are used to persuade, inform or educate others such as decision makers or stakeholders (Johnson et al., 2009; Patton, 2008).

Self-evaluation - Occurs when program staffs responsible for educational programs also conduct the program evaluation (Taut, 2007).

Stakeholder - Any person who has an interest in an educational program (Taut, 2008).

Theory - set of concepts, definitions, and propositions that explain or predict events or situations by illustrating the relationships between variables (Schunk, 2008).

Utilization focused evaluation (UFE) - A framework for determining what information primary intended users need that will be used to make programmatic decisions or program improvements (Patton, 2008).

Chapter 2: Literature Review

Introduction

This chapter presents the conceptual framework guiding the study and a review of the literature related to the use of evaluation findings. The conceptual framework is grounded in the literature on evaluation use including two syntheses of evaluation use studies. Research primarily in the form of case studies has identified four types of use that are explored as well as several key factors influencing use of findings. The field of non-formal education is examined followed by a discussion of the context of Cooperative Extension as a nationally based non-formal educational organization.

Conceptual Framework

Evaluation use has been a topic of study since the early 1970s. Large scale federal social reforms enacted in the 1960s gave rise to the modern field of evaluation (Fitzpatrick, Sanders & Worthen, 2004). As traditional social scientists began to examine the results of these large scale reforms they became frustrated that the information they presented was not used to make decisions or inform programs (Patton, 2008). In this context, social scientists such as Patton began to focus on the question of evaluation use.

The concept of use refers to what happens with the data generated after the evaluation is complete. The Joint Committee on Standards for Educational Evaluation (1994) set out four standards for evaluation with the first standard defined as "utility." Utility standards are "intended to ensure that an evaluation will serve the practical information needs of the intended users" (Joint Committee on Standards for Educational

Evaluation, p. 1). Evaluation scholar Ernest House emphasized use in his statement that "producing data is one thing! Getting it used is quite another" (House, 1972, p. 412). Although fairly simple in definition the concept of use has proved more challenging in its real world application.

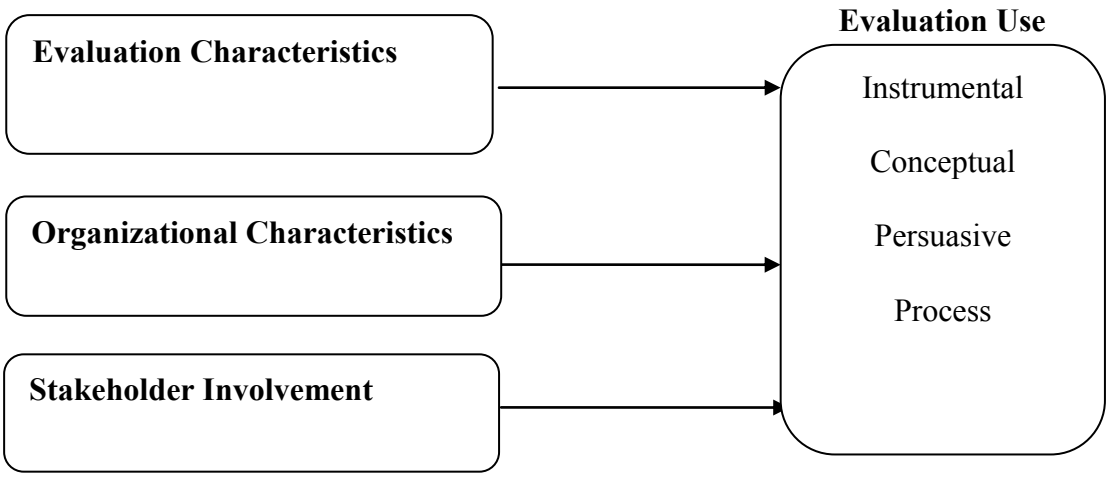
Patton's (2008) utilization focused evaluation theory presents a framework for considering use in the real world of evaluating programs. It emphasizes the importance of identifying intended users of information and involving those users in the evaluation process so that the results of the evaluation meet the needs of the intended users. This theory does not advocate a particular methodology nor does it ignore the importance of high-quality data. In fact, an assumption of UFE is that the findings are based on valid, accurate and relevant data (Patton, 2008). A second assumption is that the process of gathering information is an actual "evaluation."

There are many definitions of evaluation. Scriven defined evaluation as determining the worth or merit of a program (Fitzpatrick, et al., 2004). Patton (2008) defines evaluation as answering the What? So What? and Now What? of a program. The Encyclopedia of Evaluation (Fournier, 2005) defines evaluation broadly as "an applied inquiry process for collecting and synthesizing evidence that culminates in conclusions about the state of affairs, value, merit, worth, significance or quality of a program, product, person, policy, proposal or plan." (p. 140). So before one can consider the question of use, it is assumed that an evaluation was conducted that resulted in quality data that can be used to make decisions and inform programs.

As evaluators became more focused on use, scholars began to study evaluation use. This focus helped to build an extensive body of literature on evaluation use. Two

influential articles based in utilization focused evaluation theory reviewed the literature on evaluation use (Cousins & Leithwood, 1986; Johnson et. al, 2009). The first review conducted by Cousins and Leithwood identified two key factors influencing use, evaluation characteristics and organizational characteristics. A second review of the literature conducted by Johnson et al. confirmed the influence of evaluation characteristics and organizational characteristics. Johnson et al. added a third influencer, stakeholder involvement. From these studies, a conceptual framework was developed to guide the exploration of the influence of evaluation characteristics, organizational characteristics and stakeholder involvement on evaluation use by non-formal educators (Figure 1).

Figure 1. Conceptual Framework



Assumptions of conceptual framework. The conceptual framework makes many assumptions. The first assumption is that in the context of Cooperative Extension, the non-formal educator is also the primary intended user of evaluation results. Unlike other studies of evaluation use, this study focused on self-evaluators who conduct evaluations of their own programs and use the results.

Other assumptions are similar to those of utilization focused evaluation theory. It is assumed that the evaluations under study are in fact evaluations. This is an important assumption in the context of non-formal educators working in Cooperative Extension as early Extension evaluation studies could be more accurately called customer/consumer satisfaction surveys.

Another assumption is that the evaluation methodology was sound; data was collected in a manner appropriate for the program under study and the results were valid, accurate and relevant. The study design accounts for the first two assumptions by using Cooperative Extension systems known for conducting quality evaluations and emphasizing building evaluation capacity within the organization.

The fourth assumption is that it is important to the program under study that evaluation findings are used. UFE (Patton, 2008) emphasizes conducting evaluations with the intended use in mind and thus assumes the importance of using the findings in some manner. An emphasis on use is not embraced by all evaluation scholars. Stufflebeam has criticized the overemphasis on use as undermining evaluator independence and objectivity (Patton, 2008). Mark & Henry (2004) have questioned if an over-emphasis on use misses critical areas of influence beyond the immediate impact of an evaluation.

A fifth assumption is that non-formal educators will be able to identify how results are used and what might have influenced that use. Discussions of evaluation use and influences are primarily limited to the scholarly research on evaluation use and are not generally found in workshops or courses on program planning and evaluation for practitioners. Many non-formal educational programs are at a stage of developing

technical evaluation skills to assist their program personnel in conducting evaluations and may not yet have begun to address issues of use. In the context of CES educational programs, discussions of use tend to focus on meeting accountability requirements or scholarly requirements for educators to gain tenure and/or promotion. Taylor-Powell and Boyd (2008) recommend using evaluation results gathered for the purpose of reporting requirements to also improve programs although there is limited empirical evidence that it is possible to meet accountability requirements and program improvement needs through one program evaluation.

Finally, the independent variables are assumed to precede use. Evaluation characteristics, organizational characteristics and stakeholder involvement are presented as influencers of use and thus are in place prior to conducting and using the evaluation. In the case of evaluation characteristics and organizational characteristics, this assumption makes intuitive sense. However, in the context of Cooperative Extension it is possible that stakeholder involvement may not occur at all or that stakeholders will only be involved as part of the process of using the evaluation results.

Framework concepts. The conceptual framework includes the broad concepts of influencers and evaluation use. Influencers are those factors which may impact a self-evaluation conducted by the non-formal educator. Based on the work of previous researchers, three categories of influence framed this study in the context of the work of non-formal educators in CES; evaluation characteristics, organizational characteristics and stakeholder involvement (Cousins & Leithwood, 1986; Johnson et al., 2009). A detailed discussion of these influences follows in the literature review.

Evaluation use takes place in the context of the specific educational program and its sponsoring organization. This framework proposes that how the results of an evaluation are used is influenced by three separate constructs or independent variables; evaluation characteristics, organizational characteristics and stakeholder involvement. Relationships between the individual variables are not clear and thus not included in the conceptual framework. The independent variables are presented as potentially influencing four types of evaluation use; instrumental, conceptual, persuasive and process use. The following sections present the concepts and variables outlined in the conceptual framework in more detail.

Evaluation Use

Program evaluation has been defined by one text as "the identification, clarification, and application of defensible criteria to determine an evaluation object's value (worth or merit) in relation to those criteria" (Fitzpatrick et al., 2004, p. 5). Other recent definitions emphasize that evaluation is judging the worth or merit of something (Fitzpatrick et al, 2004; Mark, Henry, & Julnes, 2000; Stufflebeam, 2001).

The 1994 Joint Committee on Standards for Educational Evaluation's *Program Evaluation Standards* include an emphasis on utilization focused evaluations (Stufflebeam, 2001). According to Patton (2008), "utilization focused evaluation begins with the premise that evaluations should be judged by their utility and actual use…" (p.4). Fetterman (1996) and Sonichesen (2000) repeat this theme in their widely disseminated evaluation guides. The evaluation utilization literature includes Patton's theory of evaluation use as well as studies of types of evaluation use and factors influencing use.

Defining "use" has been the subject of study and debate amongst evaluation researchers. Early in the study of evaluation use, use was defined narrowly as "an 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). McCormick (1997) traces the broadening of the definition of use throughout the 1980s to include terms such as conceptual use, awareness, process use and intended use. Henry and Mark (2003) emphasize an even broader construct than "use" to include evaluation influence. In the most recent edition of *Utilization Focused Evaluation* (2008), Patton states that "use concerns how real people in the real world apply evaluation findings and experience the evaluation process. Therefore, the focus in utilization-focused evaluation is on "*intended use by intended users*" (p. 37).

Patton's early work on evaluation use led to his Utilization Focused Evaluation theory. This groundwork led to the extensive research related to how people use the results of evaluation findings. It also sparked discussions of broader definitions of use and has been criticized as too focused on use to the detriment of objectivity (Stufflebeam, 2001). Although the debates continue, researchers interested in use have identified different types of use and examined factors that influence evaluation use.

Types of evaluation use. Empirical studies on evaluation use have identified several "types" of use. McCormick (1997) examined three types of use based on the work of Leviton and Hughes in the early 1980s; instrumental, conceptual and persuasive. In a study of educational evaluation, Crotti (1993) also used Leviton and Hughes categories of use adding a category for "non-use." In a follow-up study of Preskill and Caracelli's (1997) work on theories of evaluation use, Fleischer and Christie (2009)

identify five types of use from the literature. These authors add Patton's process use and Weiss' enlightenment use. There is general agreement across studies on the definitions of these four types or categories (Fleisher & Christie, 2009; McCormick, 1997; Patton, 2008).

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 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 affect use of evaluation findings. Mayhew's study develops and tests an empirical model of the role of the funder/recipient relationship in regards to instrumental use but fails to consider other types of use. Mayhew recognizes that frequently the people conducting evaluations are program staff. These staff conduct evaluations of a relatively small nature for the purpose of meeting funder requirements. In this way, his study is similar to the proposed study. However, Mayhew's focus on instrumental use may render his proposed model inaccurate because of the lack of information on other potential uses that may not result in direct action or may inform the program staff knowledge based on the process of conducting the evaluation.

A comprehensive literature review and quantitative analysis of use studies conducted by Johnson et al. (2009) identified 40 studies including instrumental use of evaluation results. Findings from these studies are somewhat mixed on instrumental use; some studies found low levels of instrumental use while others found high levels of

instrumental use. Ayers (1987) found low levels of instrumental use by higher education administrators whereas Bober and Bartlett (2004) found higher levels of instrumental use among a small sample (n=4) of corporate university officials. In a study of gifted education programs, Callahan, Tomlinson, Hunsaker, Bland & Moon (1995) also found frequent instrumental use by school districts. In contrast, McCormick (1997) found less frequent instrumental use than conceptual and process use. The inconsistent nature of findings related to instrumental use across studies points to the importance of examining variables that influence use within specific contexts.

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 self-evaluation situations because it results in a better or new understanding of the program rather than direct action. Weiss (2005) points out that conceptual use has also been called "enlightenment use," "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, 2005). McCormick found conceptual use to be more frequent than all other types of use. This is consistent with Ayers' (1987) finding of more conceptual use than instrumental use of evaluation findings by higher education administrators. However, corporate university officials exhibited lower frequencies of conceptual use than instrumental use (Bober & Bartlett, 2004). A study of the use of findings from a DARE evaluation found conceptual use to be lower than other types of use (Weiss, Murphy-Graham & Birkeland, 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. Ten of the studies reviewed by Johnson et al. (2009) included symbolic (persuasive) use of findings. Mara (2003) found negative symbolic use of evaluation findings to legitimize decisions in an international aid organization. McCormick found positive persuasive uses to advocate for a program (1997). The potential for both positive and negative uses of findings is most evident in the persuasive or symbolic 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.

Process use has been documented in Extension evaluation efforts by Duttweiler (2008) in a study of Cooperative Extension. Duttweiler documents an evaluation study in University of Wisconsin Cooperative Extension that resulted in program staff "involved with the study process felt validated and rewarded, and new partners were identified" (p. 96). Patton (2008a) points to the widespread use of logic modeling in Extension as an example of process use when the process of developing the programmatic logic model

develops a "shared and coherent perspective" of the program before any actual evaluation takes place (p. 113).

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. 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 self-evaluators. Persuasive use can be related to accountability efforts. Since non-formal educators often initially conduct evaluations to meet accountability or reporting requirements there may be evidence of some persuasive use in self-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.

Factors influencing use. In addition to these empirically studied uses of evaluation, researchers have explored factors that affect use. A series of literature reviews and large scales studies of use have produced a "core set" of factors influencing use (Mayhew, 2008).

An early study of use by Patton et al. (1977) examined 11 factors of influence and concluded that the two most influential factors were "political" and "personal." Alkin, Daillak and White (1979) developed a framework of eight categories that influenced use; preexisting evaluation obligations, orientation of the user, evaluator approach, evaluator credibility, organizational factors, extra-organizational factors, information content and reporting and administrator's style. Both the Patton (1977) and Alkin (1979) studies

were case studies that were influential in establishing early categories of influence on evaluation use.

Cousins and Leithwood (1986) examined 65 studies on evaluation use. This influential empirical literature review found the most important factors influencing use were evaluation implementation characteristics (i.e. quality, credibility, relevance, findings, and timeliness) and decision or policy setting characteristics (i.e. information needs, political climate, and personal characteristics). A follow up study to Cousins and Leithwood by Johnson et al. (2009) added stakeholder involvement as a category and evaluator characteristics as a subcategory to the original framework. Johnson et al. conclude that the two reviews of evaluation use studies support a conceptual framework of three factors, "evaluation context," "decision/policy setting" and "stakeholder involvement."

In a study of educational administrators, Crotti (1993) examined the influence of three factors based on a framework developed by Alkin (1985); human factors (evaluator and user characteristics), context factors (preexisting evaluation bounds, organizational characteristics) and evaluation factors (substance of evaluation information, evaluation reporting and evaluation procedures). Findings indicated that human and evaluation factors influenced use more than context factors. There are similarities between Crotti's three factors and those found by Johnson et al. (2009). The human factor includes sub-factors similar to those identified by Cousins and Leithwood (1986) and validated by Johnson et al. (2009). Similarly the sub-factors of "context" and "decision or policy setting" relate largely to the organizational setting for the evaluation.

McCormick's (1997) study concluded that the factors influencing use depended on the type of use. She examined five factors of influence; user commitment to the program, user involvement in the evaluation, user attitude toward evaluation, position of the user and type of organization. Conceptual and processing uses were found to be most influenced by user involvement in the evaluation process. Persuasive use was found to be most influenced by the user's commitment to the program. In this study persuasive use included less "political" measures and greater emphasis on using results to persuade decision makers and/or stakeholders. No factors in this study were found to influence instrumental use. McCormick recommended that future studies include a broader range of factors encompassing the evaluator as well as the evaluation process used. Table 1 summarizes the findings related to evaluation use by Crotti (1993), McCormick (1997), Johnson et al. (2009), and Cousins and Leithwood (1986).

Table 1. *Summary of Selected Studies of Factors Influencing Evaluation Use*

Study	**Factors**	**Sub-factors**
Cousins & Leithwood(1986)	1. Evaluation implementation	Quality Credibility Relevance Communication quality Findings Timeliness
	2. Decision or policy setting	Information needs Decision characteristics Political climate Competing information Personal characteristics Commitment or receptiveness to evaluation
Johnson et al. (2009)	1. Evaluation implementation	Evaluator competence Quality Credibility Relevance Findings Timeliness
	2. Decision or policy setting	Information needs Decision characteristics Political climate Competing information Personal characteristics Commitment or receptiveness to evaluation
	3. Stakeholder involvement	Involvement with commitment or receptiveness to evaluation Involvement with communication quality

		Direct stakeholder involvement Involvement with credibility Involvement with findings Involvement with relevance Involvement with personal characteristics Involvement with decision characteristics Involvement with information needs
McCormick (1997)	1. User commitment to the program 2. User involvement in the evaluation 3. User attitude toward evaluation 4. Position of the user 5. Type of organization	No sub-factors specified
Crotti (1993)	1. Human	Evaluator characteristics a. Commitment to use b. Willingness to involve users c. Rapport d. Role e. Political sensitivity f. Credibility 2. User characteristics a. Identification of potential users b. Interest in the evaluation c. Commitment to use d. Information-processing preferences
	2. Context	1. Preexisting evaluation bounds a. External mandates b. Fiscal constraints

	2. Organizational characteristics a. Intra-organizational features b. External features
3. Evaluation	1. Substance of evaluation information a. Information relevance b. Information specificity 2. Evaluation Reporting a. Information frequency b. Timeliness 3. Evaluation procedures a. Methods – appropriateness & rigor b. Use of an evaluation model

This study frames the three categories of influence developed by Johnson et al. (2009) based on the non-formal educator context. Johnson et al. propose three broad categories encompassing 21 sub-factors based on an examination of 41 studies. Three broad categories of influence will be used: evaluation characteristics, organizational characteristics and stakeholder involvement. The sub-factors most relevant to the context of the sample were also used.

Evaluator characteristics can be found as a sub-factor under decision or policy setting in Johnson et al.'s (2009) typology of influences as "personal characteristics." It is similar to the sub-factor "evaluator characteristics" found in the human factor as defined by Alkin. Non-formal educators are internal self-evaluators and therefore in a unique position related to all aspects of the evaluation. The self-evaluator makes decisions on how results will be used and one assumes the self-evaluator will find their

own work rigorous, credible and methodologically sound. Alternatively the evaluation might not be rigorous, credible or methodologically sound but those issues are not likely relevant to how the self-evaluator decides to use the results.

Other issues related to the self-evaluator are pertinent. The broad category of evaluation characteristics includes questions related to the sub-factors of competence, findings, and timeliness. Descriptive, personal characteristics related to the non-formal educator were examined separately based on the self-evaluative nature of the setting as well as Patton's theory of intended use by intended users.

The second factor related to "decision and policy setting" was explored as "organizational characteristics" and includes information related to the organizational setting in which the evaluation occurs. Organizational characteristics include the information needs of both the organization and the evaluator, the decision characteristics related to the evaluation and the organization's commitment or receptiveness to evaluation. These three sub-factors are found in both the Cousins & Leithwood (1986) framework and the Johnson et al. (2009) framework. McCormick (1997) did not examine specific issues related to the organizational setting other than to categorize organizations by type. Crotti (1993) included "intra-organizational features" and "external" organizational characteristics.

The third broad factor related to "stakeholder involvement" addressed the areas of potential stakeholder involvement proposed by Johnson et al. (2009). Stakeholder involvement is similar to the user characteristics sub-factors identified in Alkin's "human factor." A more detailed discussion of instrumentation and measurement can be found in Chapter 3.

The evaluation literature presents a clear definition of "use" including four dimensions of evaluation use; instrumental, conceptual, persuasive, and process. There is less consistency across studies in factors influencing use. The framework developed by Johnson et al. (2009) categorizes variables studied by other researchers but the influencing factors were not consistent across studies. Factors relevant to this study include factors related to the evaluator, in this case the non-formal educator, and the evaluation, factors related to the organizational setting and stakeholder involvement.

Context

Non-formal educational evaluation. The unique nature of conducting non-formal educational evaluation is captured in an issue of New Directions for Evaluation (2005) 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).

Evaluation use in non-formal educational settings is presented as a unique challenge for external evaluators but there is no discussion of program staff as evaluators (Clavijo et al., 2005) which is a serious omission given the prevalence of program staff as

evaluators in the non-formal setting (Mayhew, 2008). In addressing evaluation use the authors caution that use of evaluation findings is particularly challenging in non-formal settings; "the challenges to evaluation use are more intensely present in non-formal educational settings and cluster in the areas of system infrastructure, scheduling, staffing, and financing" (Clavijo et al., p. 50). The authors suggest that program staff dedication to the evaluation project will have a strong influence on use, taking up Patton's personal factor as key in non-formal settings. Suggestions for increasing use in non-formal settings include careful choice of evaluator, involving and engaging program staff as critical stakeholders and creative dissemination of findings.

Non-formal education: Cooperative Extension. Cooperative Extension services have been conducting program evaluations since the early 1900s (Rennenkamp & Engle, 2008). Early evaluations focused on outputs such as number of program participants, hours of training or information distributed. Program evaluations shifted to include outcomes and community impact beginning in the 1990s. The passage of GPRA in 1996 increased the level of outcome reporting required by the federal government for Cooperative Extension services.

Program evaluation has become a job responsibility for many Extension educators in the last decade (Rennenkamp & Engle, 2008). Typically program evaluation is emphasized as a means to meet reporting requirements; although in some Extension services emphasis has also been placed on building evaluation capacity among field based educators so that results can be used for program improvement (Taylor-Powell & Boyd, 2008; Patton, 2008a). Teaching non-formal educators to conduct self-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, 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). Evidence of potential for use in CES is clear and supports the next step proposed in this study of examining how non-formal educators use evaluation results and what factors influence that use.

Accountability versus Program Improvement

A longstanding source of tension in the field of program evaluation exists between evaluation for accountability and evaluation for program improvement. Program evaluation is often traced back to Tyler's (1954) work on educational curriculum development and evaluation. The field of evaluation grew rapidly not long after Tyler's work was published with the growth of federally funded social programs in the 1960s and 1970s (Fitzpatrick, Sanders & Worthen, 2004). The growth in public funding was accompanied by outcome evaluations meant in large part to address accountability measures.

Accountability is often discussed with the assumption that the meaning is clear. A conventional definition of accountability is to be "held to account" (Ranson, 2003, p. 460). However, the definition of accountability is often context specific. Questions of who is "accountable" to whom are not always clear in a complex organizational system such as Cooperative Extension.

As a federal partner to the USDA/National Institute for Food and Agriculture (NIFA), CES partially meets federally mandated accountability requirements through the annual plan of work and outcomes reporting process. In practice, this means that locally based educators report to state level Extension administrators who submit institutional reports to NIFA. This process demonstrates the tension between accountability and program improvement. Often, non-formal educators are encouraged to conduct evaluations for program improvement while simultaneously providing information to state administrators that can be used for federal reporting. Patton (2008) calls this tension in Extension evaluation efforts "organizational schizophrenia" (p. 112). Taylor-Powell

and Boyd (2008) recommend using the federal mandates as a means to encourage evaluation efforts by Extension educators that can serve both purposes:

> Use external demands for results as the lever, not the control. Calls for accountability can motivate an organization and its staff; use this motivation to build the internal demand and intrinsic motivators that will sustain quality evaluation and build evaluative inquiry. (pp. 66-67).

This study may help illuminate how the tension between accountability and program improvement works in real evaluations conducted by non-formal educators.

Summary

This chapter presented the underlying conceptual framework guiding the study. The framework is based on the literature on evaluation use theory, types of use and potential influences of use in the context of non-formal educational programs such as Cooperative Extension. Non-formal educators are conducting evaluations designed to meet reporting requirements and/or improve their programs. Thirty years of evaluation use studies have led to consensus on four "types" of evaluation use; instrumental, conceptual, persuasive and process. There is already some evidence that there is variation in types of use in CES (Duttweiler, 2008).

The rich literature in evaluation use has led to several large scale literature reviews identifying factors that may influence use. The most recent and comprehensive study identified three broad categories likely to influence evaluation use; "evaluation implementation," "decision or policy setting" and "stakeholder involvement" (Johnson et al., 2009). This finding is consistent with earlier literature reviews and frameworks proposed by Cousins and Leithwood (1986) and Alkin (1985).The conceptual framework

incorporates the four types of evaluation use and the three factors likely to influence evaluation use. Chapter 3 details the variables in the framework and presents the research questions, design, methods and analysis.

Chapter 3: Methods

Introduction

This study explored evaluation use by non-formal educators conducting self-evaluations and the factors that affect their use. This population has received little consideration in the literature on evaluation use despite the prevalence of self-evaluation in many non-formal educational organizations (Mayhew, 2008). Recent literature reviews have identified factors influencing use based on studies of evaluation use (Cousins & Leithwood, 1986; Johnson et al, 2009). The proposed factors influencing use have not been empirically tested together. Four types of evaluation use are relevant to this study and were empirically tested. This chapter addresses the research questions, design, instrumentation, sampling methods and analysis.

Research Questions

This study asked two primary questions with three sub-questions:

1. How do non-formal educators use the results of program evaluations?
2. What influences that use?
    2.1. What are the relationships between evaluation characteristics and evaluation use?
    2.2. What are the relationships between organizational characteristics and evaluation use?
    2.3. What are the relationships between stakeholder involvement and evaluation use?

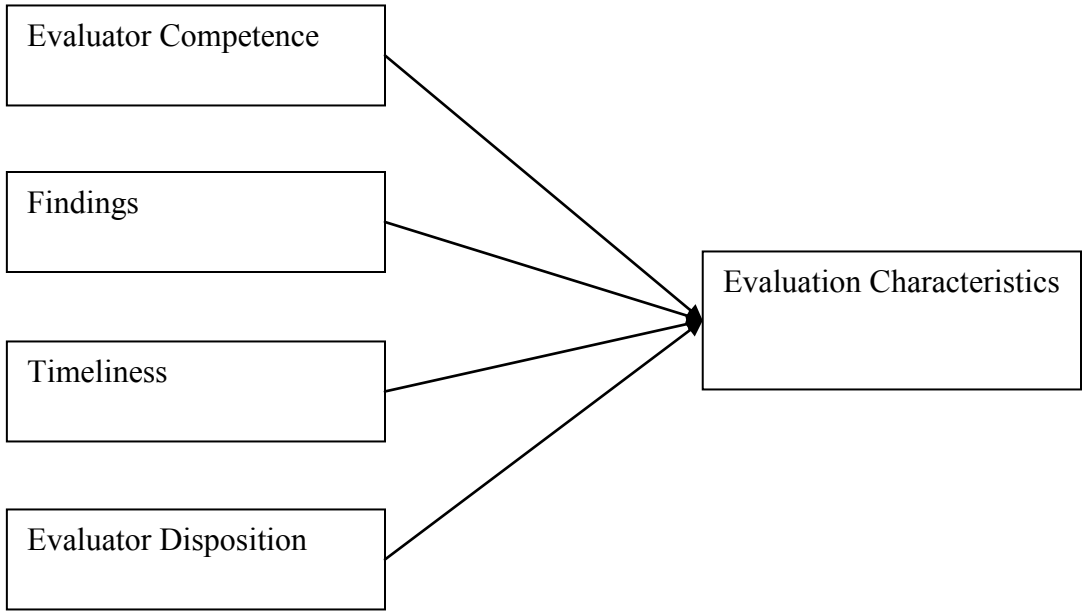
Research Design

This study described how non-formal educators use the results of evaluations and explored the factors that influence use of findings using the conceptual framework based on the work of previous researchers (Cousins & Leithwood, 1986, Johnson et al., 2009). The unit of study was individual non-formal educators working in selected Cooperative Extension systems. A panel of experts in Extension evaluation, comprised of elected regional board members of the Extension Education Evaluation topical interest group of the American Evaluation Association, recommended the three states in their Extension region that have a reputation for exemplary program evaluation. The first state recommended in each region was contacted and invited to participate in the study. The first and second recommendations for the Northeast region were unable to participate thus the third state was invited and agreed to participate. The Southern, Western and Central regions are all represented by the state recommended as first in the region by the panel. The four states recommended and able to participate were Texas Agrilife Extension, Oregon State University Cooperative Extension, University of Wisconsin – Extension and University of New Hampshire Cooperative Extension. All county/local level Extension educators in each Extension service were invited to participate in the study.

Independent variables. The independent variables were evaluation characteristics, organizational context and stakeholder involvement. Each variable represents a broad category made up of sub-factors that were measured. The first factor was evaluation characteristics (Figure 2). Based on the work of Johnson et al. (2009) the sub-factors comprising evaluation characteristics were evaluator competence, findings,

and timeliness. An additional sub-factor of evaluation disposition was added because of the nature of self-evaluations.

Figure 2. Independent Variable 1: Evaluation Characteristics

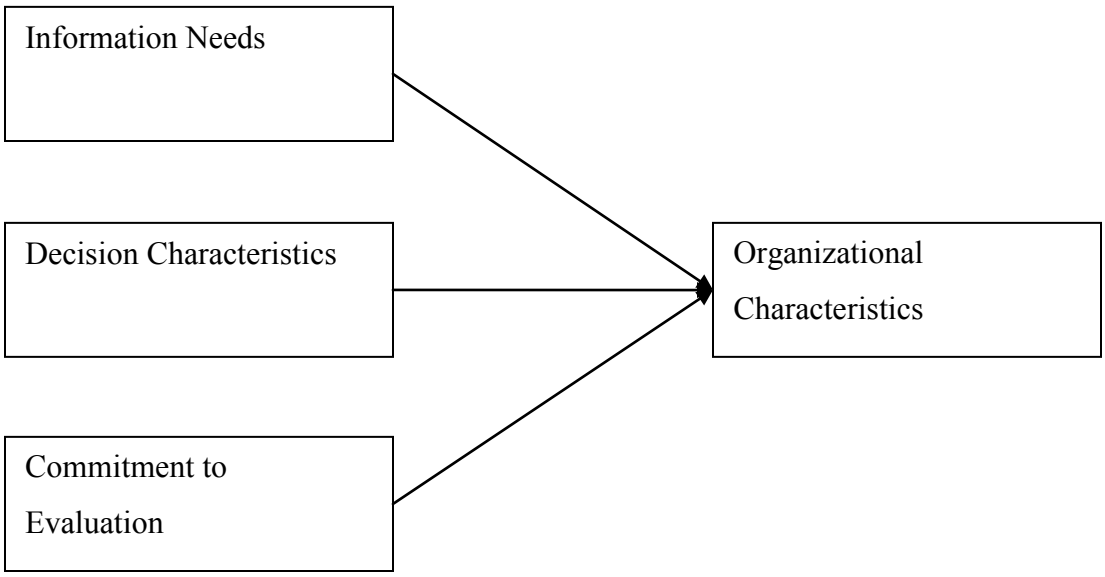


In a non-formal setting where evaluators are conducting self-evaluations it follows that characteristics relating to both the evaluation and the evaluator will influence use of the findings. The ability of the evaluator to design and conduct their evaluation (competence) informs if and how they interpret results and what they view as potential uses of the findings. The findings may also influence use, as positive findings may result in persuasive use and a lack of instrumental use. Negative findings may influence use by resulting in programmatic changes or instrumental use. Finally, the disposition of the evaluator around evaluation in general may also influence use of evaluation findings.

The second independent variable was organizational characteristics (Figure 3). There are three sub-factors included; information needs, decision characteristics, and

organizational commitment or receptiveness to evaluation. Information needs addressed the evaluation purpose, what is the information that the educator is trying to gather through the evaluation findings? The decision characteristics related to the type of decision to be made such as funding, program design changes or intended outcomes (Johnston et al., 2009). The commitment to evaluation examined the extent to which the organization supports evaluation efforts of educators.

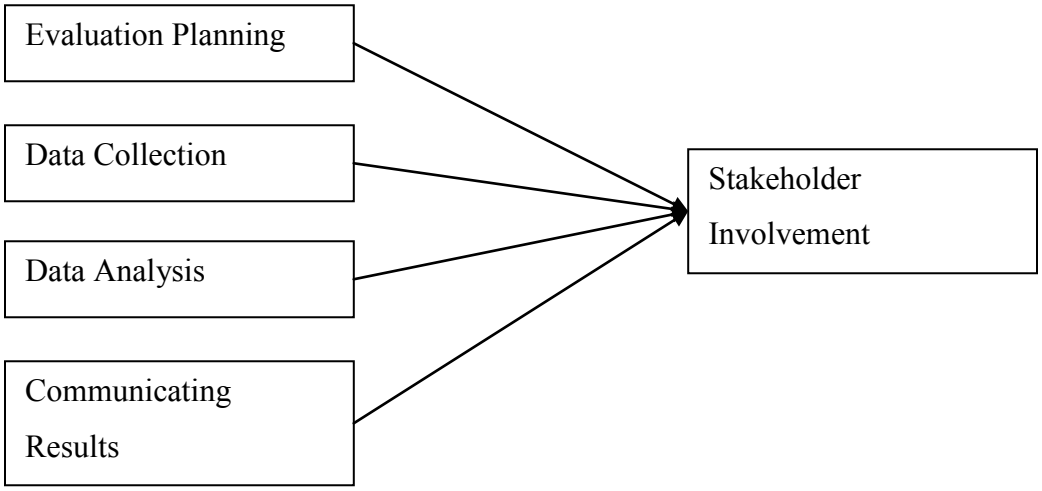
Figure 3. Independent Variable 2: Organizational Characteristics



Information needs, decision characteristics and commitment to evaluation on an organizational level may influence how the evaluation findings are used. A commitment to evaluation included the support and resources needed to conduct evaluations allowing educators to increase their ability to conduct and use results in different ways. Varying informational needs may require different types of uses. The types of decisions to be made based on the findings may also result in a variety of uses.

The third independent variable was stakeholder involvement (Figure 4). This variable measured the extent to which stakeholders were involved in the evaluation process. The potential areas for stakeholder involvement include focusing the evaluation, identifying people to serve on the evaluation team, planning, designing, collecting data, analyzing data, interpreting data, writing reports, and communicating findings.

Figure 4. Independent Variable 3: Stakeholder Involvement



Dependent variables. The dependent variable was evaluation use. Non-formal educators may employ several different types of use. Instrumental use involved taking direct action as a result of the evaluation findings. In the case of non-formal educators conducting self-evaluations this may take the form of changing program elements such as how a program is delivered, length of time spent on programmatic topics or changing program curricula. Previous studies revealed different results relating to instrumental use. A study of university managers found that instrumental use dominated conceptual use (Bober & Bartlett, 2004). Other studies found lower amounts of instrumental use (McCormick, 1997; Ayers, 1987).

Conceptual use occurs when findings change the way people think about or conceptualize a program. Patton (2008) reports project managers exhibiting conceptual use, " …But we didn't so much change what we were doing as we changed how we thought about what we were doing. That has had big pay-offs over time. We're just a lot clearer now" (p. 103). In the case of Cooperative Extension, conceptual use may change the way the non-formal educator or stakeholders view program impacts. A non-formal youth development program may be designed to teach life skills however, educators may find that it also improves family cohesion by having youth work on activities at home that parents become interested in. This unintended programmatic consequence is not the direct result of the educational program but the context and environment of the program. Educators and stakeholders may think differently about the program as a result of evaluation but they may not take action or change the program. Some researchers postulated that conceptual use is the most frequent type of use precisely because it requires no action. This idea is consistent with findings by Shea (1991) and McCormick (1997) of conceptual use exceeding all other types of use.

Persuasive use involved using findings to advocate for or against a program or otherwise persuade decision makers about the program. Non-formal educators in Cooperative Extension may use evaluation findings to influence local, state and federal funders continued support for a program. Fewer studies addressed persuasive use as a positive variable however the nature of funding for local Extension education programs supported the use of evaluation findings to persuade local officials and state legislators to continue funding programs, especially in tight budget climates.

Process use is a relatively new type of use identified in the literature starting in the late 1990s. Process use occurs when people participating in the evaluation learn from the process of evaluating the program. In the case of Extension educational programs this may look like stakeholders such as youth members learning more about the educational design of a program based on assisting in the evaluation. Other Extension stakeholders might learn more about the Extension system as a whole by participating in an evaluation process. Patton (2008a) points out that the prevalence of logic modeling in Extension programming results in more process use when stakeholders are involved in the evaluation. Logic modeling is a program planning tool that helps make the connections between programmatic activities, participants and outcomes explicit and thus provides opportunities to learn more about how a program works.

Sample

A census of non-formal educators working in Cooperative Extension in Texas, Oregon, Wisconsin and New Hampshire who have conducted evaluations of their own programs was surveyed. 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. These states granted access to the non-formal educators in their system. An Extension administrator in each state was interviewed informally to ensure inclusion of all potential types of professional educators across all programmatic disciplines. Extension services typically offer programs in the broad discipline areas of agriculture and natural resources, family and consumer sciences, youth development and community development. However different states may use different disciplines or terminology. 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 a confidential online survey.

Instrument

The survey (Appendix A) measured evaluation characteristics, organizational characteristics, stakeholder involvement and type of evaluation use. The survey instrument was comprised of previously used instruments with the addition of some researcher designed questions. A pilot test of the instrument was conducted with Extension professionals from Virginia to confirm reliability and validity.

Survey questions were developed primarily based on the work of other researchers (Table 2). The questions related to purpose were derived from Duttweiler's (2008) evaluation purposes in his review of *Journal of Extension* studies. Questions related to evaluator disposition were adapted from Gundermann's (2004) study of evaluation culture in University of Wisconsin - Cooperative Extension. The questions related to evaluator competence were developed based on the Client Feedback Form developed by Dowell, Haley and Doino-Ingersoll (2006). Volkov and King's (2007) checklist for evaluation capacity building provided the basis for questions related to organizational commitment to evaluation. Toal's (2009) instrument on stakeholder involvement was used as presented as was McCormick's instrument for measuring instrumental, conceptual and persuasive use. Process use questions were developed based on the work of Taylor-Powell and Boyd (2008).

Table 2. *Survey Questions and Related Source*

Variable	**Construct**	**Question**	**Source**	**Reliability (Cronbach's Alpha)**
	Demographics	Q1-Q6	Baughman	n/a
	Purpose	Q13	Duttweiler (2008)	n/a
Evaluation characteristics	Findings	Q14-Q16	Baughman	.530
	Timeliness	Q22-Q23	Baughman	n/a
	Evaluator competence	Q24 (5 items)	Dowell, Haley & Doino-Ingersoll (2006)	.90
	Disposition	Q32 (14 items)	Gundermann (2004)	.78
Organizational characteristics	Organizational commitment to evaluation	Q31 (12 items)	Volkov & King (2007)	.90
	Information needs	Q17-19	Baughman	.66
	Decision characteristics	Q 10-12	Baughman	.82
Stakeholder involvement		Q25 (11 items)	Toal (2009)	.93
Evaluation Use	Process use	Q30 (7 items)	Taylor-Powell & Boyd (2008)	.81
	Conceptual use	Q 26 (12 items)	McCormick (1997)	.73
	Persuasive use	Q27a-28d (17 items)	McCormick (1997)	.85
	Instrumental use	Q28e-29j (15 items)	McCormick (1997)	.81
Open ended	Other influences	Q15 (open ended)	Baughman	n/a

Questions related to purpose, disposition and organizational commitment to evaluation were adapted from the work of previous researchers. Reliability measures for the McCormick items related to conceptual, instrumental and persuasive use range from α =.86 -.87. Toal's stakeholder involvement instrument had a reliability of α=.94.

Internal validity helps researchers determine if they are measuring the construct that they intend to measure (Pedazur & Schmelkin, 1991). Threats to internal validity include history, maturation, testing, instrumentation, regression and selection (Pedazur & Schmelkin, 1991). Although the organizations surveyed were chosen based on evaluation success and could thus be interpreted as "extreme cases," the unit of analysis is the individual. Non-random samples can be vulnerable to a lack of external validity (Howell, 2007). The identification of exemplary Extension Systems made this study vulnerable to external validity issues. External validity refers to the ability to generalize the results to the larger population which this study does not attempt to do.

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). One advantage of using SurveyMonkey™ was the flexibility in survey design and the potential for ease of response for participants. Responses were also relatively easy to manage through download directly from SurveyMonkey™ to statistical software, reducing data entry errors. An additional advantage of SurveyMonkey™ was the ability to track responses through individual URLs.

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 their 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 county educators. Survey invitations were personalized to each educator so that non-respondents could be tracked. The first survey invitation was sent approximately 24 hours after the initial email sent to participants from their Extension administrator. Three more survey invitations were sent to non-respondents at intervals of seven to ten days (Dillman, 2009). A total of 1099 potential respondents were sent invitations with 730 (66% response rate) educators responding to the survey.

Data Analysis

Five types of data analysis were performed using PASW Statistics Version 18 (formerly known as SPSS) as follows; descriptive statistics, analysis of variance (ANOVA); T-tests; exploratory factor analysis, and multiple linear regressions. Additional qualitative content analysis was conducted. Table 3 summarizes data analysis by research question.

Table 3. *Summary of Data Analysis by Research Question*

Research Question	**Data Analysis**
Q 1. How do non-formal educators use the results of program evaluations?	Exploratory Factor Analysis Descriptives T-test ANOVA
Q 2: What influences that use?	Multiple Regression Content Analysis
Q 2.1 What are the relationships between evaluation characteristics and evaluation use?	Multiple Regression
Q 2.2 What are the relationships between organizational characteristics and evaluation use?	Multiple Regression
Q 2.3 What are the relationships between stakeholder involvement and evaluation use?	Multiple Regression

First, descriptive statistics were examined including means and standard deviations for each independent and dependent variable. Frequencies and percentages were calculated to describe the respondents according to organization, years in current position and educational field. Pearson product-moment correlations coefficients were computed to determine the relationships that might exist among the independent and dependent variables.

The first 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). Type of evaluation use was measured on a five point Likert scale. 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.

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. PASW checks for equal variance using Levene's test (Keith, 2006). Any violations of assumptions are addressed in the results presented in Chapter 4.

Multiple linear regressions were used to determine the relationships between the sub-scales of evaluation characteristics, organizational characteristics and stakeholder involvement (independent) and types of use (dependent). Preceding the regression analysis regression diagnostics were performed to check that assumptions for normality of residuals, and homoscedacity were met. Scatter plots were used to verify normality of residuals as well as check for homoscedacity. Regression assumptions were met. Multicollinearity diagnostics were also included in the regression analysis using tolerance and variance inflation factor (VIF). Regression analysis assessed the extent to which each type of use is accounted for by the independent variables as well as the significance of the three influences.

Finally, open ended responses were analyzed for themes. Respondents were asked what influenced their use of evaluation findings. Responses were coded and analyzed for themes and compared to the independent variables to validate quantitative results and identify any possible influences not included in the quantitative results.

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 it cannot be generalized to the larger Cooperative Extension System or other non-formal educational setting because the population surveyed represented exemplary evaluation institutions, not all potential non-formal educational organizations nor randomly sampled Extension services.

Chapter 4: Results

The conceptual framework for this study presented three categories of independent variables and four types of evaluation use. This population of non-formal educators engaged in all types of use, although there were nuances in use found resulting in ten types of evaluation use for this population. Stakeholder involvement in the evaluation process influenced all types of use. Evaluation characteristics and organizational characteristics also influenced evaluation use, although not all kinds of use.

Data analysis procedures began with a description of the survey population and comparisons across groups on types of use. Analysis of variance (ANOVA) and t-tests were used to examine differences in use between groups. Exploratory factor analysis revealed several sub-factors of use types. The sub-factors identified were used in multiple linear regressions to determine the best model for accounting for variance in influences on evaluation use.

Survey Population

The online survey was sent to 1,121 Extension educators in four states via a personalized email. Twenty two respondents either opted out via SurveyMonkey™ or were invalid email addresses, for a total of 1,099 potential respondents. Seven hundred thirty people responded to the survey after four contacts from the researcher resulting in a 66% response rate (Table 4). Of those responding, three did not conduct evaluations as

part of their job and 97 did not complete the survey. Total completed surveys analyzed were 630 (57% response rate).

Table 4. *Response Rate per Contact*

	Date	**Number Sent**	**Number Responded**	**Cumulative Response Rate**
First Contact	3/26/2010	1121*	318	28.7%
Second Contact	4/5/2010	789	182	45.2%
Third Contact	4/12/2010	607	168	60.3%
Fourth Contact	4/20/2010	423	62	66.4%
Total			730	

*Original population was 1121 minus 22 returned for total of 1099.

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 experience while 23% of respondents had three or fewer years of experience. Eighteen percent (18%) of respondents had four to six years experience, 11% had seven to nine years experience and 20% had ten to 15 years of experience. Only 9% of educators had between 16 and 20 years 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 masters degree in some states. The population is well educated with 75% of educators holding a masters 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 first research question was: How do Extension educators use the results of evaluation findings? The conceptual framework presented four types of evaluation use identified in the literature. The survey measured process use, conceptual use, persuasive use and instrumental use. The most frequent type of use was process use with a mean score of 3.46 (Table 5). Instrumental use was the least practiced use with a mean score of 2.87.

Table 5. *Frequency of Type of Use*

Type of use	**N**	**Cronbach's Alpha**	**Mean score (5 pt. Likert)**	**SD**
Process	599	.81	3.46	.61
Conceptual	582	.73	3.19	.48
Persuasive	575	.85	3.02	.55
Instrumental	592	.81	2.87	.53

Exploratory factor analysis was conducted for each use scale to validate the use instrument with a different population. Additionally, McCormick (1997) did not include factor analysis as part of the original development of the instrument due to small sample size. McCormick recommended future researchers conduct factor analysis to validate the three type of uses measured. The conceptual framework presented four types of

evaluation use; however exploratory factor analysis identified ten distinct types of use. Process use was found to include two sub-factors, named Process Action and Process Theory. Conceptual use included three sub-factors around Negative, Positive and Cognitive Consideration of evaluation findings. Persuasive use also included Positive and Negative Persuasion, as well as a third sub-factor name Status Quo Persuasion. Instrumental use included two sub-factors, Instrumental Change and Instrumental Decisions. Table 6 presents the means, alphas and standard deviation for the use factors.

Table 6. *Mean, Standard Deviation and Cronbach's Alpha for all Use Factors*

Type of use	**N**	**Cronbach's alpha**	**Mean score (5 pt. Likert)**	**SD**
Process Action	603	.81	3.77	.64
Process Theory	608	.77	2.67	.90
Negative Conceptual	602	.90	2.22	.88
Positive Conceptual	607	.70	3.76	.63
Cognitive Conceptual	619	.60	4.03	.59
Positive Persuasion	603	.85	3.79	.65
Negative Persuasion	602	.84	1.90	.74
Status Quo Persuasion	607	.77	2.89	.90
Instrumental Change	603	.84	2.22	.71
Instrumental Decision	604	.69	3.66	.65

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). Seven items measured process use (Taylor-Powell & Boyd, 2008) on a five point Likert scale. Exploratory factor analysis using a varimax rotation revealed two different types of process use. The researcher labeled the first type of process use "Process Action" and the second type of process use "Process Theory" (Table 7). Process Action involved applying a new skill(s) or lesson learned as a result of conducting the evaluation. Process Theory involved developing a theory of change or a logic model as part of conducting the evaluation. Five items loaded on one factor (Process Action) (α=.81, eigenvalue=3.26) and two items loaded on a second factor (Process Theory) (α=.77, eigenvalue=1.31).

Table 7. *Factor Loadings for Process Use Exploratory Factor Analysis (N=603)*

Item	**Process Action**	**Process Theory**
30a. Theory of change written or developed		.887
30b. A logic model was developed or changed		.870
30c. Evaluation planning became part of the overall program	.677	
30d. Outcomes were strengthened or improved	.794	
30e. Data were used to make decisions	.804	
30f. Lessons learned during the evaluation were applied	.804	
30g. New evaluation skills were learned	.588	

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 identified three types of conceptual use (Table 8). The first type of conceptual use, Negative Consideration, involved considering the results "negatively" either by opposing the findings or rejecting the findings as invalid or not useful (α=.90, eigenvalue=3.86). The second type of conceptual use, Positive Consideration, involved considering the benefits of the findings for increasing acceptance or understanding of the program (α=.70, eigenvalue=2.77). The third type of conceptual use, Cognitive Consideration, involved thinking about the results and the implications or relevance of those results (α=.60, eigenvalue=1.07).

Table 8. *Factor Loadings for Conceptual Use Exploratory Factor Analysis (N=602)*

Item	**Negative Consideration**	**Positive Consideration**	**Cognitive Consideration**
26a. Thought about evaluation results			.698
26b. Considered how the evaluation results fit with your experience/other evaluation findings			.778
26c. Considered evaluation results/future implications but postponed action			.647
26d. Criticized validity of the evaluation results	.871		
26e. Criticized usefulness of the evaluation results	.881		
26f. Considered how to oppose the evaluation results	.848		
26g. Rejected/disregarded the evaluation results	.858		
26h. Learned more about the		.760	

organization or program		
26i. Encouraged others to accept evaluation results		.572
26j. Encouraged others to reject the evaluation results	.733	
26k. Re-envisioned the important effects of the program		.776
26l. Understood other's perceptions of the program better		.710

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 (McCormick, 1997) on a five point Likert scale. Exploratory factor analysis using varimax rotation identified three types of persuasive use (Table 9). Positive Persuasion (α=.85, eigenvalue=5.12) involves using evaluation findings to positively impact the program through information sharing, teaching or advocating. Negative Persuasion (α=.84, eigenvalue=3.43) involves using results to re-align political support/opposition of the program or against the program. Status Quo Persuasion (α=.77, eigenvalue=1.36) encompasses using findings to maintain the status quo through staffing, funding or legal/accreditation requirements.

Table 9. *Factor Loadings for Persuasive Use Exploratory Factor Analysis (N=602)*

Item	Positive Persuasion	Negative Persuasion	Status Quo Persuasion
27a. Used the results formally in documents for readers within and beyond your organization	.637		
27b. Used the results to interest others in the program	.796		
27c. Used results to convince others of the value or merit of the program	.800		
27d. Used results to teach others about evaluation practice	.525		
27e. Used results to lobby for support or resources	.604		
27f. Used results to enhance organizational commitment to and understanding of the program	.746		
27g. Used results to retain your role in the program			.538
27h. Used results to promote further evaluation	.568		
27i. Used results to meet contractual or legal requirements			.824
28j. Used results to meet accreditation/licensing requirements			.767
27k. Used results in an application for further funding			.737
27l. Used results to advocate for the program	.645		
27m. Used results to advocate against the program		.595	

28a. Used results to show mis-alignment between organizational values and practices	.796
28b. Used results to show unethical behavior of organizational members	.898
28c. Used results to re-align political support for the program	.643
28d. Used results to re-align political opposition for the program	.869

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 (McCormick, 1997) on a five point Likert scale. Initial factor analysis identified three factors however the third factor had poor reliability (α=.40) and items did not fall together conceptually. Those three items were removed and the factor analysis was repeated. The items removed included question 28e, "used results to increase funding", question 28i, "used results to intentionally keep the program the same" and question 29i, "used results to continue the program." This second analysis identified the same two factors identified in the first factor analysis (Table 10). The two remaining factors are Instrumental Change (α=.85, eigenvalue=4.02) and Instrumental Decisions (α=.84, eigenvalue=2.08). Instrumental Change involves fundamental programmatic change based on the results of the evaluation. Instrumental Decisions involve making smaller program decisions based on the findings.

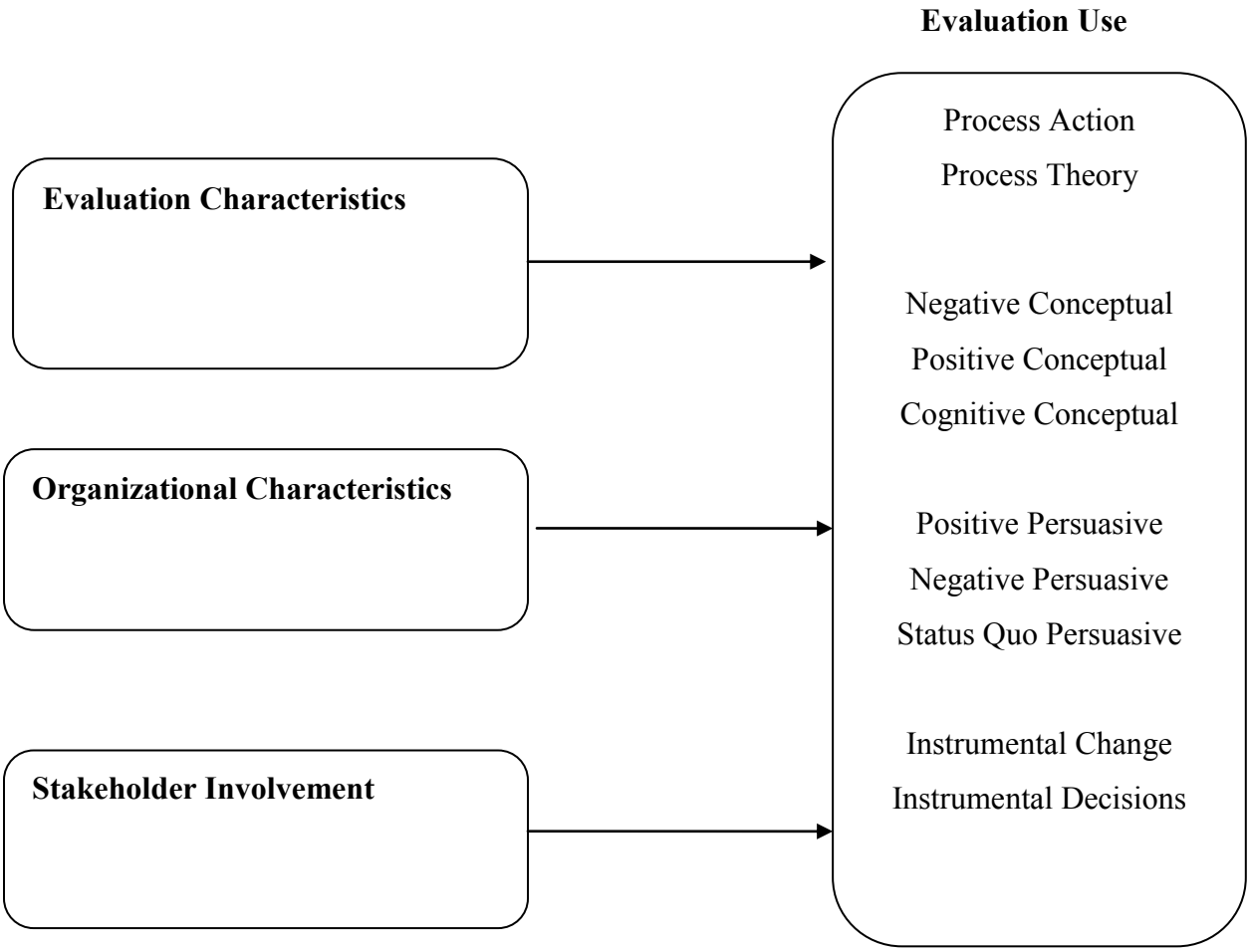
Table 10. *Factor Loadings for Instrumental Use Exploratory Factor Analysis (N=603)*

Item	Instrumental Change	Instrumental Decisions
28e. Used results to increase funding		
28f. Used results to decrease funding	.749	
28g. Used results to initiate small changes/modifications		.637
28h. Used results to radically transform the program	.662	
28i. Used results to intentionally keep the program the same		
29a. Used results to redefine program participants or eligibility requirements for program	.613	
29b. Used results to make decisions regarding program improvement		.738
29c. Used results to reorganize or restructure the program		.615
29d. Used results to allocate rewards or sanctions	.751	
29e. Used results to alter policies that govern the program	.792	
29f. Used results as a diagnostic resource for planning		.612
29g. Used results to alter the management or administration of the program	.617	
29h. Used results to decide to cancel the program	.725	
29i. Used results to decide to continue the program		
29j. Used results to identify further evaluation needs		.642

Summary of Types of Evaluation Use

The conceptual framework presented four types of evaluation use that were further refined using exploratory factor analysis. In total, ten types of use were identified as separate factors of use for Extension educators. Process use includes Process Action and Process Theory while conceptual use includes Positive Consideration, Negative Consideration and Cognitive Consideration. Persuasive use includes Negative Persuasion, Positive Persuasion and Status Quo Persuasion while Instrumental use involves Instrumental Change or Decisions. The resulting model is shown in Figure 5.

Figure 5. Refined Measurement Framework



Group Differences

The population was examined for differences in use between program area educators, educator length of time in current position, evaluation purpose and total client contact hours for the program under evaluation. In the non-formal Extension educational setting there are six different subject areas; agriculture and natural resources, horticulture, forestry, youth development, family and consumer sciences and community development. There were no significant differences in total use between educators working in different program areas. Total use was calculated as an average of all types of use.

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 4 to 6 years had the highest mean (44.68) scores on instrumental use, followed by educators with less than three years in the position (44.24). Educators working 16 to 20 years had the lowest mean scores (40.53).

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 longstanding challenge in Extension is to encourage evaluation of programs rather than shorter events or activities which may be better suited for customer satisfaction surveys rather than program evaluations. For the purpose of this study, a minimum of six client contact hours was used to define an educational process as a program. Two hundred seventy seven (277) respondents indicated that the program that they evaluated lasted at least six hours and 202 educators

conducted programs of less than six hours. There was a significant difference between the two groups on total use, process use, persuasive use and instrumental use (Table 11). There was no significant difference in conceptual use between the two groups. The group conducting programs had higher mean scores on total use than the group conducting events or activities.

Table 11. *Differences in Evaluation Use by Program Hours*

Type of use	**t**	**df**	**Program Group (hours ≥ 6) N=277**		**Event group (hours<6) N=202**	
			Mean	**SD**	**Mean**	**SD**
Total use	2.27*	477	12.70	1.67	12.35	1.66
Process use	2.50*	559	24.58	4.05	23.69	4.29
Conceptual use	0.28	547	38.31	5.77	38.17	6.06
Persuasive use	2.25*	536	52.11	9.13	50.26	9.79
Instrumental use	1.97*	551	43.61	8.11	42.27	7.56

*$p<.05$, $t= \pm 1.96$

Finally, groups were compared based on evaluation purpose. Table 12 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 or educational methods improvement.

Table 12. *Frequency and Percentage of Evaluation Purpose (N=628)*

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

An ANOVA was performed to examine differences in use based on the stated primary purpose of the evaluation. Purpose was not normally distributed, however ANOVA is robust and violations of normality assumption may have minor effects on results (Howell, 2004). Table 13 presents the between group differences in use based on purpose. Some types of use varied based on the stated purpose. Statistically significant differences were found in Process Action, Negative Consideration, Negative Persuasion, Positive Persuasion, Instrumental Change and Instrumental Decisions. The highest mean scores on Process Action, Negative Persuasion and Instrumental Decision were found when the purpose was needs assessment. The highest mean scores on Negative Consideration were found when the purpose was audience analysis. Instrumental Change had the highest mean scores for improvement of internal operations and Positive Persuasion had the highest mean scores for the purpose of determining outcomes or impacts.

Table 13. *Analysis of Variance of Evaluation Use by Evaluation Purpose*

Use Factor	F	df	N
Process Action	2.86**	597	598
Process Theory	1.46	597	598
Positive Consideration	1.19	580	581
Negative Consideration	3.56**	580	581
Cognitive Consideration	1.49	580	581
Negative Persuasion	3.88*	573	574
Positive Persuasion	2.40***	573	574
Status Quo Persuasion	.883	573	574
Instrumental Change	2.42***	590	591
Instrumental Decisions	2.69**	590	591

*p<.001, **p<.01, ***p<.05

Factors Influencing Use

The second research question was: What factors influence use of evaluation results? The conceptual framework presents three categories of influence, evaluation characteristics, organizational characteristics and stakeholder involvement. Multiple linear regression was used to analyze the influence of these independent variables on the ten types of evaluation use. Keith (2006) recommends using multiple linear regression for purposes of explanation or prediction. This study focused on explaining the influences on evaluation use rather than on predicting use. Correlations between all independent variables and the dependent variables were examined prior to conducting multiple regressions (Appendix B). All independent variables were entered simultaneously allowing for inferences to be made about the importance of each variable (Keith, 2006). Multicollinearity diagnostics were included in the regression analysis using tolerance

levels of greater than .20 and VIF scores less than 5. These diagnostics along with the correlations do not indicate issues with multicollinearity (Keith, 2006). An advantage of simultaneous multiple regression is that it provides estimates of the direct effects of each of the independent variables on evaluation use. The major disadvantage of using simultaneous multiple regression is the assumption that all relevant variables are included in the regression equation (Keith, 2006).

After examining the influence of evaluation characteristics, organizational characteristics and stakeholder involvement separately, the full model was tested using all independent variables. Models were then refined by removing non-significant independent variables, retesting the model and choosing the best fit.

Evaluation characteristics influence on types of evaluation use. Evaluation characteristics are variables of influence related to the evaluation and the evaluator. Evaluation characteristics include measures of findings, timeliness (evaluation type and evaluation timing), evaluator competence and disposition.

Timeliness is a categorical variable that addresses whether the evaluation was formative or summative and if the evaluation was completed in a manner that allowed for the results to be used. The two items related to timeliness were dummy coded and entered separately in the regression. These variables were not normally distributed, most respondents (n=458) used summative evaluations and almost all (n=613) educators indicated that the timing of the evaluation allowed for use. Despite the non-normal distribution of the two items, the residuals were normally distributed thus the assumption of normality for regressions was met (Keith, 2006).

The second variable describing evaluation characteristics is findings. Findings address the nature of results (positive or negative), the consistency with the educators experience with the program and the relevance of the findings. In general, respondents reported positive or mostly positive results that were relevant and consistent with educator experience with the program. The mean score of findings was 3.76 (SD=.32) on a four point scale with a higher score indicating more positive findings.

Evaluator competence measures the quality, usefulness, and appropriateness of the evaluation work and products. The mean score of evaluator competence was 3.42 (SD=.52) on a four point scale, indicating high levels of competence as reported by the educators.

Disposition is a measure of educator attitude towards evaluation in general. Disposition has the most influence on use of all the evaluation characteristics (Table 15). The mean score for disposition was 3.56 on a five point scale (SD=.44). Higher scores on disposition indicate more positive attitude toward evaluation in general.

Each type of evaluation use was regressed simultaneously on evaluation characteristics (Table 14). These characteristics influence process use, conceptual use, persuasive use and instrumental use and were significantly related to Process Action, Positive Consideration, Negative Consideration, Cognitive Consideration, Negative Persuasion, Positive Persuasion, Instrumental Change and Instrumental Decisions. Evaluation characteristics strongly influenced application of new skills or learning from the process of conducting the evaluation rather than from the evaluation findings (Process Action). Educator use of the results to think about or understand the program better was influenced by the evaluation characteristics (Positive Consideration, Negative

Consideration and Cognitive Consideration). Educators were also influenced by evaluation characteristics when results were used to positively and negatively impact the program by informing or educating others about the program (Positive Persuasion and Negative Persuasion). The evaluation characteristics were most influential in using results to re-align support or opposition for the program (Negative Persuasion). Educators were also influenced to take action from the results of the evaluation by the evaluation characteristics. Small changes (Instrumental Decisions) were moderately influenced by the evaluation characteristics while more substantive changes (Instrumental Change) were slightly influenced. Effect sizes less than .05 are considered non-effects, while effect sizes between .06 - .10 are small, .11 - .24 are moderate and those above .25 are large (Keith, 2006).

Of the relationships that were statistically significant, evaluation characteristics have the strongest influence on Negative Persuasion, explaining 24% of the variance in negative persuasive use. Evaluation characteristics are the least influential on Negative Consideration, explaining only 1.0% of the variance.

Table 14. *Types of Evaluation Use regressed on all Evaluation Characteristics (N=562)*

	F	**df**	**Adjusted R^2**
Process Action	33.04	568	.220*
Process Theory	1.57	568	.005
Positive Consideration	11.86	549	.090*
Negative Consideration	13.31	549	.010*
Cognitive Consideration	11.54	549	.081*
Negative Persuasion	36.69	554	.243*
Positive Persuasion	7.85	554	.058*
Status Quo Persuasion	1.40	554	.004
Instrumental Change	4.30	568	.028*
Instrumental Decisions	18.67	568	.135*

*p<.001

Organizational characteristics influence on types of use. Organizational characteristics include measures of the organization's commitment to evaluation, information needs of the organization and organizational decision characteristics. The organization's commitment to evaluation includes the support the organization provides educators for learning how to conduct evaluations as well as requirements for conducting and/or reporting evaluation results. Support may be in the form of training, incentives, time and resources for educators. Organizations committed to evaluation will also provide opportunities for discussion and sharing results both within and outside the organization (Volkov & King, 2007). The mean score on organizational commitment

was 4.02 (SD=.62) on a five point scale. Higher scores indicate higher levels of organizational commitment as reported by educators.

The organization's information needs include the informational needs of the educator, the organization and external stakeholders. Mean score of information needs was 3.70 (SD=.48) on a four point scale.

Decision characteristics measured educator perceptions of the importance of the program under evaluation to themselves, their community and the organization. Educators generally indicated that the program was somewhat to very important to them, their community and their organization so there was not a lot of variance in responses resulting in a non-normal distribution. Mean score was 3.65 (SD=.49) indicating high levels of importance as perceived by the educators. Regression assumes normality of residuals and this assumption was met.

Types of use were regressed simultaneously on organizational characteristics to determine the significance of the relationship between organizational characteristics and evaluation use (Table 15). Organizational characteristics significantly influence aspects of all types of evaluation use. Educators are influenced by the evaluation characteristics to take action as a result of the evaluation process (Process Action). Evaluation characteristics do not influence the educators to build logic models or theories of change (Process Theory). Thinking about the results in both positive and negative ways was also influenced by organizational characteristics (Positive Consideration and Negative Consideration). Sharing information or teaching others about the program and real-aligning program support or opposition were also influenced by the evaluation characteristics (Negative Persuasion and Positive Persuasion). Making small changes in

the program was influenced by the evaluation characteristics (Instrumental Decisions) but substantive changes were not (Instrumental Change).

Organizational characteristics are most influential on Negative Persuasion, accounting for 19% of the variance in negative persuasive use. It also influences Process Action, accounting for 16% of the variance. It is less influential on Positive Consideration (3% of variance) and Positive Persuasion (2% of variance).

Table 15. *Types of Evaluation Use Regressed on all Organizational Characteristics (N=574)*

	F	**df**	**Adjusted R^2**
Process Action	38.32	581	.162*
Process Theory	0.61	581	-.002
Positive Consideration	6.62	553	.030*
Negative Consideration	14.12	553	.066*
Cognitive Consideration	9.68	553	.045*
Negative Persuasion	43.89	557	.188*
Positive Persuasion	4.70	557	.020**
Status Quo Persuasion	1.70	557	.004
Instrumental Change	1.92	571	.005
Instrumental Decisions	11.24	571	.051*

*p<.001, **p<.01

Stakeholder Involvement influence on type of evaluation use. Stakeholder involvement is a single variable with 11 items measuring how stakeholders are involved in the entire evaluation process (Toal, 2009). Stakeholder involvement was moderate with a mean of 2.11 on a four point scale (SD=.80) indicating a little to some involvement in the evaluation process.

Involving stakeholders in the evaluation results influenced all aspects of educator use of evaluation results. Stakeholder involvement significantly influences all types of

evaluation use with the strongest relationships with Process Action and Negative Persuasion accounting for 7% of variance with large effect sizes (Table 16). Stakeholder involvement explains less of the variance in Cognitive Consideration and Positive Consideration with moderate effect sizes.

Table 16. *Types of Evaluation Use Regressed on Stakeholder Involvement (N=600)*

	F	**Df**	**Adjusted R^2**	**β**	**t**
Process Action	43.12*	573	.068	.265	6.57*
Process Theory	22.25*	573	.036	.193	4.72*
Positive Consideration	10.49*	557	.017	.136	3.24*
Negative Consideration	15.65*	557	.026	.165	3.96*
Cognitive Consideration	5.66**	557	.008	.100	2.38**
Negative Persuasion	39.42*	550	.065	.259	6.28*
Positive Persuasion	13.99*	550	.023	.158	3.74*
Status Quo Persuasion	32.73*	550	.055	.237	5.72*
Instrumental Change	26.10*	565	.043	.210	5.11
Instrumental Decisions	13.62*	565	.022	.145	3.69*

*p<.001, **p<.01

Summary of Partial Models

The initial regressions considered the impact of only one set of possible independent variables on the types of use. These partial models indicated significant influences of the independent variables on types of use. Partial models suggest that stakeholder involvement is the most strongly influential independent variable followed by evaluation characteristics and organizational commitment to evaluation. The following section tests the full model by simultaneously regressing types of use on all independent variables.

Full Model

Process use model. Two types of process use were identified for this population, Process Action and Process Theory. Process Action use involves applying a new skill or lesson learned from conducting the evaluation. Process Action use was regressed on all independent variables. All independent variables account for 27% (F=23.47, df 568, R^2=.274) of the variance in Process Action use. When all independent variables are included in the model, evaluator competence, information needs, and decision characteristics were no longer significant. The variables significantly related to Process Action use were findings, disposition, organizational commitment and stakeholder involvement. The effect sizes, as measured by β were moderate for findings, organizational commitment, and stakeholder involvement. Evaluator disposition towards evaluation had the largest effect on Process Action.

Process Action was regressed on the independent variables identified as significant in the full model to fit the best model (Table 17). Findings, disposition, organizational commitment and stakeholder involvement together account for 25% (F=48.64, df 565, R^2 =.251) of the variance in Process Action. Model 1 accounts for more variability overall in Process Action.

Table 17. *Results of Multiple Regressions from Model 1 and Model 2 on Process Action*

Variable	**Model 1 N=516**		**Model 2 N=552**	
	St. β	**95% CI**	**St. β**	**95% CI**
Constant		[-7.053, -4.992]		
Evaluation Type	-.054	[-.283, .040]		
Evaluation Timing	.002	[-.475, .507]		
Findings	.102***	[.058,. 582]	.162*	[.276, .744]
Evaluator Competence	.070	[-.016, .286]		
Evaluator Disposition	.282*	[.455, .823]	.304*	[.495, .873]
Organizational Commitment	.115**	[.049, .323]	.107***	[.036, .308]
Information needs	.081	[-.005, .345]		
Decision Characteristics	.056	[-.037, .266]		
Stakeholder involvement	.148*	[.091, .278]	.180*	[.133, .315]
Adjusted R^2	.263		.251	
F	23.47		48.64	
df	568		568	

*p<.001, **p<.01, ***p<.05

The second type of process use was Process Theory. Process Theory use includes writing logic models or theories of change as a result of conducting the evaluation. All independent variables accounted for 6% (F=3.72, df 568, R^2=.056) of the variance in process theory. When all variables are included in the model, evaluation timing (formative/summative) is no longer significant as it was in the model including only evaluation characteristics. The only independent variable significantly related to Process Theory was stakeholder involvement with a moderate effect size (t=4.77, β=.21).

Process Theory was regressed on stakeholder involvement to fit the best model (Table 18). Stakeholder involvement accounts for 4% of the variance in Process Theory. Model 1 accounts for the most variance.

Table 18. *Results of Multiple Regressions from Model 1 and Model 2 on Process Theory*

Variable	**Model 1 N=516**		**Model 2 N=600**	
	St. β	**95% CI**	**St. β**	**95% CI**
Constant		[-1.757, .596]		
Evaluation Type	-.062	[-.325, .045]		
Evaluation Timing	.029	[-.368, .752]		
Findings	.066	[-.091,. 507]		
Evaluator Competence	-.049	[-.266, .079]		
Evaluator Disposition	.046	[-.113, .318]		
Organizational Commitment	-.065	[-.261, .051]		
Information needs	-.083	[-.373, .026]		
Decision Characteristics	.025	[-.122, .224]		
Stakeholder involvement	.207*	[.152, .365]	.193*	[.141, .342]
Adjusted R^2	.041		.036	
F	3.72		22.25	
df	568		573	

*p<.001

Conceptual use model. Conceptual use involves changes in how people understand or think about the program based on the findings. Three types of conceptual use were identified through exploratory factor analysis for this population, Negative Consideration, Positive Consideration and Cognitive Consideration. Negative Consideration is rejecting the findings as invalid or not useful or otherwise considering the results in a negative way. All the independent variables account for 14% of the variation in Negative Consideration (F=9.88, df 549 R^2 =.141). When all independent

variables are entered in the model, organizational commitment and information needs were not significant. Findings, disposition, and stakeholder involvement all significantly influenced Negative Consideration with moderate effects (Table 19). Findings and disposition correlate negatively with Negative Consideration thus Negative Consideration increases with a decrease in findings (more negative) or disposition (more negative).

Negative Consideration was regressed on findings, disposition and stakeholder involvement to find the best model fit (Table 19). The independent variables remained significant with moderate effect sizes. The three independent variables in Model 2 account for more variance than all the independent variables in Model 1.

Table 19. *Results of Multiple Regressions from Model 1 and Model 2 on Negative Consideration*

Variable	**Model 1 N=516**		**Model 2 N= 564**	
	St. β	**95% CI**	**St. β**	**95% CI**
Constant		[2.067, 4.873]		[2.649, 4.686]
Evaluation Type	.053	[-.059, .296]		
Evaluation Timing	.001	[-.531, .547]		
Findings	-.158**	[-.781, -.205]	-.186*	[-.832 .-.330]
Evaluator Competence	-.010	[-.186, .146]		
Evaluator Disposition	-.239*	[-.741, -.326]	-.252*	[-.476, -.381]
Organizational Commitment	.009	[-.165, .136]		
Information needs	-.079	[-.356, .028]		
Decision Characteristics	.011	[-.145, .188]		
Stakeholder involvement	.215*	[.164, .369]	.195*	[.143, .341]
Adjusted R^2	.127		.129	
F	9.88		28.16	
df	549		549	

*p<.001, **p<.01

Positive Consideration is considering the findings as a means to increase understanding or acceptance of the program. All the independent variables combined account for 12% of the variance in Positive Consideration. When all independent variables are included in the model, evaluator competence, decision characteristics and stakeholder involvement are not significant. Evaluation timing (formative/summative), evaluator disposition, and information needs are significantly related to Positive Consideration with moderate effect sizes.

Positive Consideration was regressed on evaluation timing, evaluator disposition and information needs (Table 20). The independent variables remained significant with moderate effect sizes. Model 1 accounts for more variance in Positive Consideration than Model 2.

Table 20. *Results of Multiple Regressions from Model 1 and Model 2 on Positive Consideration*

Variable	Model 1 N=516		Model 2 N=580	
	St. β	**95% CI**	**St. β**	**95% CI**
Constant		[-4.356,-2.038]		[-3.964,-2.339]
Evaluation Type	-.123**	[-.462, -.098]	-.117*	[-.445, -.087]
Evaluation Timing	-.016	[-.660, .444]		
Findings	-.010	[-.326, .264]		
Evaluator Competence	.085	[-.005, .335]		
Evaluator Disposition	.202*	[.247, .673]	.247*	[.379, .748]
Organizational Commitment	.061	[-.054, .254]		
Information needs	.137**	[.094, .487]	.170**	[.188, .531]
Decision Characteristics	-.034	[-.242, .099]		
Stakeholder involvement	.072	[-.014, .195]		
Adjusted R^2	.121		.115	
F	9.40		24.85	
df	549		549	

*p<.001, **p<.01

Cognitive Consideration involves thinking about the evaluation results as well as the implications or relevance of those results. Together, the independent variables account for 9% of the variance in Cognitive Consideration. Organizational commitment and stakeholder involvement are not significant in the full model. Findings, evaluator competence and evaluator disposition are significant with moderate effect sizes (Table 21). Evaluation timing is significant however, the effect size is small.

Cognitive Consideration was regressed on findings, evaluator competence and evaluator disposition (Table 21). The independent variables remained significant with

moderate effect sizes. Cognitive Consideration Model 2 accounts for slightly less variance than Model 1.

Table 21. *Results of Multiple Regressions from Model 1 and Model 2 on Cognitive Consideration*

Variable	**Model 1 N=516**		**Model 2 N=563**	
	St. β	**95% CI**	**St. β**	**95% CI**
Constant		[-4.22,-1.88]		[-4.26,-2.08]
Evaluation Type	.030	[-.12, .25]		
Evaluation Timing	-.096***	[-.1.19, -.08]	-.098***	[-1.19,-.10]
Findings	.116***	[.07, .66]	.120**	[.05, .66]
Evaluator Competence	.134**	[.09, .43]	.134**	[.02, .09]
Evaluator Disposition	.137**	[.10, .53]	.186*	[.02, .04]
Organizational Commitment	.095	[-.00, .31]		
Information needs	-.016	[-.23, .16]		
Decision Characteristics	-.050	[-.27, .07]		
Stakeholder involvement	.054	[-.04, .17]		
Adjusted R^2	.093		.088	
F	7.27		14.218	
df	549		550	

*p<.001, **p<.01, ***p<.05

Persuasive use model. Persuasive use occurs when the results of an evaluation are used to persuade, inform or educate others such as decision makers or stake holders (Johnson et al., 2009). The three types of persuasive use are Positive Persuasion, Negative Persuasion and Status Quo Persuasion. Positive Persuasion is using the evaluation findings to positively impact the program through information sharing, advocating or teaching others. When all independent variables are entered in the model simultaneously 29% of the variation in Positive Persuasion is accounted for (F=26.30, df

550, R^2 =.293). Decision characteristics are no longer significant; however, all other independent variables are significantly related to Positive Persuasion (Table 22). The evaluation timing variables and findings have small effect sizes. All other significant variables have moderate effect sizes.

Positive Persuasion was regressed on evaluation type, findings, evaluator competence, evaluator disposition, organizational commitment, information needs and stakeholder involvement (Table 22). All independent variables remained significant with small effect sizes for evaluation type and findings. Evaluator competence, evaluator disposition, organizational commitment, information needs and stakeholder involvement were associated with moderate effect sizes. Positive Persuasion Model 2 accounts for slightly more variance than Model 1.

Table 22. *Results of Multiple Regressions from Model 1 and Model 2 on Positive Persuasion*

Variable	Model 1 N=516		Model 2 N=521	
	St. β	**95% CI**	**St. β**	**95% CI**
Constant		[-7.24,-5.22]		[-6.99,-5.15]
Evaluation Type	-.098**	[-.38, -.06]	-.099**	[-.38,-.60]
Evaluation Timing	.002	[-.47, .50]		
Findings	.093***	[.03, .55]	.098***	[.05, .56]
Evaluator Competence	.198*	[.23, .52]	.200*	[.23, .53]
Evaluator Disposition	.195*	[.25, .62]	.197*	[.25, .62]
Organizational Commitment	.137**	[.09, .35]	.133**	[.08, .35]
Information needs	.127**	[.09, .43]	.132**	[.11, .44]
Decision Characteristics	.038	[-.07, .23]		
Stakeholder involvement	.131**	[.07, .25]	.134*	[.07, .26]
Adjusted R^2	.293		.294	
F	26.30		33.72	
df	550		550	

*p<.001, **p<.01, ***p<.05

Negative Persuasion is using the evaluation findings to re-align political support or opposition to the program or against the program. When all independent variables are entered in the model simultaneously, 10% of the variation in Negative Persuasion is accounted for (Table 23). Organizational commitment is no longer significant. Evaluation timing, findings, evaluator disposition and stakeholder involvement remain significant with moderate effect sizes.

Negative Persuasion was regressed on evaluation timing, findings, evaluator disposition, and stakeholder involvement (Table 23). All variables remained significant

with moderate effect sizes. Negative Persuasion Model 2 accounts for slightly more variance than Model 1.

Table 23. *Results of Multiple Regressions from Model 1 and Model 2 on Negative Persuasion*

Variable	**Model 1 N=516**		**Model 2 N=563**	
	St. β	**95% CI**	**St. β**	**95% CI**
Constant		[1.26, 3.56]		[1.42, 3.54]
Evaluation Type	.012	[-.15, .21]		
Evaluation Timing	.104***	[,13,1.22]	-.095***	[.08, 1.15]
Findings	-.151**	[-.76, -.18]	-.171*	[-.08, -.03]
Evaluator Competence	-.009	[-.19, .15]		
Evaluator Disposition	-.180*	[-.61, -.19]	-.208*	[-.05, -.02]
Organizational Commitment	-.054	[-.24, .07]		
Information Needs	-.049	[-.30, .09]		
Decision Characteristics	.039	[-.09, .25]		
Stakeholder Involvement	.215*	[.16, .37]	.205*	[.15, .35]
Adjusted R^2	.098		.100	
F	7.61		16.35	
df	550		550	

*p<.001, **p<.01, ***p<.05

Status Quo Persuasion is using the evaluation findings to maintain the status quo through funding, staffing or legal/accreditation requirements. When all independent variables are entered in the model simultaneously, 6% of the variation in Status Quo Persuasion is accounted for (Table 24). Evaluation type and decision characteristics are no longer significant. Stakeholder involvement and evaluator disposition are significant with moderate effect sizes.

Status Quo Persuasion was regressed on evaluator disposition and stakeholder involvement (Table 24). All variables remained significant. Evaluator disposition has a small effect while stakeholder involvement has a large effect. Model 1 and Model 2 account for the same amount of variance in Status Quo Persuasion.

Table 24. *Results of Multiple Regressions from Model 1 and Model 2 on Status Quo Persuasion*

Variable	**Model 1 N=516**		**Model 2 N=569**	
	St. β	**95% CI**	**St. β**	**95% CI**
Constant		[-1.63, .75]		[-.57, .76]
Evaluation Type	-.046	[-.29, .08]		
Evaluation Timing	-.058	[-.95, .18]		
Findings	.049	[-.15, .46]		
Evaluator Competence	.008	[-.16, .19]		
Evaluator Disposition	-.116***	[-48, -.04]	-.097***	[-.41, -.03]
Organizational Commitment	.021	[-.12, .19]		
Information Needs	-.015	[-.23, .17]		
Decision Characteristics	.068	[-.03, .32]		
Stakeholder Involvement	.245*	[.20, .42]	.256*	[.22, .43]
Adjusted R^2	.062		.062	
F	5.00		19.16	
df	550		550	

*p<.001, **p<.01, ***p<.05

Instrumental use model. Direct action or decision making based on evaluation findings is instrumental use. The two types of instrumental use are Instrumental Change and Instrumental Decisions. Instrumental Change involves fundamental programmatic change based on the evaluation findings. When all independent variables are entered in the model simultaneously 9% of the variation in Instrumental Change is accounted for

(Table 25). Evaluation timing is no longer significant. Evaluator disposition and stakeholder involvement remain significant. Findings were not significant when Instrumental Change was regressed on evaluation characteristic but it is significant when all the independent variables are entered in the model (Table 25). Findings had a significant but small effect while evaluator disposition and stakeholder involvement had significant moderate effects.

Instrumental Change was regressed on findings, evaluator disposition and stakeholder involvement (Table 25). All variables remained significant. Effect sizes were small for findings, moderate for evaluator disposition and large for stakeholder involvement. Instrumental Change Model 2 accounts for slightly more variance than Model 1.

Table 25. *Results of Multiple Regressions from Model 1 and Model 2 on Instrumental Change*

Variable	Model 1 N=516		Model 2 N=564	
	St. β	**95% CI**	**St. β**	**95% CI**
Constant		[.57, 2.88]		[.90, 2.98]
Evaluation Type	-.004	[-.19, .17]		
Evaluation Timing	.066	[-.12, .98]		
Findings	-.094***	[-.59, -.00]	-.094***	[-.55, -.04]
Evaluator Competence	-.012	[-.19, .15]		
Evaluator Disposition	-.178*	[-.61, -.19]	-.186*	[-.61, -.23]
Organizational Commitment	-.012	[-.17, .13]		
Information Needs	-.049	[-.30, .09]		
Decision Characteristics	.034	[-.10, .24]		
Stakeholder Involvement	.248*	[.22, .43]	.251*	[.21, .42]
Adjusted R^2	.085		.089	
F	6.86		19.36	
df	565		565	

*p<.001, **p<.01, ***p<.05

Instrumental Decisions are making small program decisions based on the evaluation results. When all independent variables are entered in the model simultaneously, 14% of the variation in Instrumental Decisions is accounted for (Table 26). Organizational commitment and stakeholder involvement are no longer significant. Evaluation type and evaluator disposition remain significant. Evaluation type has a small effect while evaluator disposition has a large effect.

Instrumental Decisions was regressed on evaluation type and evaluator disposition (Table 26). All variables remained significant. Effect sizes were moderate for

evaluation type and large for evaluator disposition. Instrumental Decisions Model 2 accounts for slightly less variance than the first model.

Table 26. *Results of Multiple Regressions from Model 1 and Model 2 on Instrumental Decisions*

Variable	**Model 1 N=516**		**Model 2 N=594**	
	St. β	**95% CI**	**St. β**	**95% CI**
Constant		[-4.61,- 2.37]		[-3.30, -2.04]
Evaluation Type	-.105**	[-.41, -.06]	-.102**	[-.40, -.06]
Evaluation Timing	.033	[-.31, .75]		
Findings	.061	[-.09, .48]		
Evaluator Competence	-.007	[-.18, .15]		
Evaluator Disposition	.296*	[.46, .88]	.354*	[63, .97]
Organizational Commitment	.065	[-.04, .25]		
Information Needs	-.021	[-.23, .15]		
Decision Characteristics	-.009	[-.18, .15]		
Stakeholder Involvement	.081	[-.001, .20]		
Adjusted R^2	.138		.134	
F	11.06		44.85	
df	565		569	

*p<.001, **p<.01, ***p<.05

Summary of Models

Multiple linear regressions were run on two models for each type of evaluation use. The first model entered all independent variables simultaneously. The second model entered only the independent variables identified as statistically significant (p<.05) from the first run. The two models were compared to determine the model that accounted

for the most variance in the type of use. In general there were small differences in the variance accounted for between the two models.

The full model containing all independent variables (Model 1) accounted for more variance in Process Action, Process Theory, Negative Consideration, Cognitive Consideration, and Instrumental Decisions. The model containing fewer independent variables (Model 2) accounted for slightly more variance in Positive Consideration, Positive Persuasion, Negative Persuasion, and Instrumental Change. There was no difference in the variance explained by the two models for Status Quo Consideration. Table 27 compares explained variances in use across all models tested.

Table 27. *Comparison of Variance Accounted for in Model 1 & Model 2*

	Adjusted R^2	**F**	**df**
Total Model	.180	12.96	490
Process Action Model 1	.263	23.47	568
Process Action Model 2	.251	48.64	568
Process Theory Model 1	.041	3.72	573
Process Theory Model 2	.036	22.25	573
Positive Consideration Model 1	.127	9.88	549
Positive Consideration Model 2	.129	28.16	549
Negative Consideration Model 1	.121	9.40	549
Negative Consideration Model 2	.115	24.85	549
Cognitive Consideration Model 1	.093	7.27	549
Cognitive Consideration Model 2	.088	14.22	549
Positive Persuasion Model 1	.293	26.30	550
Positive Persuasion Model 2	.294	33.72	550
Negative Persuasion Model 1	.098	7.61	550
Negative Persuasion Model 2	.100	16.35	550
Status Quo Persuasion Model 1	.062	7.61	550
Status Quo Persuasion Model 2	.062	19.16	550
Instrumental Change Model 1	.085	6.86.	565
Instrumental Change Model 2	.089	19.36	565
Instrumental Decisions Model 1	.138	11.06	565
Instrumental Decisions Model 2	.134	44.85	569

The small differences in explained variances between the two models across all types of use suggest that educators are influenced to use their evaluation results by a range of factors including those characteristics explored in this study. The largest amount

of explained variance was found in Process Action (25-26%) and Positive Persuasion (29%). More moderate levels of variance were explained for the three types of conceptual use (9%-12%), Negative Persuasion (10%) and the two types of instrumental use (9%-13%). The amount of variance explained for Process Theory (3%-4%) and Status Quo Consideration (6%) was small enough to be meaningless.

Educator use of evaluation results is influenced by evaluation characteristics, organizational characteristics and stakeholder involvement. The strongest influencers on evaluation use are stakeholder involvement with strong effects on process use and persuasive use as well as more moderate effects on Positive Consideration and Instrumental Change.

Evaluation characteristics were also strong influencers of evaluation use. Evaluator disposition influences Process Action use, all types of conceptual and persuasive use and Instrumental Change. Findings influenced six types of use while evaluation type, evaluation timing and evaluator competence each influenced two types of use.

Organizational characteristics had the least influence on educator use of evaluation findings. Organizational commitment influenced Process Action and Negative Persuasion while information needs influenced Negative Consideration and Negative Persuasion. Decision characteristics did not influence use. Table 28 summarizes the effect size of each independent variable on all types of use.

Table 28. *Summary of Effects of Factors of Influence on all Types of Evaluation Use*

Construct	**Small Effects (β =.06 - .10)**	**Moderate Effect (β =.11 - .24)**	**Large Effects (β ≥ .25)**
Evaluation Characteristics			
Findings	Positive Persuasion	Process Action	
	Instrumental Change	Negative Consideration	
		Cognitive Consideration	
		Negative Persuasion	
Timeliness: Type	Positive Persuasion	Positive Consideration	
		Instrumental Decisions	
Timeliness: Timing	Cognitive Consideration	Negative Persuasion	
Evaluator competence		Cognitive Consideration	
		Positive Persuasion	
Disposition		Cognitive Consideration	Process Action
		Positive Persuasion	Negative Consideration
		Negative Persuasion	Positive Consideration
		Status Quo Persuasion	Instrumental Decisions
		Instrumental Change	
Organizational Characteristics			
Organizational Commitment		Process Action	
		Positive Persuasion	
Information needs		Positive Consideration	
		Positive Persuasion	
Decision characteristics			
Stakeholder Involvement		Process Action	Status Quo Persuasion
		Process Theory	Instrumental Change
		Negative Consideration	
		Positive Persuasion	

Qualitative Analysis

The survey included one open-ended question. Respondents were asked, "What do you think influenced your use of the evaluation findings?" Data coding was iterative, beginning with open coding. After the initial coding, the codes developed were compared to the independent variables and categorized according to the independent variables (Rossman & Rallis, 2003). Two influencing factors were identified through open coding that did not correspond with one of the independent variables, professional development and program promotion or marketing. A second researcher coded a random sample (n=100) of cases to determine reliability. The inter-rater reliability score was .80. Data were then quantified using frequency counts for each code (Table 29) (Creswell & Plano-Clark, 2007).

Table 29. *Frequencies of Qualitative Codes (N=518)*

Independent Variable	Qualitative sub-codes	Response count
Evaluation type		2
Evaluation timing		2
Evaluator competence		1
	Quality of data/methodology	26
	Useful information	29
	Not useful information	5
Findings		4
	Positive results	47
Evaluator disposition		1
Organizational commitment		16
	Organizational requirement	77
	Performance review/tenure	11
	Impact or outcome measurement	53
Information needs		76
	Program improvement	42
	Program planning	44
Decision Characteristics		30
Stakeholder involvement		20
	Stakeholder report	52
	Funder requirement	14
Professional development		11
Program promotion or marketing		16

Many of the initial codes matched the independent variables however details not evident in the quantitative data emerged as well as some other potential influences. Findings appear much more important in the qualitative data, and there was an emphasis

on wanting to share positive results. The importance of the organizational requirement for reporting evaluation results on an annual basis as well as for promotion and tenure was very strong in the written responses. Another nuance more evident in the qualitative data is the nature of stakeholder involvement. Most of the written responses related to stakeholders were about giving stakeholders formal reports or information about program impacts, outcomes and how important the program is to the community. This is a minimal level of stakeholder involvement. The quantitative data aggregates stakeholder involvement thus it is not clear from the quantitative data that most stakeholder involvement is in the form of communications and reporting. Two additional influences not directly measured in the survey were professional development and program promotion or marketing. A few respondents were inspired by professional development opportunities such as conferences or award programs to use the results of evaluations. A few also mentioned that the need for marketing and recruiting new clients or program participants influenced use of the results.

Summary

This chapter presented the results of the statistical analyses of the data as well as the qualitative open ended question. Data analysis was organized around the four research questions. Key findings include determination of most frequent types of use as well those factors that most influence use of evaluation findings. Non-formal educators engage in process use more frequently than conceptual, persuasive or instrumental use. Process use involves learning from the process of conducting the evaluation rather than the findings of the evaluation. Instrumental use, involving taking action and making changes based on the findings was the least frequent type of use exhibited by Extension

educators. All types of use were most influenced by stakeholder involvement, although the actual level of stakeholder involvement was limited. Evaluation characteristics, particularly evaluator disposition also influenced most types of evaluation use whereas decision characteristics were not very influential.

Types of evaluation use. Process use was the most common type of evaluation use, followed by conceptual use, persuasive use and finally instrumental use. These initial four types of use were further refined for this population to reflect how non-formal educators use the results of evaluations that they conduct. Ten types of use were identified for this population. They were Process Action, Process Theory, Negative Consideration, Positive Consideration, Cognitive Consideration, Positive Persuasion, Negative Persuasion, Status Quo Persuasion, Instrumental Change and Instrumental Decisions.

Group differences in evaluation use. Tests for differences among groups showed some differences. While there were no differences in use based on program area, there were differences based on length of service. Less experienced educators exhibited higher levels of instrumental use than educators with more experience. There were no significant differences in any other types of use associated with length of service.

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

There were also significant differences in use based on evaluation purpose. Statistically significant differences were found in Process Action, Positive Consideration, Positive Persuasion, Negative Persuasion, Instrumental Change and Instrumental Decisions.

Process use. Process Action use or learning from the evaluation process is influenced by evaluation characteristics, organizational characteristics and stakeholder involvement. All the independent variables account for 26% of the variance in process use. Evaluator disposition, findings, organizational commitment and stakeholder involvement all significantly influence process use.

Process Theory use or writing program logic models or theories of change is significantly influenced only by stakeholder involvement. Stakeholder involvement has significant moderate effects but the full model explains only 4% of total variance.

Conceptual use. Negative Consideration or conceptualizing the results negatively is influenced by evaluation characteristics and stakeholder involvement. The full model accounts for almost 13% of the variance in Negative Consideration with significant influences from findings, evaluator disposition and stakeholder involvement.

Positive Consideration or conceptualizing the results positively is influenced by evaluation characteristics and organizational characteristics. The full model accounts for 12% of the variance in Positive Consideration. Evaluation type, evaluator disposition and information needs significantly influence Positive Consideration with moderate to large effects.

Cognitive Consideration or thinking about the implications or relevance of the results is influenced by evaluation characteristics. The full model accounts for 9% of the

variance in Cognitive Consideration with significant moderate influences from evaluation timing, findings, evaluator competence and evaluator disposition.

Persuasive use. Evaluation characteristics, organizational characteristics and stakeholder involvement influence Positive Persuasion. The full and partial models account for almost 30% of the variance in Positive Persuasion or using the findings to positively influence others or the program. Positive Persuasion had significant influences from evaluation types, findings, evaluator competence, evaluator disposition, organizational commitment, information needs and stakeholder involvement.

Negative Persuasion or using the results to negatively influence the program is influenced by evaluator characteristics and stakeholder involvement. The model accounts for 10% of the variance in Negative Persuasion with evaluation timing, findings, evaluator disposition and stakeholder involvement significantly influencing this type of use.

Evaluator characteristics and stakeholder involvement influence Status Quo Persuasion or using the results to maintain the status quo. The full model accounts for only 6% of the variance in Status Quo Persuasion use with significant influences from evaluator disposition and stakeholder involvement. Evaluator disposition has moderate effects on Status Quo Persuasion while Stakeholder Involvement has a large effect.

Instrumental use. Instrumental Change or making fundamental programmatic changes based on the findings is influenced by evaluator characteristics and stakeholder involvement. The partial model accounts for almost 9% of variance in Instrumental Change with significant influences from findings, evaluator disposition and stakeholder

involvement. Findings have a small effect while evaluation disposition has a moderate effect and stakeholder involvement has a large effect.

Instrumental Decisions or making modest programmatic decisions are influenced by evaluation characteristics. The full model accounts for almost 14% of variance with significant influences from evaluation type and evaluator disposition. Evaluation type has a moderate effect while evaluation disposition has a large effect.

Qualitative responses. Analysis of open-ended responses indicates some differences from the quantitative data. When asked "what do you think influenced your use of the evaluation findings" the most frequent response related to organizational characteristics. Organizational reporting requirements appear to have a strong influence on evaluation use in general according to responses to the open ended question. Information needs and findings are also strong influencers of general use. Two other influences not identified in the quantitative analysis were professional development (n=11) and program promotion or marketing (n=16), although by a relatively small number of participants.

The following chapter will discuss the implications of the results as well as conclusions and recommendations for further study.

Chapter 5: Discussion

The purpose of this study was to examine how non-formal educators use the results of program evaluation and to explore factors influencing evaluation use. In the Cooperative Extension Service non-formal 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 was based on utilization focused evaluation (UFE) theory and recent comprehensive literature reviews of evaluation studies. Three categories of influence were identified as potentially influential on four types of evaluation use. Data were collected from Extension educators in four states through an online survey. Exploratory factor analysis revealed ten types of evaluation use for this population. Multiple linear regressions were used to examine the influence of evaluation characteristics, organizational characteristics and stakeholder involvement on all ten types of use. Results indicated generally small to moderate levels of influence by the independent variables on ten types of use of evaluation results.

This chapter discusses the results in the context of the conceptual framework and literature on evaluation use. Study limitations are presented followed by implications and recommendations for practice and research.

Discussion

This study sought to explore how non-formal educators use the results of evaluation and what influences that use. The conceptual framework guiding the study

proposed three broad categories of influence on four types of evaluation use. Results of Exploratory factor analysis on types of use presented an opportunity for expanded understanding of the range of evaluation use for this population. The conceptual framework was expanded to include ten types of use under the umbrella categories of the original four types of use.

Non-formal educator use of evaluation results. The first research question was: How do non-formal educators use the results of evaluations? This question assumes that non-formal educators conduct evaluations and use the findings. Results indicate that participants in this study overwhelming indicated conduct of evaluation and use of results. One caveat is educator definition of program in program evaluation. Many of the evaluations reported on might be better characterized as event surveys or customer satisfaction surveys based on the length of the programs.

Process use. The most frequent type of evaluation use was process use, followed by conceptual use, persuasive use and instrumental use. Process use indicates a level of learning and application based on the evaluation process rather than the evaluation findings. Higher levels of process use are consistent with the current emphasis on building evaluation capacity in Extension organizations (Taylor-Powell & Boyd, 2008). It is also consistent with the notion that most Extension educators are not trained professional evaluators but rather subject area educators. Higher levels of process use may be a reflection of the Extension educators learning evaluation skills that can be applied in their educational programming. 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.

The sub factors of Process Action and Process Theory help further define process use by Extension educators. Process Action includes learning related to specific evaluation skills, applying those skills and making evaluation decisions based on data as well as incorporating evaluation planning as part of the overall program. Patton's (2008) UFE addresses the concept of process use and defines six potential "types" of process use. Process Action is similar to what Patton calls "infusing evaluative thinking into the organizational culture." Examples of infusing evaluative thinking include "building support for evaluation throughout the organization, ongoing capacity development and training in evaluation" (Patton, 2008, p. 158).

The full model including all independent variables accounted for a 26% of the variance in Process Action. Evaluator disposition had the largest effect (β=.282) followed by stakeholder involvement (β=.148), findings (β=.102) and organizational commitment (β=.115). This suggests that educators with more positive attitudes about evaluation in general are more likely to learn from the process of evaluation. Higher levels of stakeholder involvement and organizational commitment also result in more learning from the process. More relevant and positive findings also influence higher Process Action use.

Process Theory involves writing or developing a theory of change and/or logic model. Based on frequencies, there was more Process Action use than Process Theory use. A smaller amount (4%) of variance in Process Theory was accounted for by the full

model than Process Action. Stakeholder involvement was the only independent variable significantly related to Process Theory, with a moderate effect size.

Developing logic models has been emphasized in many Extension services, thus it might be expected that Process Theory use would be higher than it is. Learning from the process of evaluation does not appear to include writing logic models or articulating theories of change. It is not clear from the data if logic models or theories of change are not written or understood or are already developed. It is evident that of the potential factors influencing use, only stakeholder involvement seems to influence Process Theory use. This suggests that involving stakeholders may require educators to be able to articulate how their programs enact desired changes.

One possible explanation for low Process Theory use is that theories of change or logic models may have been developed during program planning and therefore educators would not develop them during the evaluation planning phase. Some Extension services also provide logic models to educators conducting statewide programs, thus developing a different or additional logical model would duplicate effort.

Conceptual use. Conceptual use is characterized by changes in how educators, stakeholders or participants understand or think about the program based on the findings. Conceptual use was the second most frequent type of evaluation use. The findings are somewhat consistent with McCormick's (1997) findings of higher levels of conceptual use than persuasive or instrumental use. McCormick did not originally include process use as a type of use to be measured, although it was identified as a type of use post hoc. Ayers (1987) and Shea (1991) also found higher levels of conceptual use than other types of use in the populations studied.

Three types of conceptual use were identified for this population: Negative Consideration, Positive Consideration and Cognitive Consideration. Cognitive Consideration was used most frequently followed by Positive Consideration and Negative Consideration.

Cognitive Consideration involves thinking about the results and the implications of those results but does not involve action. Extension educators think about and consider the results of the evaluation more than any other type of use (mean=4.03). The full model accounted for 9% of the variance in Cognitive Consideration with evaluation characteristics having the strongest effect. Thus the timing, findings, evaluator competence and evaluator disposition influence educator consideration of evaluation results. However, that consideration is not necessarily translated into taking action on the implications of the results. Cognitive Consideration represents a minimal level of use but its frequency indicates it is a common use for Extension educators.

Positive Consideration also involves considering the results as a means to increase understanding or acceptance of the program rather than acting on the results. The full model accounts for 13% of the variance in Positive Consideration with evaluator disposition (β= .137) having the strongest effect followed by information needs (β=.137) and evaluation type (β= -.123). The primary purpose of using results for external reporting requirements in Extension encourages this type of use because it places an emphasis on positive findings. Local, state and federal reports will naturally emphasize successes and impacts rather than improvements needed. One educator emphasized this use of results when responding to the question regarding influences on use:

> 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)

Given the importance of organizational reporting requirements, it is not surprising that considering results negatively is less frequent than Positive Consideration. In other words thinking about or interpreting the data negatively about one's own program is less frequent than considering the data positively or simply considering the data at all. How educators consider the results is most influenced by the evaluator disposition, stakeholder involvement and findings, which account for almost 13% of the variance in Negative Consideration. Evaluator disposition has the strongest effects (β= -.239) and as disposition decreases or becomes more negative, negative consideration use increases. Less relevant or negative findings also increase negative consideration.

Persuasive use. Results for persuasive use are similar to those for conceptual use. Positive Persuasion is more frequently used, followed by Status Quo Persuasion and Negative Persuasion once again emphasizing positive use over negative use. Persuasive use involves action to inform or educate others about the program. The full model accounts for almost 30% of the variance Positive Persuasion with the largest effects from

evaluator competence (β=.198) and evaluator disposition (β=.195). Other factors influencing positive persuasion are organizational commitment, stakeholder involvement, information needs, evaluation type, and findings.

Negative Persuasion would be expected to be low for the population under study. The educators are evaluating their own programs so it would be an unusual circumstance when he or she might use results to oppose the program or re-align political opposition or support. The full model accounted for 10% of the variance in Negative Persuasion with stakeholder involvement having the strongest effect (β=.215) followed by evaluator disposition, findings and timing. Higher stakeholder involvement results in more Negative Persuasion use; although it appears that higher stakeholder involvement results in higher levels of most types of use. As findings and evaluation disposition decrease or are more negative, Negative Persuasion increases.

Status Quo Persuasion involves using the results to maintain the current status (funding, staffing, legal/accreditation) of the program. Both the full and the partial model (evaluator disposition and stakeholder involvement) account for the same amount of variance in Status Quo Persuasion, 6%, suggesting that a lack of program change is influenced only by stakeholder involvement and evaluator disposition. The more negative the evaluator disposition, the more likely they are to maintain the status quo and not consider using the results to persuade others to make positive or negative changes in the program. Higher stakeholder involvement results in higher status quo persuasion. Given that the type of stakeholder involvement is fairly limited to communications it is possible that stakeholders are inclined to maintain their support for the programs rather than suggest changes (positive or negative) based on the results.

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. Two types of instrumental use were found: Instrumental Change and Instrumental Decisions. Instrumental Change involves fundamental programmatic change based on the findings whereas Instrumental Decisions involve making smaller program decisions such as identifying further evaluation needs or restructuring the program. Not surprisingly, Instrumental Decisions are used more frequently than Instrumental Change. Instrumental Decisions are easier to enact for educators who may have limited flexibility on program offerings or limited time to significantly change a program. The full model accounts for a 14% of the variance in Instrumental Decisions with significant influences from evaluator disposition and evaluation type. Evaluator disposition has strong effects (β=.296) on Instrumental Decisions. A more positive attitude toward evaluation increases educators making small programmatic decisions based on the results of the evaluation.

The full model accounts for almost 9% of the variance in Instrumental Change with significant influences from stakeholder involvement and findings. Stakeholder involvement has a large effect (β=.248) while findings have a small effect (β= -.094). More negative findings result in higher Instrumental Change. This suggests that when the evaluation data is negative, educators are more likely to make substantive programmatic changes.

In summary, Extension educators use evaluation results to learn more about their programs, consider the positive nature of the programs, persuade others to view the program positively or at least not negatively and to enact small changes in the 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 process use was more frequent.

Relationship between evaluation characteristics and evaluation use. The second research question was: What are the relationships between evaluation characteristics and use? Evaluation characteristics appeared to influence evaluation use. The most influential evaluation characteristic was evaluator disposition which has large effects on Process Action (β=.304), Negative Consideration (β= -.252) and Instrumental Decisions (β= .354). Evaluator disposition had moderate effects on Positive Consideration, (β= .247), Cognitive Consideration (β= .186), Positive Persuasion (β= .197), Negative Persuasion (β= -.208), and Instrumental Change (β= -.186). This result is different than other studies that have found little influence on conceptual, persuasive and instrumental use based on the user attitude toward evaluation (McCormick, 1997; Santhiveeran, 1995). It should be noted that the measures of user attitude differed in these studies. Altschuld (1993) did find that instrumental and conceptual uses were influenced by the intended user attitudes towards evaluation.

Findings were also an influential evaluation characteristic. Findings relate to the positive or negative nature of the results and the relevance to the evaluators experience with the program. Findings had significant influence with moderate effects on Process Action (β= .162), Negative Consideration (β= -.186), Cognitive Consideration (β= .120), and Negative Persuasion (β= -.171). Findings had significant small effects on Positive Persuasion (β= -098), and Instrumental Change (β= -.094). In addition, qualitative results confirmed the importance of the nature of the findings to evaluation use, especially

persuasive use which includes "used results formally in documents for readers within or beyond your organization." This use would include formal reports provided to administrators for state and federal reporting requirements. Johnson et al. (2009) found six studies that included evaluation findings with mixed conclusions. In two of the studies, findings influenced use although other variables such as timeliness, evaluation quality and communication were more influential.

Two other evaluation characteristics variables were related to timeliness: evaluation type and evaluation timing. Evaluation type had significant moderate effects on Positive Consideration (β= -.117) and Instrumental Decisions (β= -.102) and a small effect on Positive Persuasion (β= -.099). Evaluation timing had significant moderate effects on Negative Persuasion (β= -.095) and a small effect on Cognitive Consideration (β= -.098).

There is a relationship between evaluation characteristics and evaluation use. The evaluator disposition toward evaluation in general strongly influences evaluation use in a positive direction. The nature of the evaluation findings, the type of evaluation and the evaluation timing also influence evaluation use, although not as strongly as evaluator disposition. Evaluator competence was less influential on evaluation use for Extension educators.

Relationships between organizational characteristics and evaluation use. The third research question was: What are the relationships between organizational characteristics and evaluation use? Organizational characteristics included organizational commitment to evaluation, information needs and decision characteristics. Organizational characteristics had the least influence on evaluation use. Crotti (1993) found similar

results in a study of Pennsylvania school districts. Factors including human and evaluation variables were more influential than context variables.

Decision characteristics did not significantly influence any types of use. Information needs influenced Positive Consideration and Negative Persuasion with moderate effects. Other studies examining information needs found positive relationships between audience information needs and evaluation use (Johnson et al., 2009). In this study, information needs were related to those of the primary user, in this case also the evaluator. Although quantitative results indicated only some influence due to information needs, the qualitative responses emphasized information needs as a key influence on using the results of their evaluation. Qualitative responses focused on information needs related to documenting impacts and outcomes, client or community needs and improving teaching methods or delivery. The survey questions more generally asked about "meeting your needs" which may have been too general to elicit useful findings.

Organizational commitment had moderate effects on Process Action (β= .107) and Positive Persuasion (β= .133). Qualitative responses overwhelmingly mentioned the organizations reporting requirements as influencing use of evaluation findings. Formal reports were only one item on the survey, thus the quantitative results may underestimate the influence of formal reporting requirements on evaluation use.

Organizational characteristics have a relationship to evaluation use but it is not a very strong relationship for Extension educators. The strongest relationship is between information needs and evaluation use followed by organizational commitment to evaluation and use. The primary information need for Extension services appears to be

positive results and impacts that can be used for required federal and state reports. This need may be limiting organizational commitment to evaluation to what is needed for reporting rather than information that may be more informative for programmatic change. Thus, despite higher levels of process use that appear to be driven by efforts to build evaluation capacity, the evaluations are focused on providing information for reporting needs rather than programmatic change.

Relationship between stakeholder involvement and evaluation use. The fourth research question was: What is the relationship between stakeholder involvement and evaluation use? Stakeholder involvement had the most influence on evaluation use overall. It is significantly related to all types of use except Negative Conceptual and Cognitive Conceptual. This finding is consistent with other studies examining stakeholder involvement and evaluation use. The study of stakeholder involvement has risen in the last decade with a corresponding increase in participatory evaluations (Johnson et al., 2009). It was not included in Cousins and Leithwood's initial empirical literature review but was added after Johnson et al. found 25 studies addressing stakeholder involvement and evaluation use. All 25 studies found positive relationships between some level of stakeholder involvement and evaluation use.

Stakeholder involvement has the strongest relationship with evaluation use compared to the other independent variables. The type of stakeholder involvement was dominated by communicating with stakeholders rather than involving them in the entire evaluation process. This provides further evidence that the emphasis in Extension evaluation use is on accountability and reporting rather than programmatic change.

Stakeholders are not involved in close examination of the program and how it can be changed or improved but rather in what's working well in the program being evaluated.

Utilization focused evaluation theory. This study was grounded in utilization focused evaluation theory with a conceptual framework based in the evaluation use literature. Utilization focused evaluation theory emphasizes the importance of using the results of evaluations in the manner in which the user intends. The primary user in this study is the Extension educator who is also the evaluator. The majority of educators (62%) indicated that the primary purpose for conducting the evaluation was to determine impacts and outcomes. Improving educational methods and measuring customer satisfaction were the second most frequent purpose (14% each). Determining outcomes and impacts would be categorized as Process Action (Question 30d: "Outcomes were strengthened or improved"), or Positive Consideration (Question 26h: "Learned more about the organization or program") which is consistent with the higher levels of Process Action (mean=3.77) and Positive Consideration (mean=3.79) suggesting overall use for intended purposes.

Utilization focused evaluation theory supports the many types of possible uses of evaluation findings. One type of evaluation use is not valued over another; the criterion for success is if the evaluation results are used in the intended manner as defined by the primary user. Extension educator evaluation efforts appear to be driven by the organizational reporting requirements based on the quantitative purpose question as well as the open ended responses to the question of what influences evaluation use. It is further strengthened by the data suggesting that stakeholder involvement is primarily in the form of communicating positive results to funders and government partners.

A weakness of UFE is the emphasis on one primary user. In the case of Extension, the educator is the primary user however; the organization is also a significant user of the results. It is not clear in this study if the purpose of the organization is the same as the purpose of the educator.

Conceptual framework. The conceptual framework builds on UFE by exploring potential influences on all types of evaluation use. The framework allows for a detailed understanding of how Extension educators use evaluation results. What influences evaluation use is less detailed as the level of variance accounted for was relatively modest. This suggests that the framework may be too broad to offer a detailed understanding of what influences use or that it may not include pivotal yet unresearched variables.

In general use of evaluation findings is most influenced by stakeholder involvement and evaluation characteristics. Despite the importance of organizational characteristics as the reason for conducting the evaluation, use is influenced more by other factors. Extension educators conduct evaluations primarily to meet reporting requirements but the use of the evaluation results is influenced more by involving stakeholders, the nature of the findings and the evaluator disposition towards evaluation.

Limitations of the Study

This study was based on self-reports of evaluation activities. Self-reports are subject to positive response bias and thus may over-report use. The retrospective nature of the self-report also relies on the memories of the respondents which may or may not be reliable.

Two alpha scores (findings and information needs) were lower than generally accepted practice. Therefore, conclusions related to findings and information needs should be interpreted conservatively and with caution.

Finally, the results of the study should not be generalized to a larger population of non-formal educators. The study population was not randomly sampled and individuals surveyed worked in Extension services chosen for perceptions of the high quality of their evaluation work.

Conclusions

The conceptual framework captured some of the factors influencing evaluation use by non-formal educators. However, only relatively small to moderate amounts of variance in use were accounted for by the framework. All independent variables explained 18% of the variation in total evaluation use. This study was able to identify some of the variables that influence evaluation use by non-formal educators but the modest levels of variance accounted for indicate that other influencing factors that were not examined here may exist.

McCormick (1997) recommended expanding the number of independent variables (influencers) to increase the amount of variance in use accounted for. User commitment to the program, user involvement in the evaluation, user attitude toward evaluation in general, position of the user within the organization and type of organization were potentially influencing factors examined by McCormick (1997). This study involves a different population and context thus the potential influencers are different. This study included nine independent variables but did not account for more variance than McCormick's five independent variables. However, this study allowed for a more

nuanced examination of uses based on a factor analysis than McCormick was able to incorporate because of a smaller sample size.

The study does add to the literature on evaluation use by examining non-formal educators as users of their own evaluation efforts. Most notably the issue of evaluating for accountability versus program improvement is further clarified. Educators are conducting program evaluations but the results are used more for accountability activities than program improvement. 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 also 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 Change. 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, educators will use their most positive evaluation results to support promotion rather than evaluate or report programs with less positive impacts.

There is some evidence that evaluation capacity building efforts may be increasing instrumental use or programmatic change. 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 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.

Methodologically, the study adds some empirical evidence to the validity of the conceptual framework developed by Cousins and Leithwood (1986) and refined by Johnson et al. (2009). Cousins and Leithwood introduced the importance of the influences of evaluation implementation and decision or policy setting. The work of Johnson et al. confirmed the importance of those factors and added a third factor, stakeholder involvement. In the context of Cooperative Extension, these three factors do influence evaluation use with stakeholder involvement being most influential, followed by evaluation characteristics and organizational setting.

Measuring use was somewhat problematic in this study. McCormick's (1997) instrument measuring use was not originally validated using exploratory factor analysis because of small sample size. This study found ten types of use rather than the predicted four types of use. For the purposes of this study, the more nuanced types of use found may be indicative of the challenges of being both the program manager and the program evaluator.

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, non-formal 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.

Recommendations for Further Research

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). The use scales in this study should be validated with other types of organizations and/or users 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.

Additionally, future studies should refine the factors potentially influencing use. Although evaluation characteristics, organizational characteristics and stakeholder involvement influence use, there are clearly more factors of influence than have been identified in the case studies. One potential area of influence is organization rewards for evaluation activities. The qualitative responses indicate there are some intrinsic rewards that influence use such as professional development opportunities. Extrinsic rewards offered by the organization such as awards for evaluation excellence or meeting program improvement benchmarks are potential influencing factors.

Future researchers may want to focus on one type of evaluation use and what influences that specific type of use. Focusing future studies the type of use most valued

by an organization or field may help establish a more parsimonious model of evaluation use with potentially different and more significant influences on 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 non-formal 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.

The literature on building evaluation capacity within Extension services implies that there is an interest in evaluation work beyond documenting positive results. If this is the case, there is still much work to be done to increase use of evaluation findings in Extension beyond reporting outcomes and impacts. If Extension administrators and educators wish to use data to improve programs they must be willing to not only consider negative implications but act on those implications by changing programs. Utilization focused evaluation theory may help Extension services implement changes to increase use of evaluation results by clarifying the relationship between purpose and use for both individual educators and the organization. If the organizational emphasis is on accountability and reporting then individual educators will be less likely to conduct evaluations for a different purpose. Extension services or other similar complex organizations should use UFE to clearly articulate intended uses for both the organization and the educator conducting the evaluation.

It appears that newer educators either have previous evaluation knowledge or may be getting the message and using evaluations to make program improvements in addition to meeting organizational reporting requirements. This would suggest that recent evaluation capacity building efforts are showing results with new educators. However, instrumental use is still the least prevalent type of use calling into question the recommendation to use accountability reporting requirements to increase programmatic changes based on evaluation results. The tension between reporting requirements and program improvements is still strong and efforts should be made to encourage educators to use results, even when the results are not positive. Reporting requirements logically focus on positive results which in turn encourage educators to focus on evaluating

successful programs. Educators need support for conducting evaluations of programs that may not show positive results. This may be problematic for a complex organizational system such as Extension that has extensive reporting requirements from local, state and federal partners. With limited resources, emphasis may be placed on programs that can show positive impacts rather than potentially innovative programs that may take years to show impacts.

Extension services may want to focus capacity building efforts on specific types of evaluation use. In this study, the most prevalent use was process use. If the desired use is instrumental use or making small as well as substantive programmatic changes based on evaluation results, then Extension administrators and internal evaluators may want to focus internal professional development efforts on increasing stakeholder involvement beyond communications to include all aspects of the evaluation process and improving educator attitudes about evaluation work in general. Focusing efforts on formative evaluations and being more accepting of negative evaluation results may also increase instrumental use.

Extension services should consider separating the tasks of accountability and program improvement. Accountability measures can continue to be met through current evaluation efforts. Extension administrators should separate program improvements from accountability by rewarding formative evaluations that articulate how results are used for program improvements. Educators could be given the option to report impacts or to report steps on how data gathered will be used to inform programmatic changes over time.

Stakeholder involvement in all aspects of the evaluation process should be encouraged to increase use of evaluation findings for programmatic change. Currently, efforts of stakeholder involvement appear to be focused on communicating impacts and results to stakeholders. While this is important, further efforts to involve stakeholders in all aspects of the evaluation process may allow for more efforts at program improvement rather than telling success stories.

Lambur's (2008) proposed structure for locating Extension professional evaluators within program areas rather than in Extension administration may provide a structure that better supports a separation of accountability tasks and programmatic improvements. Internal evaluators located within each subject area may be able to work more closely with educators on how results can be used to improve programs. It may also remove the task of organizational accountability from educators and place it on the professional evaluators or administrators. A further advantage of housing internal evaluators within subject areas to provide support to educators would be a better understanding of stakeholders and how to involve them more fully in the evaluation process.

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Appendix A: Survey Instrument

Introduction

Thank you for assisting in our study of the evaluation practices of non-formal educators. Your participation in this survey is voluntary. We will not connect your identity with your responses in any report or communication of results. In our pilot tests, educators took about 20 minutes to complete the survey.

First, tell us about yourself and your organization.

1. Where are you employed?

- ◯ Oregon State University Extension Service
- ◯ University of Wisconsin - Extension
- ◯ University of New Hampshire Cooperative Extension
- ◯ Texas AgriLife Extension Service

2. What is your primary area of focus?

- ◯ Agriculture/Natural Resources
- ◯ Horticulture
- ◯ Forestry
- ◯ Youth Development
- ◯ Family and Consumer Sciences or Family Living
- ◯ Community Development or Community Resource Development
- ◯ Other (please specify)

_____

3. Approximately how many years have you worked in your current position?

- ◯ 3 years or less
- ◯ 4 years - 6 years
- ◯ 7 years - 9 years
- ◯ 10 years - 15 years
- ◯ 16 years - 20 years
- ◯ more than 20 years

4. Please indicate your age range below

- ◯ 18-24
- ◯ 25-34
- ◯ 35-44
- ◯ 45-54
- ◯ 55-64
- ◯ 65 or older

5. What is your highest level of education?

- ◯ High School Graduate
- ◯ Some College
- ◯ College Graduate
- ◯ Some graduate school
- ◯ Masters degree
- ◯ Doctoral degree

Your evaluation work

Program evaluations are a way of examining your programs to determine what is working well or what might need changing. Program evaluations may also provide information needed for reporting to stakeholders. Evaluations take many forms, from conducting surveys to informal interviews or focus groups. Program evaluations focus on a larger program such as a series of trainings or targeted program area, not a one time activity or workshop.

6. Do you conduct program evaluations as part of your job?

- ◯ Yes
- ◯ No

Your most recent evaluation

In answering the following questions please think about the most recent program evaluation that you conducted.

7. What is the name of the program you most recently evaluated?

8. Briefly describe the program you most recently evaluated.

9. Approximately how many hours did clients/participants spend engaged in the program?

10. How important is this program to your local community?

- ◯ Very important
- ◯ Somewhat important
- ◯ Somewhat unimportant
- ◯ Very unimportant

11. How important is this program to your organization?

- ◯ Very important
- ◯ Somewhat important
- ◯ Somewhat unimportant
- ◯ Very unimportant

12. How important is this program to you?

- ◯ Very important
- ◯ Somewhat important
- ◯ Somewhat unimportant
- ◯ Very unimportant

13. What was the primary purpose of your program evaluation?

- ◯ Educational methods improvement
- ◯ Determining outcomes or impacts
- ◯ Needs assessment
- ◯ Audience analysis
- ◯ Improvement of internal operations
- ◯ Curriculum design
- ◯ Customer/client satisfaction assessment
- ◯ Marketing Studies

Evaluation Results

As you think about the most recent program evaluation that you completed, tell us about the findings from that evaluation.

In the following questions please select the choice that best completes the statement.

14. The results of my evaluation provided

- ◯ Mostly positive information about my program
- ◯ Somewhat positive information about my program
- ◯ Somewhat negative information about my program
- ◯ Mostly negative information about my program

15. The findings of the evaluation were

- ◯ very consistent with my experience
- ◯ somewhat consistent with my experience
- ◯ somewhat inconsistent with my experience
- ◯ not at all consistent with my experience

16. The findings of the evaluation were

- ◯ very relevant to my decision making
- ◯ mostly relevant to my decision making
- ◯ mostly not relevant to my decision making
- ◯ not at all relevant to my decision making

17. Did the findings of the evaluation meet your needs?

- ◯ Mostly
- ◯ Somewhat
- ◯ Not much
- ◯ Don't know

18. Did the findings meet the needs of your organization?

- ◯ Mostly
- ◯ Somewhat
- ◯ Not much
- ◯ Don't know

19. Did the findings meet the needs of your external stakeholders?

- ◯ Mostly
- ◯ Somewhat
- ◯ Not much
- ◯ Don't know

20. Were you able to use the results of your evaluation?

- ◯ Yes
- ◯ No

21. What do you think influenced your use of the evaluation findings?

Evaluation process

22. Which of the following best describes the evaluation?

- ◯ The evaluation was conducted while the program was in process
- ◯ The evaluation was conducted after the program was finished

23. Did the completion of the evaluation allow you to use the results for your intended purpose?

- ◯ Yes
- ◯ No

24. How would your colleagues rate your most recent evaluation on the following criteria:

	very good	good	fair	poor
Overall assessment of the quality of the work	◯	◯	◯	◯
Usefulness of the work performed	◯	◯	◯	◯
Quality of reports/products	◯	◯	◯	◯
Appropriateness of reports/products	◯	◯	◯	◯
Timeliness in delivery of reports/products	◯	◯	◯	◯

Stakeholder Involvement

25. Please consider how stakeholders were involved in the evaluation process. A stakeholder is anyone with an interest in the program such as participants, funders, supervisors or board members.

Stakeholders were involved in

	extensive involvement	some involvement	a little involvement	no involvement
Discussions that focused the evaluation	◯	◯	◯	◯
Identifying evaluation planning team members	◯	◯	◯	◯
Developing the evaluation plan	◯	◯	◯	◯
Developing data collection instruments	◯	◯	◯	◯
Developing data collection processes	◯	◯	◯	◯
Collecting data	◯	◯	◯	◯
Reviewing collected data for accuracy and/or completeness	◯	◯	◯	◯
Analyzing data	◯	◯	◯	◯
Interpreting collected data	◯	◯	◯	◯
Writing evaluation reports	◯	◯	◯	◯
Presenting evaluation findings	◯	◯	◯	◯

Using evaluation results

In this section we're interested in what you did with the results of your evaluation efforts.

26. To what extent do you agree or disagree that you were able to use results in the way indicated?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Thought about evaluation results	◯	◯	◯	◯	◯
Considered how the evaluation results fit with your experience / other evaluation findings	◯	◯	◯	◯	◯
Considered evaluation results / future implications but postponed action	◯	◯	◯	◯	◯
Criticized the validity of the evaluation results	◯	◯	◯	◯	◯
Criticized the usefulness of the evaluation results	◯	◯	◯	◯	◯
Considered how to oppose the evaluation results	◯	◯	◯	◯	◯
Rejected/disregarded the evaluation results	◯	◯	◯	◯	◯
Learned more about the organization or program	◯	◯	◯	◯	◯
Encouraged others to accept the evaluation results	◯	◯	◯	◯	◯
Encouraged others to reject the evaluation results	◯	◯	◯	◯	◯
Re-envisioned the important effects of the program	◯	◯	◯	◯	◯
Understood others' perceptions of the program better	◯	◯	◯	◯	◯

27. To what extent do you agree or disagree that you were able to use results in the way indicated?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Used the results formally in documents for readers within or beyond your organization	◯	◯	◯	◯	◯
Used the results to interest others in the program	◯	◯	◯	◯	◯
Used results to convince others of the value or merit of the program	◯	◯	◯	◯	◯
Used results to teach others about evaluation practice	◯	◯	◯	◯	◯
Used results to lobby for support or resources	◯	◯	◯	◯	◯
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 an application for further funding	◯	◯	◯	◯	◯
Used results to advocate for the program	◯	◯	◯	◯	◯
Used results to advocate against the program	◯	◯	◯	◯	◯

28. To what extent do you agree or disagree that you were able to use the results in the way indicated?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Used results to show mis-alignment between organizational values and practices	◯	◯	◯	◯	◯
Used results to show unethical behavior of organizational members	◯	◯	◯	◯	◯
Used results to re-align political support for the program	◯	◯	◯	◯	◯
Used results to re-align political opposition for the program	◯	◯	◯	◯	◯
Used results to increase funding	◯	◯	◯	◯	◯
Used results to decrease funding	◯	◯	◯	◯	◯
Used results to initiate small changes/modifications	◯	◯	◯	◯	◯
Used results to radically transform the program	◯	◯	◯	◯	◯
Used results to intentionally keep the program the same	◯	◯	◯	◯	◯

29. To what extent do you agree or disagree that you were able to use results in the way indicated?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Used results to redefine program participants or eligibility requirements for participants	◯	◯	◯	◯	◯
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 cancel the program	◯	◯	◯	◯	◯
Used results to decide to continue the program	◯	◯	◯	◯	◯
Used results to identify further evaluation needs	◯	◯	◯	◯	◯

Organizational Evaluation Resources

30. To what extent do you agree or disagree with the following statements regarding the process of evaluating the program.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
A theory of change was written or developed	◯	◯	◯	◯	◯
A logic model was developed or changed	◯	◯	◯	◯	◯
Evaluation planning became part of the overall program	◯	◯	◯	◯	◯
Outcomes were strengthened or improved	◯	◯	◯	◯	◯
Data were used to make decisions	◯	◯	◯	◯	◯
Lessons learned during the evaluation were applied	◯	◯	◯	◯	◯
New evaluation skills were learned	◯	◯	◯	◯	◯

31. To what extent do you agree or disagree with the following statements about the resources and support your organization provides for conducting program evaluations.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
My organization has an evaluation unit or department	◯	◯	◯	◯	◯
My organization has a professional evaluator on staff	◯	◯	◯	◯	◯
My organization provides training for me in evaluation	◯	◯	◯	◯	◯
My organization provides resources for me to conduct evaluations	◯	◯	◯	◯	◯
My organization encourages me to conduct evaluations of my own programs	◯	◯	◯	◯	◯
My organization encourages me to share the results of my evaluations with others in our organization	◯	◯	◯	◯	◯
My organization encourages me to share the results of my evaluations with people outside our organization	◯	◯	◯	◯	◯
My organization provides opportunities for discussions about the successes and challenges of our programs with other staff	◯	◯	◯	◯	◯
My organization regularly discusses evaluation efforts of staff and programs	◯	◯	◯	◯	◯
My organization provides incentives for conducting evaluations	◯	◯	◯	◯	◯
My organization provides me time to conduct evaluations	◯	◯	◯	◯	◯
My organization has a formal system for reporting program results	◯	◯	◯	◯	◯

32. The following statements reflect attitudes and beliefs people might have about evaluation. Please indicate the extent to which you agree or disagree with the following statements.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I do program evaluation because it is good for the organization.	◯	◯	◯	◯	◯
It is up to me to make full use of my evaluation products/results.	◯	◯	◯	◯	◯
Evaluation results are used in a variety of ways.	◯	◯	◯	◯	◯
The value of program evaluations is exaggerated.	◯	◯	◯	◯	◯
I can evaluate my programs best through personal reflection.	◯	◯	◯	◯	◯
Evaluation is a critical component of program development.	◯	◯	◯	◯	◯
I conduct evaluations to provide the organization with data.	◯	◯	◯	◯	◯
I enjoy performing evaluation.	◯	◯	◯	◯	◯
I'm really not motivated to do evaluation.	◯	◯	◯	◯	◯
I really understand the reasons for evaluation.	◯	◯	◯	◯	◯
It is administration's responsibility to use evaluation reports to prove Extension's worth to funders.	◯	◯	◯	◯	◯
I access organizational resources for evaluation ideas on a regular basis.	◯	◯	◯	◯	◯
I'm not sure what I'm supposed to evaluate.	◯	◯	◯	◯	◯
I enjoy learning about evaluation.	◯	◯	◯	◯	◯

Thank you for assisting in our study of the evaluation practices of non-formal educators. If you would like a copy of the executive summary of the results, please send an email to baughman@vt.edu.

Appendix B: Correlation Tables

Table 30. *Correlations between Independent Variables*

	Independent Variables							
	Timeliness	Findings	Evaluator Competence	Evaluator Disposition	Organizational Commitment	Information Needs	Decision Characteristics	Stakeholder involvement
Timeliness	1.0	.14**	.10*	.02	.15**	.15**	.01	-.07
Findings		1.0	.36**	.22**	.27**	.39**	.18**	.06
Evaluator Competence			1.0	.18**	.17**	.33**	.16**	.10*
Evaluator Disposition				1.0	.50**	.22**	.10*	.19**
Organizational Commitment					1.0	.21**	.01	.16**
Information Needs						1.0	.21**	.24**
Decision Characteristics							1.0	.13**
Stakeholder Involvement								1.0

*p<.05, **p<.01

Table 31. *Correlations between Independent Variables and Dependent Variables*

	Dependent Variables									
Independent Variables	Process Action	Process Theory	Negative Consideration	Positive Consideration	Cognitive Consideration	Negative Persuasion	Positive Persuasion	Status Quo Persuasion	Instrumental Decision	Instrumental Change
Timeliness	.00	-.08	.05	-.08*	.04	-.01	-.02	-.07	-.07	-.03
Findings	.27**	.03	-.23**	-.12**	.18**	-.18**	.30**	.03	.14**	-.12**
Evaluator Competence	.22**	-.03	-.11**	.17**	.20**	-.08*	.34**	.03	.07	-.06
Evaluator Disposition	.43**	.05	-.26**	..29**	.23**	-.20**	.39**	-.05	.36**	-.16**
Organizational Commitment	.33**	-.02	-.15**	.20**	.22**	-.15**	.33**	.00	.23**	-.09*
Information Needs	.28**	-.02	-.14**	.22**	.10*	-.07	.34**	.04	.10*	-.05
Decision Characteristics	.15**	.05	-.03	.04	.01	.02	.15**	.09*	.04	.03
Stakeholder Involvement	.27**	.19**	.14**	.17**	.10*	.16**	.26**	.24**	.21**	.15**

*p<.05, **p<.01

Table 32. *Correlations between Dependent Variables*

	Dependent Variables									
	Process Action	Process Theory	Negative Consideration	Positive Consideration	Cognitive Consideration	Negative Persuasion	Positive Persuasion	Status Quo Persuasion	Instrumental Decision	Instrumental Change
Process Action	1.0	.00	-.18**	.41**	.21**	-.13**	.54**	.13**	.53**	-.06
Process Theory		1.0	.19**	.12**	-.04	.33**	.15**	.14	.14**	.39**
Negative Conceptual			1.0	.00	.01	.45**	-.05	.28**	-.14**	.43**
Positive Conceptual				1.0	.00	.00	.42**	.04	.41**	-.01
Cognitive Conceptual					1.0	-.10*	.21**	.08	.12**	-.07
Negative Persuasive						1.0	.00	.01	-.10*	.73**
Positive Persuasion							1.0	.02	.41**	-.01
Status Quo Persuasion								1.0	.08	.24**
Instrumental Decisions									1.0	-.02
Instrumental Change										1.0

*p<.05, **p<.01

Appendix C: Institutional Review Board Approval

VirginiaTech

Office of Research Compliance
Institutional Review Board
2000 Kraft Drive, Suite 2000 (0497)
Blacksburg, Virginia 24060
540/231-4606 Fax 540/231-0959
e-mail irb@vt.edu
Website: www.irb.vt.edu

MEMORANDUM

DATE: March 25, 2010

TO: Sarah Baughman, Heather Boyd

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires June 13, 2011)

PROTOCOL TITLE: Non-formal Educator Use of Evaluation Findings

IRB NUMBER: 09-1075

As of March 25, 2010, the Virginia Tech IRB Administrator, Carmen T. Green, approved the amendment request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at http://www.irb.vt.edu/pages/responsibilities.htm (please review before the commencement of your research).

PROTOCOL INFORMATION:
Approved as: **Exempt, under 45 CFR 46. 101(b) category(ies) 2**
Protocol Approval Date: **1/6/2010**
Protocol Expiration Date: **NA**
Continuing Review Due Date*: **NA**
*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:
Per federally regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals / work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

VirginiaTech

Office of Research Compliance
Carmen T. Green, IRB Administrator
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www.irb.vt.edu
FWA00000572(expires 1/20/2010)
IRB # is IRB00000667

DATE: January 6, 2010

MEMORANDUM

TO: Sarah Baughman
Heather Boyd

FROM: Carmen Green

SUBJECT: **IRB Exempt Approval:** "Non-formal Educator Use of Evaluation Findings" , IRB # 09-1075

I have reviewed your request to the IRB for exemption for the above referenced project. The research falls within the exempt status, CFR 46.101(b) category(ies) 2.

Approval is granted effective as of January 6, 2010.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in the research protocol. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.

2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

cc: File