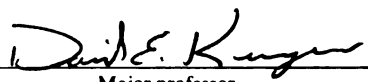This is to certify that the

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AT MICHIGAN STATE UNIVERSITY

presented by

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of the requirements for

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FACULTY USE OF SERVICE - LEARNING WITHIN THE COLLEGE OF
AGRICULTURE AND NATURAL RESOURCES
AT MICHIGAN STATE UNIVERSITY

By

Julianne Price

A DISSERTATION

Submitted to
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ABSTRACT

FACULTY USE OF SERVICE - LEARNING WITHIN THE COLLEGE OF AGRICULTURE AND NATURAL RESOURCES AT MICHIGAN STATE UNIVERSITY

By

Julianne Price

Service-learning, a form of experiential learning, has been implemented among many disciplines in higher education; however, little research has been done on the development of service-learning in colleges of agriculture. Service-learning links meaningful community service to the course curriculum, combined with guided reflection to enrich the learning of the students and provide service to the community. It is a method for providing community outreach that can fulfill the outreach mission of higher education. Experiential learning has long been the foundation for the curriculum in agriculture education, and it would seem that service-learning would be a natural extension of the curriculum. However, there have not been any studies to assess the level at which service-learning is used in colleges of agriculture.

This study was a census survey to ascertain the status of service-learning in the College of Agriculture and Natural Resources at Michigan State University. It was a descriptive study of the responses from the teaching faculty to determine their knowledge and use of service-learning. A total of 107 questionnaires were returned out of 272 possible for a response rate of 39.3 percent.

The study examined 1) The factors that motivated faculty to use service-learning. 2) Factors that were important for integrating service-learning into their courses. 3) The knowledge of service-learning prior to the study by non-service-learning faculty, and

4) The factors important to non-service-learning faculty for integrating service-learning into their courses.

This study contributes to the literature on service-learning and faculty development and motivation in higher education, specifically, it provides descriptive data on the faculty motivation, knowledge and use of service-learning in the College of Agriculture and Natural Resources at Michigan State University.

The findings from this study indicated that a majority of faculty in the college used experiential learning methods (m=3.36) and had heard of service-learning (52.5%); however, they were not using service-learning in their courses. The most important factors for use of service-learning by faculty were their personal interest (m=4.32) and the needs of their students (m=3.83) and community interest (m=3.65). The non-service-learning faculty indicated that they needed more information on service-learning (m=3.42), they lacked the time to prepare (m=3.64) and implement service-learning (m=3.49), and funding (m=3.55) of service-learning projects was important. Non-service-learning faculty indicated that they would consider using service-learning if there was adequate student interest (m=3.77), service projects could be relevant to Agriculture and Natural Resources course content (m=3.60) and if there was community interest (3.55).

As an outcome of the study, key recommendations for the implementation of service-learning were brought forward for consideration in the College of Agriculture and Natural Resources.

DEDICATION

This dissertation is dedicated to the memory of my cousin, Craig Duane Galloway, who will always live in my heart, to my family who have encouraged me, provided inspiration, and kept me on this path, and to God who has not given me a spirit of fear, but of power and of love and a sound mind.

ACKNOWLEDGEMENTS

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CHAPTER 1 - INTRODUCTION

Statement of the Problem

Higher education is being challenged to connect learning to society and rekindle the service ethic while continuing to improve teaching and research methods (Boyer, 1994; Bringle & Hatcher, 2000; Simon, 1999; Jacoby, 1996). Boyer (1994) describes the "New American College" as:

> An institution that celebrates teaching and selectively supports research, while also taking special pride in its capacity to connect thought to action, theory to practice. This "New American College" would organize cross-disciplinary institutes around pressing social issues. Undergraduates at the college would participate in field projects, relating ideas to real life. Classrooms and laboratories would be extended to include health clinics, youth centers, schools, and government offices. Faculty members would build partnerships with practitioners who would, in turn, come to campus as lecturers and student advisors. (p. A48)

Leder and McGuinness (1996) suggest that institutions need to make a paradigm shift in order make these impacts in the community. They state that "This requires designing a curriculum that moves both faculty and students out into the community for purposes of study, research, and practical experience" (p. 48). One method for accomplishing this shift is through the integration of service-learning into the curriculum in higher education.

Service-learning is a pedagogy that uses meaningful community service based on authentic needs identified by the community, combined with guided reflection, to enrich

student learning of course material (Conrad & Hedin, 1991; Jacoby, 1996; Kendall, 1990; Shumer & Belbas, 1996; Sigmon, 1979). The service is integrated into the student's academic curriculum and provides structured time for students to reflect on the service by thinking, talking, and writing about their service experience (Kraft, 1996). Service-learning provides opportunities for students to use newly acquired skills and knowledge in real-life situations in the community (Campus Compact, 2000). Service-learning provides a way for students to become engaged in the community beyond the classroom learning experience (Stanton, 1991; Eyler & Giles, 1999). Service-learning programs exist in community organizations, the K-12 school district, and in higher education.

Service-learning in higher education is most effective when implemented by faculty members who promote it in their institutions by integrating the community service into their curriculum (Hammond, 1994; Bringle & Hatcher, 2000; Jacoby, 1996). As faculty develop their course curriculum, service-learning, properly integrated, will provide a meaningful learning experience for students (Campus Compact, 2002).

Service-learning has been implemented among many disciplines in higher education (Kraft & Swadener, 1994; Zlotkowski, 1996); however, there has been little research on the development of service-learning in colleges of agriculture (Woods, 2002). Therefore, baseline studies of faculty use of service-learning in colleges of agriculture are important. Morris (2002) stated the following:

> Most land-grant institutions will already have a number of non-extension faculty
>
> members involved in service-learning courses, and some will have a full-fledged
>
> service-learning office and full-time service-learning coordinator. Some
>
> institutions have Community Outreach Partnership Centers, funded by HUD.

These faculty members and support staff would be delighted to discuss opportunities for collaboration.

The integration of service-learning will require institutions to build in the appropriate supports to encourage the use of innovative teaching methods by faculty. According to Leder & McGuinness (1996):

Most faculty members received graduate training in traditional disciplinary methods and texts. They may cause them to be uncertain about how to incorporate experiential components into the classroom. They have neither been told how to do so, nor witnessed it in practice.

Land grant institutions have a history of service to the community and need to continue to provide innovative methods for providing service to the community (Simon, 1999). Michigan State University, one of the oldest land grant institutions in the nation, continues to improve teaching and research methods. However, there is a need to expand methods for providing community service. The integration of service-learning into the curriculum of land-grant institutions is one method of bringing teaching, research, and community service together to support the mission of land grant universities.

A portion of the 2002 mission statement of Michigan State University in the 2001-2002 faculty handbook reads:

The university's land-grant and service mission first originated in the areas of agriculture and the mechanic arts. While these emphases remain essential to the purpose of Michigan State, the land-grant commitment now encompasses fields such as health, human relations, business, communication, education, and government and extends to urban and international settings. The evolution of this

3

mission reflects the increasing complexity and culture diversity of society, the world's greater interdependence, changes in both state and national economies, and the explosive growth of knowledge, technology, and communications.

Research and public service are mutually enriching activities for both faculty and students and contribute significantly to the high quality of both undergraduate and graduate instructional programs. Through research, faculty members enhance the scope and effectiveness of their teaching. Through public service, faculty validate past research findings and identify the need for new research and for modifications of curricula. Participating with faculty in research and service projects provides students with unique learning opportunities and consequently improves the quality of both graduate and undergraduate education.

Within land grant universities reside colleges of agriculture, and the curriculum in agriculture has traditionally used experiential learning as a method for providing hands-on instruction to students and to provide internship opportunities. The foundation of experiential learning can provide a foundation for the introduction of service-learning, a form of experiential learning, into the curriculum. Like other forms of experiential education, service-learning allows students to test skills and facts learned in their academic programs, develop critical thinking skills, and develop partnerships with people in the surrounding community as they learn and serve (Eyler & Giles, 1999). The integration of service-learning into college of agriculture curricula would provide a method for students to do concrete problem solving around community needs rather than just develop skills related to future employment (Woods, 2002).

To substantiate the use of service-learning in the College of Agriculture and Natural Resources (CANR) at Michigan State University, it is necessary to review the mission statement. The 2002 mission of the Michigan State University College of Agriculture reads:

> The mission of the MSU College of Agriculture and Natural Resources is to enhance the quality of life for the people of Michigan and the world by advancing knowledge for the management of communities and agricultural, natural resources and food systems to meet diverse human needs in a sustainable manner (p. 1).

The mission includes a values statement that supports service:

> Service to others. We are here to serve the people of Michigan, the nation and the world. To that end, we aim to provide relevant and accessible programs in higher education, extension and lifelong learning (p. 1).

The mission statement further supports the land-grant mission of the university:

> Land-grant mission. We value the tradition of the land-grant mission, upon which Michigan State University was founded. Our unique role in higher education and our distinctive contribution to Michigan remain rooted in the land-grant tradition as we strive to fulfill its potential (p. 1).

The researcher thought it would be relevant to determine the extent to which CANR faculty were incorporating service into their courses through the use of service-learning, experiential learning, and community service. There has been only one study of faculty use of service-learning in Michigan, conducted by Hammond (1994). In her study of 163 respondents to a Michigan Campus Compact Survey, she identified 17 faculty who were using service-learning; only 10 of the 163 respondents were from

Michigan State University. Of the disciplines and departments annotated in her study, there were no respondents from the MSU College of Agriculture and Natural Resources (Hammond, 1994).

Woods (2002) indicates that there have been few studies that look at the implementation of service-learning by faculty within colleges of agriculture. While much of the service-learning literature has focused on disciplines within the social sciences and teacher education, it is important that service-learning be represented in all of the disciplines (Kraft & Swadener, 1994; Hammond, 1994; Stanton, 1994; Zlotkowski, 1996). As universities become more involved in civic engagement, it will be necessary to gather baseline information on the implementation of service-learning by faculty from all academic disciplines.

A review of the list of courses at Michigan State University that included service-learning (through documentation provided by The Michigan State University Service Learning Center) showed that relatively few courses were listed for the College of Agriculture and Natural Resources (K. McKnight-Casey, personal communication, March 21, 2002). In discussions with faculty members it was suggested that faculty in the college may indeed be implementing service-learning without formally defining their curriculum as service-learning (D. Krueger & M. Woods, personal communication, March 5, 2001). Therefore, a study of the faculty understanding of and use of service-learning in the CANR would contribute to the literature on service-learning in the academic disciplines.

The College of Agriculture and Natural Resources at Michigan State University has the historical foundation to provide leadership in the expansion of service-learning

into the university curricula at Michigan State University (Simon, 1999). The tradition of service to community is the hallmark of colleges of agriculture and natural resources, the extension service, and land-grant universities in general. The College of Agriculture and Natural Resources at Michigan State University has an opportunity to extend the land grant service ethic by the integration of service-learning into curriculum (Woods, 2002).

Purpose of the Research

The purpose of the research will is to provide descriptive data on the use of experiential learning, community service, and service-learning by the faculty in the College of Agriculture and Natural Resources. The study will seek to determine the factors that motivated faculty to implement service-learning into their course curriculum.

The study will provide descriptive data on service-learning and non-service-learning faculty in the College of Agriculture and Natural Resources at Michigan State University and their knowledge and use of service-learning as a teaching method, the factors that motivated them and were considered important in order to include service-learning in their courses, and the factors that would be important to motivate non-service-learning faculty to consider using service-learning in their courses.

Research Questions

This study will describe the status of service-learning within the College of Agriculture and Natural Resources at Michigan State University. Following are the research questions to be addressed:

1. What are the characteristics of service-learning faculty in the College of Agriculture and Natural Resources in terms of the following: gender, academic rank, tenure

status, educational level, appointment percentages, years of teaching experience, and completion of a teaching methods course?

2. What are the characteristics of non-service-learning faculty in the College of Agriculture and Natural Resources in terms of the following: gender, academic rank, tenure status, educational level, appointment percentages, years of teaching experience, and completion of a teaching methods course?

3. To what degree are teaching faculty in the College of Agriculture and Natural Resources using experiential learning, community service, and service-learning in their courses?

4. What factors motivated CANR faculty to integrate service-learning into their course curriculum?

5. What factors are important to CANR faculty who are integrating service-learning into their courses?

6. To what degree are teaching faculty in the College of Agriculture and Natural Resources familiar with service-learning?

7. What factors would be important to CANR faculty who are not integrating service-learning to motivate them to consider its use in their courses?

Conceptual Framework

The conceptual framework for this study was based upon the educational theories of John Dewey on experiential education as a foundation for the curriculum of agriculture education. Additionally, the research of Blackburn & Lawrence (1995) on faculty work provided a theoretical framework for understanding the interactions both intrinsic and

extrinsic that determine teaching methods used by faculty. A discussion of the theories of Dewey, and Blackburn and Lawrence that guided this research appears in Chapter II.

Limitations of the Study

The study will be relevant only to faculty and administrators at Michigan State University in the College of Agriculture and Nature Resources. The findings cannot be generalized to other institutions. However, the findings may provide service-learning data useful for the design of studies at other institutions.

Assumptions

This study is subject to the following assumptions:

1. Faculty members are responsible for their course design.

2. Faculty members are interested in sustaining their service-learning programs in the university and community.

3. Faculty members are interested in improving their teaching methods.

4. Faculty members will respond truthfully to the survey.

Importance of the Study

The findings from this study will be relevant to The College of Agriculture and Natural Resources and Michigan State University administrators and faculty who are interested in the integration of service-learning into the university curriculum and will provide support for faculty development within the College of Agriculture and Natural Resources.

Definition of Terms

Experiential Learning: Concerns an individual changing his or her behavior and previous conceptions as a result of knowledge gained from an experience.

Community Service: Defined as any voluntary student activities that meet important community needs.

Service-Learning: A teaching strategy that uses meaningful community service combined with guided reflection to enrich and enhance student learning of course material.

Community: A group of people that may be defined by geography, language, culture, and shared values and norms.

Community Voice: The articulation of community needs and expectations by community partners or their representatives.

Engaged Campus: An engaged campus is one that is consciously committed to reinvigorating the democratic spirit and community engagement in all aspects of its campus life, including students, faculty, staff and the institution itself.

Summary

This study will use the educational theories of John Dewey as a framework for understanding the use of the pedagogy of service-learning within the College of Agriculture and Natural Resources and the research by Blackburn and Lawrence to provide a conceptual framework for understanding the impact of faculty understanding of the institutional mission on teaching methods.

The research questions for this study can be understood through the exploration of the mission of the Michigan State University College of Agriculture and Natural Resources and land-grant universities and through the literature on the service-learning, service-learning curriculum design, faculty motivation, and faculty teaching.

CHAPTER II - REVIEW OF LITERATURE

Overview of Concepts

This chapter will provide an overview of the history of service-learning in higher education and an overview of relevant service-learning research.

Community Service in Higher Education

Community Service for the purposes of this study is defined as any voluntary student activities that meet important community needs. Zawacki (1997) has a broader definition that references the work of Serow, Ciechalski, & Day and Youniss (as cited in Zawacki, 1997) and defines it as volunteer work that helps others in the community.

A major study of 33,986 undergraduate teaching institutions by Antonio, Astin, & Cress (2000) reported that 80 percent of the faculty were engaged in some form of community service and 40 percent of the respondents advised students involved in community service. Their findings indicated that faculty at four year colleges performed more community service than their university counterparts and had a tendency to value it more, and faculty of higher rank across institutions were least likely to be involved in community service.

In the national study by Driscoll, Holland, Gelmon & Kerrigan (1996) faculty members felt that community service experiences could be fertile ground for research and other scholarly works.

Experiential Learning in Higher Education

Experiential leaning has had a long history in higher education. The educational theories of John Dewey provided the foundation for experiential education in higher education and were influential in the development of Kolb's most-often-cited experiential

learning theory (Saltmarsh, 1996; Knoblock, 2001; Cantor, 1995; Hammond, 1994). The use of hands-on methods has been a component in the early training and education of students for over 100 years. There are myriad definitions for experiential learning, however, the key connection is that the learning is used to provide a practical application for understanding the subject matter. According to Knoblock (2001):

> Available data suggests that by 1990 more than 1,000 postsecondary institutions (community colleges, four-year colleges, and universities) have offered some form of experiential education, serving more than 250,000 students. Heinemann and Wilson surveyed 20 institutions of higher education (18 senior colleges and two community colleges) to determine levels of participation in experiential learning (1995). They found that internships, practicums, and cooperative education programs were in place in 75 percent of the 205 programs reported. However, this study did not seek specific information about classroom-based experiential learning activities (p. 15).

Although students often value experiential learning, faculty do not value it above more traditional modes of instruction in higher education (Cantor, 1995).

Brief History of Service-Learning

The service ethic in higher education dates back to the founding of land grant institutions with the Land-Grant College Act or Morrill Act of 1862. In 1914, Congress passed the Smith-Lever Act, which created the Cooperative Extension System and directed the nation's land grant universities to oversee its work. The mission statement for Michigan State University's extension service states that "the Michigan State University Extension (MSUE) helps people improve their lives through an educational

process that applies knowledge to critical issues, needs and opportunities." The development of the cooperative extension service is an example of higher education providing a service to the community (Stanton, Giles, and Cruz, 1999).

Service-learning in higher education is distinguished by several milestones. Wutzdorff and Giles (1997) describe the first milestone as being in 1964 when the term "service-learning" was used in Tennessee by the Oak Ridge Associated Universities in connection with community service programs. In 1972, the University Year for Action was created. This program involved students from campuses across America providing service to their communities. In the early 1970s, the National Center for Service-Learning was established within the federal government. This provided the stimulus for the development of service-learning and service-related programs across the country. In 1985, the founding of Campus Compact had an impact on the role of service-learning in higher education. Campus Compact was founded by university presidents who made a formalized commitment to engage their institutions in service to the community and to provide institutional support for service programming (Stanton, Giles, and Cruz, 1999). In 1989, the Student Literacy Corps was established to provide university campuses with funding to provide literacy education in their local communities. One of the requirements was that the literacy program be linked to the academic courses so students would receive academic credit for tutoring in the program. In 1990 Congress passed, and President Bush signed, the National and Community Service Act of 1990. The legislation authorizes grants to schools to support service-learning (Serve America, now known as Learn and Serve America) and demonstration grants for national service programs to youth corps, nonprofits, and colleges and universities.

In 1990, the National and Community Service Act (1990) was signed and stated:

Service-learning provides educational experiences:

- under which students learn and develop through active participation in thoughtfully organized service experiences that meet actual community needs and are coordinated in collaboration with school and community.

- that are integrated into the students' academic curriculum or provide structured time for a student to think, talk, or write about what the student did and saw during the actual service activity.

- that provide a student with opportunities to use newly-acquired skills and knowledge in real life situations in their own communities.

- that enhance what is taught in school by extending student learning beyond the classroom and into the community and help to foster the development of a sense of caring for others. (p. 10)

President Bill Clinton signed the National and Community Service Trust Act of 1993, creating AmeriCorps and the Corporation for National and Community Service to expand opportunities for Americans to serve their communities. VISTA became part of AmeriCorps.

In 1994, Congress passed the King Holiday and Service Act of 1994, charging the Corporation for National and Community Service with taking the lead in organizing Martin Luther King Day as a day of service.

In 1995, the American Association for Higher Education (AAHE) chose the theme "The Engaged Campus" for its annual conference and, in 1996, the AAHE included service-learning as a sub-theme. The American Educational Research

Association (AERA) also has a number of its sessions devoted to service-learning. Further, service-learning is included on the agenda for the annual meetings of several disciplinary groups, i.e. the American Sociological Association, the American Psychological Association, and the American Political Science Association. In 1994, the Michigan Journal of Community Service published its first issue, and <u>Service-Learning in Higher Education</u> was published in 1996. Various institutions including Michigan State University have published curriculum materials on service-learning in undergraduate education.

Service-Learning Research in Higher Education

The progress of service-learning in higher education is as mixed and varied as the institutions where programs exist. There is a wide range of institutional support. The support can range from being a prominent focal point for the mission of the institution, to being a peripheral activity sponsored by faculty members in select departments (Jacoby, 1996).

Students

Exum, Rutter & Newmann's findings on service-learning directed toward college students looked at the role of reflection on the growth of self concept and ego development (as cited in Kraft & Swadener, 1994). Soat found no significant relationship between cognitive style and willingness to help others with students in an introductory psychology course (as cited in Kraft & Swadener, 1994). Smith found that service-learning participation was linked to increased self-worth, insight, and an orientation toward service by Peace Corps volunteers (as cited in Kraft & Swadener, 1994). Wilson found that that students involved in service-learning were more open-

minded and had increased political efficacy (as cited in Kraft & Swadener, 1994). Corbett found that students who chose their service opportunities and were provided structured reflection exhibited gains on personality measures and emotional and task competence (as cited in Kraft & Swadener, 1994). In a study of undergraduate political science students it was reported that students were more likely to self-report improved performance and application of principles when engaged in course-based community service than students who were in the traditional discussion groups (Markus, Howard, and King, 1993). According to Gray, Ondaatje, Fricker, Geschwind, Goldman, Koganoff, Robyn, Sundt, Bogelgesang, Klein (1998), the comparison of service-learning to non-service-learning students found no differences in their perceptions of course impact. Students who had 20 or more hours of service plus reflection reported the greatest gains on academic and life skills outcomes.

Service-learning has long-term effects on citizenship. Studies have shown that service-learning students are more likely to volunteer after college than those who have not been involved in a service-learning experience (Astin, Sax, and Avalos, 1999; Blackwell, 1996). It also has an impact on their career choices (Eyler, Giles, and Braxton, 1997). In a study conducted by Vogelgesang and Astin (2000), students who participated in service-learning were more likely to chose a service-related career than those in the community service option. Student participants reported that service-learning enhanced the career development process, along with positively impacting their motivation to serve others, sense of personal efficacy, and leadership effectiveness (Keen and Keen, 1998).

In comparative studies between courses that provided service-learning and those that did not, there have been mixed results. According to Berson and Younkin (1998), students in the service-learning course options earned higher grades than students in the non-service-learning course options. However, some of the indicators for the control group were not comparable. Students in service-learning options had better attendance and understood course concepts better than the control group (Shastri, 1999; Blackwell, 1996; Strage, 2000). However, in the study by Shastri (1999) test scores when used alone did not show significant differences leading to the conclusion that mixed assessments can provide a comprehensive view of the impact of service-learning on learning outcomes. Given the experiential nature of service-learning, studies have shown that students in service-learning options are better able to apply course concepts outside of the classroom (Miller, 1994; Markus et al.; 1993; Kendrick, 1996). Most studies indicated the positive impact of service-learning course options, when compared to non-service-learning course options (Cohen and Kinsey, 1994; Eyler, et al., 1997). Additionally, students in service-learning course options showed greater improvement in measures of social responsibility and personal efficacy, and a greater ability to apply course concepts than non-service-learning students (Kendrick, 1996; Johnson and Bozeman, 1998). Service-learning leads to increased civic responsibility (Myers-Lipton, 1998; Mabry, 1998) and has been shown to have an impact on students' ability to work with diverse groups (Myers-Lipton, 1996a; Hones, 1997; Boyle-Baise, 2000; Myers-Lipton, 1996b; Osborne et al., 1998; Rhoads, 1997; Jordan, 1994). Students in service-learning also have higher rates of moral development than those who are not involved in service-learning (Gorman, 1994; Boss, 1994).

In studies of retention, service-learning participation was a factor most strongly correlated with graduation for African-American students (Roose et al., 1997). Studies have also looked at the design of the service experience and its impact on students. In a study conducted by Mabry (1998), service-learning was most effective when students had at least 15-20 hours of service, experienced frequent contact with beneficiaries, wrote on-going and summative narratives, and had discussions with instructors and site supervisors.

On cognitive complexity, service-learning students were more aware of the multiple dimensions and variability involved in social problems. Service-learning students also significantly increased their prosocial reasoning and the processing of occupational identity. Important factors in mediating outcomes were the quality of academic instruction and on-site supervision (Batchelder and Root, 1994).

In a three-year funded study, 20 undergraduates mentored and read to second graders, one-to-one. The college students later indicated a greater commitment to community service, working with children, and/or education careers. Reading scores for the children improved. The program was deemed successful although no statistical tests were run (Tartter, 1996).

In comparative studies of students who were in service-learning and students who were not, service-learning students had increased communication skills. Service-learning students adjusted to the community environments more easily and were more comfortable working in schools and community settings (Juhn, Tang, Piessens, Grant, Johnson & Murray, 1999).

Students in service-learning courses earned higher grades than those in a control traditional course, however course composition was not the same for each course. The service-learning students were more satisfied with the course, instruction, reading assignments, and grading systems. Faculty found class discussions more stimulating and students more involved and challenged academically (Berson and Younkin, 1998).

Not all studies have shown service-learning to provide positive impacts. In a study of concern for others and civic commitment, Hudson (1996) found no significant differences for the service-learning group and the control group. However, the researcher perceived that service-learning students were more empowered based on their anecdotal responses to the survey. Separate studies by Smith (1994) and Kollross (1997) reported no significant effects on citizenship for students enrolled in service-learning courses.

In research conducted by Wang (2000) on the relationship between elements of the service-learning pedagogy and student self-development, it was reported that three self-development student outcomes that emerged were commitment to loving people, commitment to loving the community, and self-empowerment. Students' self-development was facilitated by these components of the service-learning pedagogy: the role of the professor, lecture content, discussions, reflective journals, and the service experience.

Institutional

Institutional support for service-learning is continuing at a steady pace. Campus Compact (2000) reported that in 1999, 32 million hours of student service were logged, 600,000 students performed service, 13,000 faculty were involved in service, and 11,000 service-learning courses were offered.

Institutions that have strong definitions of service-learning tend to have a better chance of sustaining their programs over time (Gelmon, Holland, Shinnamon, 1998). Berman (1999) and Battaglia (1995) reported that the institutions with the most successful programs: have coordinated service-learning with their organizational goals: service-learning is a part of the mission statement: faculty members provide primary leadership for the promotion of the programs and integrate service into the curriculum. Service-learning is a part of the long-term plan for the institution, and there is open communication both on campus and with community partners.

The development of community partnerships provides another anchor for service-learning in institutions. The role of community partners must be clearly articulated, and participation must be authentic and specific with regard to student learning and the value of their participation to the institution (Gelmon et al., 1998).

The integration of service into the mission statement of institutions has been reported to increase the likelihood of successful service-learning outcomes (Gelmon et al., 1998; Bergkamp, 1996). Institutions are challenged to provide faculty reward systems that incorporate the development of service-learning into the tenure system.

In the 1995 report by the National Association of State Universities and Land Grant Colleges, faculty reported that one of the primary barriers to the development of service-learning programs is the lack of institutional support and the lack of recognition of community service as a scholarly activity. Administrators often affirm the value of student service (Waring, 1995; Lelle, 1996), but without strong commitments by faculty, service-learning programs will not be implemented successfully. The institutional culture may be a key factor in encouraging faculty to view community service as vital to their

roles as professors (Antonio et al., 2000). The most frequent concern of faculty is the lack of institutional support to develop a service-learning curriculum where a lecture had been in place (Burr, 1997).

Through participant observation and interviews with faculty and staff, Bergkamp (1996), examined the meanings of the service-learning experience in Catholic colleges. The first was that service was vital to the mission and culture of Catholic institutions. Second, the liberal arts tradition within Catholic universities wielded a strong influence toward service, and service-learning in turn supported the skills of reflection and critical thinking vital to the liberal arts education. Third, service projects were typically built upon individual efforts of faculty and staff within their communities. Often site selection was an informal process. Fourth, faculty and staff chose to be involved for personal reasons. A final theme that emerged was that service learning supported the common good in its educational value to students.

In addition to these themes, several tensions surfaced in the interviews. While service-learning seemed to be valuable for students in Catholic institutions, resources are limited for program administration. Also, community service was typically not reflected in the faculty rewards system of tenure. A third tension revolved around where the service-learning program was housed: within student life or within academics. Pedagogical tensions also existed regarding how to implement service-learning.

Berman (1999) examined the antecedents necessary to effectively implement service-learning programs in colleges and universities. The precursors to successful programs included solid staffing, a tendency toward a collaborative approach to problem solving, and rational and/or collegial modes of problem solving. Factors that were

challenges or impediments to successful implementation included institutional organization, poor staff and faculty training in service-learning theory and pedagogy, and lack of faculty incentives to engage in service-learning. Key players involved in successful service-learning programs tended to be organized into teams and/or have relationships throughout the university with all interested parties. Factors common to all successful service-learning programs were congruence with organizational goals, a clear articulation of mission, faculty driven plans for program implementation, creative means to integrate service with study, long-term goals and plans, and open communication systems.

Gray et al., (1998) gathered data from multiple sources, namely: 930 Learn and Serve America, Higher Education (LSAHE) institutions over three years (1995-97); 847 community organizations (1995-96); and 3,492 students. Data from the Annual Accomplishments Survey, which was administered to institutions receiving funding, showed that the most common capacity-building activity undertaken was course development. Between 1995 and 1997, there was an increase of 3,000 service-learning courses offered. In an examination of academic integration of service-learning into higher education in Connecticut, Mandell (1995) gathered survey data from 682 courses at 30 institutions; 88 percent of the respondents were four-year institutions and 69.2 percent of those were public. The academic department that offered the greatest percentage of service-learning courses was education at 34.4 percent; social and behavioral sciences had 15.4 percent of its courses linked with service. The mean number of hours of community service that a student performed was 119. Business administration students demonstrated the highest mean at 174.3 hours, followed by social

work students with 161 mean hours. Most of the service performed was either in government or non-profit organizations with youth or the general community. Sixty-four percent of students performed service in education; heath care services were the next highest receivers of student time. More than 82 percent of all community service courses were internships, field experiences, or practica. Most of the students were not paid for their service (90.9%); their service was required by their courses (87.6%), or was required for their major (61.7%).

The survey of 290 institutional members of the American Association of State Colleges and Universities (AASCU) and the National Association of State Universities and Land Grant Colleges (NASULGC, 1995) focused on institutional service areas, commitment to community service, barriers to service, approaches for gaining community and institutional cooperation, and needs for professional association support. More than half of the members responded (n=186) and indicated five concerns: education, economic development, community development, health and human services, and cultural enrichment. These institutions of higher education placed a greater emphasis on health and human services and cultural enrichment than did their communities. Twelve percent of institutions had formal criteria regarding community service. Nearly 87 percent of the respondents indicated that their institution had offices or centers that directed community service. The remaining respondents indicated little coordination of service activities. Twenty-seven respondents noted lack of adequate resources for faculty to respond to community needs, as well as a lack of recognition of community service as a scholarly activity.

Service-learning has also made institutional impact at Community Colleges. A survey was conducted by Robinson & Barnett (1996) on 1,100 member institutions of the American Association of Community Colleges regarding their use of service-learning, and 773 responded. The survey items centered on institutional profiles, volunteer community service activities, service-learning activities, student and faculty/staff participation in such activities, community service and service-learning program administration, the involvement of non-school organizations, and program development.

While 71 percent of the community colleges indicated that service was a part of institutional mission and nearly half had an office or group that placed students in community service opportunities, only one in five promoted college-wide service projects. Thirty-one percent of community colleges surveyed offered service-learning, and 71 percent of those institutions reported that five or fewer faculty incorporated service-learning into the curriculum. In the study, thirty-seven percent of institutions with service-learning offered specific courses in community service. Students performed up to 10 hours of service monthly through service-learning courses, primarily at health and social service agencies and K-12 schools. Community colleges reported that faculty support was the most important factor in making a service-learning program successful, while insufficient funding was the primary challenge to program sustainability.

Chief academic officers at 45 accredited colleges and universities in urban areas of Ohio (Sagaria and Burrows, 1995) were surveyed to examine three issues: 1) how much attention policy-making bodies within the institution pay to community service; 2) the place of community service in the curriculum and the faculty workload; and

3) how the external environment influences community service at the institution. Using Likert scales, respondents rated the significance of community service to ten functional areas of universities and colleges: 1) community relations, 2) institutional mission, 3) institutional goals, 4) academic programs, 5) campus culture, 6) student services, 7) fundraising and grants, 8) student recruitment and retention, 9) state government relations, and 10) alumni relations. Chief academic officers rated community service as having "very high importance" to community relations, institutional mission, and institutional goals. However, community service was not discussed very often by institutional policymaking groups such as student life committees, the governing board of the school, or the president's cabinet. Community service was "rarely" or "occasionally" (2.8 out of 5 points) part of course assignments, "rarely" a primary focus of assignments (1.9), and "never" to "rarely" a graduation requirement (1.7).

The Commission on National Service for North Carolina sponsored a study in 1996 to identify factors associated with support for service-learning among institutions of higher education. The variables that were expected to impact institutional support included enrollment numbers, public/private control, highest degree awarded, number of service-learning faculty, and the integration of service-learning into the academic core. The variables that predicted institutional support for service-learning at a significant level included the number of faculty involved in using service learning in their courses and an emphasis on academic goals in service-learning courses.

Siscoe (1997) investigated involvement levels in service-learning programs and activities in four-year public colleges and universities that were members of the Southern Association of Colleges and Schools (SACS). The study found that 55 (47.4%) of the

institutions had service-learning programs on campus during 1996. Roughly 36.3 percent

of institutions with a master's program had service-learning programs. Eighty-nine

percent of the institutions with service-learning programs mentioned service in their

mission statements and nearly half had service-learning offices. Of all success factors

impacting service-learning programs, the factors identified most often were

administrative support (41.8%) and faculty commitment (27.3%). The survey also

revealed that 78 percent of these institutions employed discussion and reflection in their

service-learning classes, and 74 percent of the service-learning courses required students

to keep journals. The predominant types of service were in K-12 schools (87%) or social

service agencies (92%). Respondents indicated that faculty were most motivated by

praise (40%) or peer influence (36%). Forty-five percent of institutions required faculty

service for tenure. Institutional leaders also identified insufficient funding (43%), lack of

administrative support (16.4%), and faculty resistance (14.5%) as barriers to promoting

service-learning. Finally, the author noted that 28 institutions without a current service-

learning program (45.9%) indicated that they are interested in creating one.

Smith (1994) examined how service-learning is incorporated into higher

education settings and its relationship to the development of citizenship. A pilot study

was conducted by interviewing and holding focus groups with seven students from a mid-

sized public university. Each student had completed a service-learning course. Then, a

case study of an institution's community service-learning program was conducted to

identify intended student outcomes from service-learning participation among

administrators (1), faculty members (4), community service administrators (1), and

service-learning students (11). The following facts emerged from the individual and

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group interviews: the institutional administrator framed citizenship in moral context, while two of the four faculty linked their intentions for service-learning participation to their religious backgrounds. One faculty member had not even considered service-learning as a way of promoting citizenship. Eleven students articulated deeply felt experiences when confronting social issues. However, they did not link their service-learning experience with citizenship. These two studies indicate that if civic responsibility and participation were to be priorities in higher education, institutions should not assume that students connect their service participation with these goals.

In a study of three of the founding Campus Compact institutions, Brown University, Stanford University and Georgetown University (Waring, 1995) investigated the dynamics of organizational change at the three universities as they were exerting efforts to support student involvement in community service. Cross-case analyses revealed both similarities and differences between these universities' public service efforts. However, three efforts were common to the institutions to varying degrees: the universities sponsored public service programs such as direct service or international opportunities, academic programs with public service components were in place, and student-initiated public service programs were encouraged. As far as resources were concerned, all three public service centers relied upon a line item budget from the university. The public service centers at Brown and Stanford were also supported by endowments and were closely associated with their respective presidents. It was also evident that administrators affirmed the value of student service more than faculty did. At each institution there was a push to centralize efforts at organizing public service. Organizational analyses indicated that the institutional culture shaped the direction of the

public service centers. Georgetown's center was influenced by its Jesuit heritage, Brown's version for innovative education was visible in its service center, and Stanford's center embodied a cultural expectation that all students be involved in service during college. It was also evident that each school president was acting as a change agent for his or her institution, providing support for the concept that planning is a key driver of change.

In research on the nature and level of institutional support for service-learning, the findings suggest that administrators, faculty, and students should be involved in planning for service-learning; integration of service-learning and volunteerism should be clearly articulated; service should be integrated into institutional structures (Ward, 1996).

Community

Traditionally, service-learning is designed to meet the needs of communities; however, there have been few studies that look at the impact of students on the community partners. Service-learning provides students the opportunity to be involved in community life outside of the university, and Giles and Eyler (1994) reported that students developed more positive perceptions of the people in the communities where they provided service. Payne and Bennett (1999) reported that service-learning students gain a greater understanding of those served. Gelmon et al. (1998) reported that students benefited when community partners were involved with orientation and preparation prior to service.

Cohen and Kinsey (1994) found interaction with community members is important to student motivation and learning, other studies have noted that in even rather

brief service projects, close involvement with people who need service can have an impact on how students view the clients of social services.

A study by Greene and Diehm (1995) found that 70.8 percent of the student participants broadened their perspectives on aging. Fifty percent held less stereotypical views of the elderly after their service-learning experience. Elderly residents agreed that the experience was a great educational opportunity.

In a study by Bacon (1997) students' performances on community writing tasks were correlated to their academic writing capacity. Student writing was impacted the most when their writing was used to meet authentic community needs, such as designing an agency brochure.

In studies on the involvement of the community in service-learning student orientations Nnakwe (1996) found that when community outreach professionals trained students, the students showed significant increases in concern, activism, and attitudes related to world hunger and homelessness.

Faculty Motivation

Hammond (1994) conducted a statewide study of Michigan Colleges and Universities on service-learning and faculty motivation. The study looked at 163 faculty members from Campus Compact Institutions that were identified as utilizing "service as a component of an academic course." The study included faculty from Michigan State University, however there were no disciplines or departments from the College of Agriculture (Hammond, 1994). The mission of land grant universities, with its emphasis on service to community, may have an impact upon the level at which faculty view themselves as service-learning advocates through their course curriculum.

Stanton (1994) conducted a case study of a Campus Compact service-learning faculty development seminar, which looked at factors relative to the faculty participants, the content of the faculty development seminar, and the participants' perceptions of institutional context. His study was useful in understanding the best practice for providing faculty the tools to implement service-learning into their curriculum. Although his study is small it provides a good start to understanding the methods for meeting the needs and concerns of faculty who are interested in implementing service-learning.

Abes, Jackson, and Jones (2002) conducted a national study of 29 diverse institutions and the factors that motivate and deter faculty from using service-learning. The study examined the faculty responses by educational institution, academic discipline, faculty rank, tenure status, and gender. The major findings from the study were that there was considerable consistency in motivators and deterrents in service-learning use. In their study, faculty in agriculture were more likely to use service-learning in their courses (m=3.42).

Faculty Development

The findings of Siebold (1998) reported that faculty were in consensus in defining academic goals for the program and were professionally and personally committed to community as a basic construction in education for health professionals (Siebold, 1998). Ward (1996) reported that administrators, faculty, and students should be involved in planning for service-learning; integration of service-learning and volunteerism should be clearly articulated; and service should be integrated into institutional structures.

In service-learning in teacher education, Wade et al., (1999) found that the best factors for predicting future service-learning activity included whether or not service-

learning experiences in the teacher preparation program included responsibility for planning and implementation of service projects and a general positive evaluation of service-learning experiences. In a case study at a community college, Burr (1997) reported a lack of institutional support for implementing a service-learning curriculum where a lecture had been in place.

In a study of student teachers, Wade and Yarbrough (1997) found that when student teachers initiated the projects, service-learning was perceived as more positive. It was also reported that when student teachers took a strong leadership stance, the less experienced cooperating teachers were more likely to follow their lead.

Wade et al. (1999) investigated beginning teachers' experiences with community service-learning. The factors that were best predictors of future service-learning activity included whether or not service-learning experiences in the teacher preparation program included responsibility for planning and implementation of service projects and a general positive evaluation of service-learning experiences.

Classroom teachers were concerned with time and sometimes felt that service-learning affected classroom management negatively. Service-learning was positive if: student teachers were the project initiators and they showed strong leadership when the classroom teachers were willing to take a back seat (Wade & Yarbrough, 1997).

The structure of the course is important for the integration of the course knowledge with the service. Faculty who develop structured reflection will increase students' ability to integrate the course material with the service experience (Ikeda, 2000; Berson & Younkin, 1998).

Service-Learning at Michigan State University

As an institution, Michigan State University has been at the forefront of student volunteerism, community service, and service-learning (Stanton et al., 1999). In keeping with its historical significance as the premier land grant institution, Michigan State University has a significant history relative to university community outreach through volunteer programs, community service and service-learning.

The Service-Learning Center

According to Stanton, Giles, and Cruz (1999), the Office of Volunteer Programs at Michigan State University, later named the Service-Learning Center was possibly the first university-administered volunteer program in the United States. The Service Learning Center provides a myriad of service and training for students, faculty, community members, and institutions. The Service-Learning Center website provides an overview of the service offered to students, faculty, and community, as follows:

The mission of the Service-Learning Center and civic engagement at Michigan State University is to provide active, service-focused, community-based, mutually beneficial, integrated learning opportunities for students, building and enhancing their commitment to academics, personal and professional development, and civic responsibility.

The Service-Learning Center offers a range of opportunities for MSU students, faculty, and staff to integrate community involvement with classroom experiences, and to serve in the local community. The SLC motto "Linking Education with Service and Experience," embraces MSU's mission of combining research, teaching and service.

Through placement with a local community partner, students contribute to the improvement of the community while applying critical thinking and problem-solving skills learned in the classroom. Faculty and staff members can participate by structuring courses and programs to include meaningful service, as well as reflection and evaluation of the experience. This element of intentional, purposeful service, co-designed with the community partner, is one of the key components of service-learning.

The existence of a centralized office to coordinate service-learning programming on campus is one source of support for faculty development in service-learning (Morris, 2002). The service-learning center has offered many seminars to faculty during the 2001-2002 academic years that are focused on the individual needs of faculty and departments. Presentations are made each semester in courses across campus to inform students and faculty of the services of the center. There have also been seminars that relate to the integration of course content and service, such as a workshop on Service-Learning and the Sciences for faculty.

The Service-Learning Center also conducts programs jointly with Michigan Campus Compact to meet the needs of faculty and MCC member institutions.

Theoretical Framework

John Dewey and Service-Learning

John Dewey has had a major influence on educational theory, and researchers are beginning to position a theoretical base for service-learning in his writings. Giles and Eyler (1994) state that "service-learning reflects, either consciously or unconsciously, a Deweyian influence." Saltmarsh (1996) stated that:

While Dewey never specifically addresses "community service-learning" as a term signifying a particular framework of education, his writings do analyze five specific areas of relevance to service-learning: 1) linking education to experience, 2) democratic community, 3) social service, 4) reflective inquiry, and 5) education for social transformation (p.13).

Dewey's theories of education are posited in his belief that education is experientially driven, the essence of education lies in experience. Giles and Eyler (1994) examine two of Dewey's primary works, How We Think (1933) and Experience and Education (1938) to frame a theoretical basis for service-learning as a viable pedagogy.

Bernstein (1967) describes Dewey's perspective on the role of the school in society:

> Dewey never advocated passive adjustment to the *status quo*. On the contrary, the social character of the school becomes the most effective means for educating individuals who can correct abuses and injustices of the larger society in which they will grow up. The school becomes the most effective means for improving the reforming society (p.41).

The similarity between Dewey and contemporary service-learning thought is seen in the following definition of service-learning from Charity to Change, by Minnesota Campus Compact:

> Service-learning is a process through which students are involved in community work that contributes significantly: 1) to positive change in individuals, organizations, neighborhoods, and/or larger systems in a community; and 2) to students' academic understanding, civic development, personal or career growth,

and/or understanding of larger social issues. This process always includes an intentional and structured educational/developmental component for students, and may be employed in curricular or co-curricular settings.

In colleges of agriculture Dewey is used as the guide for the experiential pedagogy most frequently used by Ag educators (Knobloch, 2001). Therefore, the theories of Dewey as they relate to service-learning will provide a foundation for validating its use by faculty in the college of agriculture and natural resources.

Blackburn & Lawrence's Faculty Work Theoretical Framework

Blackburn and Lawrence (1995) developed a framework that combines individual faculty characteristics with those of their employing institutions to understand faculty motivation, behavior, and productivity. The theoretical framework takes into account the tripartite nature of faculty work and provides three branches of the model to understand how faculty conduct research, teach, and serve within their institutions.

The theoretical framework integrates the research on faculty role performance and productivity with motivation theories. The framework models both immediate and future productivity as affected by ongoing interactions between individual faculty members and their work environments. The key constructs for the framework are: socio-demographic characteristics, career, self-knowledge, and social knowledge. The socio-demographics most frequently used in faculty research are age, race, ethnicity, and gender. The career constructs include the graduate experiences of faculty, in particular the type of preparation faculty received in research and teaching, as well as the way in which they define their role as faculty. Career constructs also include academic discipline and the institutional type, and include career age, which is defined as the number years of a full-

time faculty appointment to indicate faculty experience. The self-knowledge pertains to faculty's understanding of self. The construct describes self-assessed competence in selected professional activities, as well as one's sense of efficacy in situations. Faculty ambition, persistence, and supportiveness are a part of the construct. The social knowledge construct describes how faculty perceive their environment and includes their interpretation of how others expect them to behave. It also looks at the interdependency among faculty members as measured by collegiality. The environmental conditions represent the characteristics of the institutions where faculty work. This construct can include the fiscal stability, location, composition of faculty, and the faculty governance system. It can also include the quality of available resources for faculty work such as the libraries, laboratories, and student body. The environmental response construct includes the type of formal communication that faculty receive regarding their work. The final component of the framework is social contingencies, which describe the events that happen in the personal lives of the faculty members. These theoretical constructs combine to impact the ways in which faculty conduct research, serve their institutions, and teach.

This study will focus on the portion of theoretical framework that describes faculty teaching. The framework for understanding teaching has challenges because there are not definitive products for teaching such as paper published for research or committee appointments for service. This lack of specific tangibles and the fact that there is no consensus on what constitutes excellence in teaching make this portion of the framework tenuous. Blackburn and Lawrence cite the work of Peterson et al., (1989) and Dunkin (1986) on institutional context and its impact on teaching. Blackburn and

Lawrence describe one of the impacts on teaching as being the college's and/or university's mission. Along with other factors such as research facilities, libraries, students and faculty members recruited, these make up the institutional context. It is the faculty members' understanding of the institutional context that can have an impact on the way that they teach. In the framework institutional variables interact with individual characteristics and determine teaching styles. Their research indicated that institutional context and institutional rewards (e.g., promotion) may not shape teaching behavior through reinforcement, but instead influence a faculty member's understanding of the institution. It is this understanding that ultimately affects how one teaches.

Faculty within the college of agriculture and natural resources who understand the mission of the college and the university at large and its relationship to community outreach, engagement, and service-learning, according to this theoretical framework, will exhibit teaching behaviors that are consistent with the fulfillment of the mission. The use of service-learning by faculty in the college of agriculture and natural resources can be supported through faculty development programs that emphasize the mission of the college and the university as it relates to service-learning. Faculty members in the college may be more likely to adopt service-learning as an additional method for achieving experiential learning in the college.

Summary

This chapter reviewed the literature and research on community service, experiential learning, and service-learning in higher education. This chapter also provided the history of service-learning at Michigan State University, the history of service-learning center, and the related literature on the engaged campus. Additionally,

the educational theories of John Dewey and the research of Blackburn and Lawrence on faculty work are examined as a conceptual framework for the study. The methodology for the study will be discussed in chapter III.

CHAPTER III - METHODOLOGY

In order to accurately describe the status of service-learning in the College of Agriculture and Natural Resources (CANR) at Michigan State University, it was essential that proper research protocol be followed throughout the study. A copy of the instrument, methodology section of the proposal, cover letter, and research study application was submitted to the University Committee on Research Involving Human Subjects (UCRIHS). A copy of the letter granting approval of the research project is included in Appendix A. The committee approved the instrument and cover letter as submitted.

Relative to methodology, the following topics require discussion: research design, population, database development, instrument development, data collection procedures, data analysis procedures, and summary.

Research Design

This study took the form of survey research. According to Ary, Jacobs, & Razavieh (1996) the survey method is best used to gather information on a population quickly and inexpensively. There were time and funding constraints for the completion of the study and the survey method would provide the most salient information within the allotted timeframe and budgetary constraints. Given that there had not been a prior study of faculty use of service-learning in the CANR, the researcher decided a survey would be the best method for an initial exploration of the topic and would provide a description of the current status of faculty use of service-learning in the college.

The method of survey questionnaire was selected as it provided the most effective and efficient method of gathering baseline data for the study. The population for this

study was limited to faculty who identified themselves as teaching courses for academic credit in the College of Agriculture and Natural Resources at Michigan State University.

Population

The study population was composed of 272 faculty members from 15 departments in the College of Agriculture and Natural Resources. In this study the term faculty applies to the positions of: Full Professor, Associate Professor, Assistant Professor and Instructor both tenure system and fixed term.

The entire population or universe was selected from the CANR for the study. Reasons for selecting the population were as follows: the size of the population was not prohibitive, to insure that faculty who were teaching in the department were self-identified, and because community outreach through service to the community is in the mission statement of the College of Agriculture and Natural Resources and the mission of Michigan State University.

This study took the form of a census survey. In order to perform a census, March 17, 2002 was selected as the day to use for verifying the list of faculty in the college to be included in the study population. In other words, faculty employed as of March 17, 2002 were included in the study population assuming they did not remove themselves due to retirement, resignation, or mortality prior to mailing of the initial survey packet on May 14, 2002 or were on extended leave spanning the duration of the data gathering phase. The M.S.U. Office of Personnel Services verified the study population.

The college has 15 departments: Agricultural Economics, Agricultural Engineering (Jointly with College of Engineering), Agriculture and Natural Resources Education and Communication Systems, Animal Science, Crop and Soil Sciences,

Entomology (Jointly with Natural Science), Fisheries and Wildlife, Food Science and Human Nutrition (Jointly with Human Ecology), Horticulture, Forestry, Packaging, Park, Recreation and Tourism Resources, Plant Biology (Jointly with Natural Science), Plant Pathology (Jointly with Natural Science), Resource Development.

Instrument Development

Relative to instrument development, the following topics will be discussed: design, content, validity, and reliability.

Design

The instrument followed recommendations described by Don A. Dillman (2000) in Mail and Internet Surveys: The Tailored Design Method. The survey instrument is included in Appendix B. The title selected for the cover page was A Profile Study of Service-Learning Usage in the MSU College of Agriculture and Natural Resources. The survey took the form of a booklet 5 1/2" X 8 1/2". The booklet consisted of three 8 1/2" X 11" sheets folded in half and stapled in the middle with two staples. The cover was designed in black and white with the MSU College of Agriculture and Natural Resources logo on the front. The back cover was designed so that it could be a self-mailer for campus mail.

Content

The instrument included a brief description of the survey, directions for completion, and the major sections on, teaching status, faculty teaching methods, prior knowledge of service-learning, factors that motivated and were important to service-learning faculty and factors that were important to non-service-learning faculty. The researcher from literature reviewed, developed items included in the survey in

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collaboration with dissertation committee member experts, and subsequent input provided by a panel of service-learning experts relative to the face and content validity of the survey instrument.

Survey items were identified and limited to teaching status, faculty knowledge and use of service-learning. Respondents were asked to indicate if they taught a course for academic credit in CANR. Respondents who did not teach were asked to return the survey, and they would be deleted from the study database.

For items on faculty motivation to integrate service-learning a 5-point Likert scale was employed based on the following descriptions: 1=never, 2=rarely, 3=sometimes, 4=very often, 5=always.

For items on the important factors for service-learning and non-service-learning faculty a 5-point Likert scale was employed based on the following descriptions: 1=unimportant, 2=of little importance, 3=moderately important, 4=important, 5=very important.

In the final section of demographic items, respondents were asked to respond to items concerning gender, academic rank, academic appointment, tenure status, highest level of education attained, departmental appointment, appointment percentages, completion of a teaching methods course, and number of teaching years.

The demographic section used both close-ended questions with ordered response choices and close-ended questions with unordered response choices. On the departmental appointment question respondents were asked to indicate dual appointment status and identify both departments. On the percentage of appointment question respondents were asked to indicate the percentage of appointment in the areas of research, teaching,

extension, and administrative. The years of teaching experience questions had ranges from which respondents selected the corresponding answer. The last item on the questionnaire was for comments appropriate for the study.

Validity and Reliability

In survey research, it is important to take into consideration validity and reliability. Ary, Jacobs, & Razavieh (1996) define validity as: "The extent to which a measure actually taps the underlying concept that it purports to measure." The instrument was evaluated for both face and content validity utilizing a panel of experts. A panel of five experts specializing in research, evaluation, and service-learning was assembled by The M.S.U. Service Learning Center to review the instrument. The panel made recommendations that were incorporated into the final survey.

Reliability is the extent to which a measure yields consistent results (Ary, Jacobs, & Razavieh, 1996). A pilot study was not conducted and post hoc reliability coefficients were attained using the Statistical Package for the Social Sciences (SPSS 11.0). The Cronbach's alphas were .61 for the teaching methods used; .68 for the motivation to use service learning, .87 for important factors for using service-learning, .67 for service-learning important factors for non-user of service-learning. The ranges for Cronbach's Alpha were within an acceptable range for research purposes (Ary, Jacobs, & Razavieh 1996).

Data Collection Procedures

In conducting a survey, it is important that proper protocol be followed. Data collection procedures included the following components: introductory letter, sending of the initial survey, first follow-up postcard, sending of the second follow-up survey,

sending of the final follow-up survey, and database management.

According to Ary, Jacobs, & Razavieh (1996, p. 456), "researchers may find it useful to mail an introductory letter to potential respondents in advance of the questionnaire itself." The introductory letter was sent with the initial survey due to time constraints. Otherwise, all remaining data collection procedures as described in this section for implementing mail surveys follow recommendations outlined by Don A. Dillman (2000) in <u>Mail and Internet Surveys: The Tailored Design Method</u> (pp. 180-191). Procedures followed are described below.

Introductory Letter

The introductory letter, on sponsoring department letterhead, was mailed to the study population along with the survey. A sample introductory letter is included in Appendix E. The survey instrument was designed as a self-mailer for campus mail and return of the completed survey. The purpose of the letter was to inform the study population of the purpose of the study, request their cooperation, and prompt them to complete the survey.

Initial Questionnaire

The initial questionnaires were mailed on Tuesday, May 14, 2002 to the study population with a cover letter. Code numbers were used on the survey address labels and stamped on the survey in the lower right corner of the last page. The cover letter explained the purpose of the study, requested respondent cooperation, assured confidentiality, requested immediate return, and expressed appreciation for participation in the study. A cover letter was prepared using sponsoring department letterhead and signed by the researcher. A sample of the initial questionnaire cover letter is included in

Appendix C.

First Follow-Up Post Card

Exactly two weeks after mailing the initial questionnaires, a follow-up postcard reminder was sent to the sample population on Tuesday, May 28, 2002. The postcard was a thank you to those who had responded and a reminder to others that their responses were important to the study. Participants were urged to complete the survey and return it immediately. A sample of the first follow-up postcard is included in Appendix D.

Second Follow-Up Letter and Questionnaire

On Monday, June 17, 2002, exactly four weeks after the initial questionnaire packet mailing, a second follow-up questionnaire was sent to those not responding along with a cover letter (Appendix E). Code numbers were used on the questionnaires as well as the mailing label and the survey was printed on light green paper to facilitate follow-up procedures for a high return rate. The cover letter was on sponsoring department letterhead, signed by the researcher, explaining to non-respondents that their questionnaires have not been received and reiterated the importance of the study. In addition, respondents were told not to respond a second time if they had already mailed the questionnaire and to contact the researcher if they wanted to be removed from the mailing list. A sample of the second follow-up questionnaire packet letter is included in Appendix E.

Mail Survey
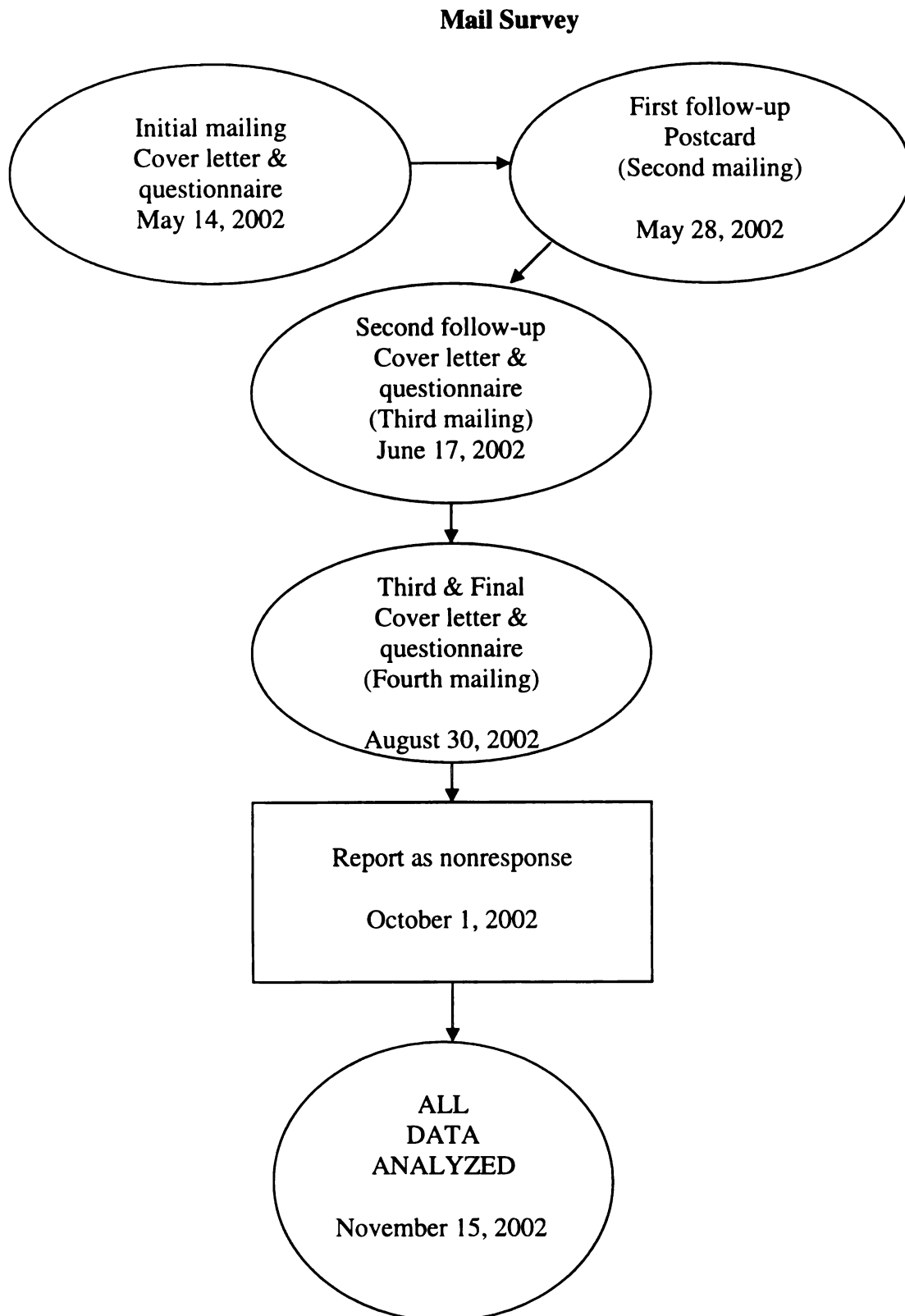
Figure 1: Data Collection Procedures

Final Follow-Up Letter and Questionnaire

On Friday August 30, 2002, exactly 16 weeks after the initial questionnaire

mailing, a final follow-up questionnaire was sent to those not responding along with a

cover letter. Code numbers were used on the surveys as well as the mailing label and the

survey was printed on light yellow paper to facilitate follow-up procedures for a high

return rate. The cover letter was on sponsoring department letterhead, signed by the

researcher, explaining to non-respondents that their survey had not been received and

reiterated the importance of the study. In addition, respondents were told not to respond

a second time if they had already mailed the survey and to contact the researcher to

remove their name from the mailing list. A sample of the final follow-up questionnaire

letter is included in Appendix F. The survey collection was terminated on October 1,

2002.

Processing Procedures

Surveys were placed in a box convenient for the researcher in ANRECS mailroom

for handling official survey business. An identification number (code) was used to check

respondent names off the mailing list once the surveys were received. If respondents

wished to receive summary results, this information was recorded as well. Surveys were

kept in a locking file drawer for security purposes.

The data set was purged to reflect respondents who stated that they taught courses

for academic credit in the CANR. Of the 174 respondents 55 were non- teaching faculty,

8 contacted the researcher by e-mail or phone to state they were not completing the

survey and to remove their name from the list, and 4 were from respondents who returned

the survey uncompleted. The original survey was sent to 437 faculty and was purged to

reflect the 272 teaching faculty as defined by the Office of the Associate Dean of the College of Agriculture and Natural Resources. There were 107 surveys that were usable for the study. The final response rate was 39.3 percent. This response rate was comparable to 39 percent response rate in the most recent study of faculty motivation to use service-learning study by (Abes et. al., 2002) and above the 21 percent response rate for the 1999 National Campus Compact faculty survey (Abes et. al., 2002).

Nonresponse

The failure of respondents to return surveys, nonresponse, is of great importance in survey research. Early and late respondents were compared to determine differences between the two groups. Analysis of early to late respondents' responses showed no statistically significant differences. Therefore, the findings were generalized to the entire population (Shavelson, 1996). The t-test for independent samples was used for scaled data and Pearson Chi-square for nominal data.

Data Analysis Procedures

The Statistical Package for the Social Sciences (SPSS) version 11.0 was used to analyze the data. All questionnaires received were entered into SPSS. Code numbers were assigned to questionnaires prior to the initial questionnaire packet mailing and subsequent mailings. After data were entered they were immediately checked for accuracy before moving to the next survey.

Procedures used to statistically analyze data included: frequencies, percentages, means, group means, cross tabulations, and standard deviations. The statistics used to analyze the data in the sections on motivation and important factors for service-learning and non-service-learning faculty were means, frequencies, and cross tabulations. The

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frequencies were used to describe the distribution of the responses and the percentage of respondents who selected a given response. For the open ended questions a content analysis was used to determine the themes that related to the research questions. Content analysis according to Holsti (as cited in Smith, 1988, p. 263) is "any technique for making inferences by objectively and systematically identifying specified characteristics of messages. In theory-to-data researchers develop categories in advance (perhaps based on contextual information that they believe will adequately characterize a given narrative" (Smith, 1988, p. 267). The open ended questions' responses were grouped into themes that related to the following research questions: Research Question #4: What factors are important to CANR faculty who are using service-learning in their courses?; Research Question #5: Are non-service-learning faculty in the College of Agriculture and Natural Resources familiar with Service-learning?; and Research Question #6: What factors would be important for non-service-learning faculty to consider its use in their courses?

Summary

This chapter provided an overview of the research methods and procedures used to present the status of service-learning within the College of Agriculture and Natural Resources. The study population consisted of 272 teaching faculty and 107 surveys were returned for a return rate of 39.3 percent. The findings are reported in Chapter IV.

CHAPTER IV - FINDINGS

Findings are presented as follows: demographics, teaching methods, motivation, implementation factors, knowledge of service-learning, and qualitative themes.

Demographics

Demographics were collected from respondents relative to: gender, academic rank, academic appointment, tenure, highest level of education attained, academic department, percentage of appointment, completion of a teaching methods course, and years taught. An n of 107 was obtained for the survey.

Characteristics of CANR Respondents

Research question #1: What are the characteristics of service-learning faculty in the College of Agriculture and Natural Resources in terms of the following: gender, academic rank, tenure status, educational level, appointment percentages, years taught, and completion of a teaching methods course?

Sixteen percent of the respondents were male and 10 percent were female. An n of 24 was obtained. Respondents' educational levels were, 20.2 percent had attained a doctorate and 5.3 percent had attained a master's degree. The academic rank for faculty was represented by 8.6 percent with the rank of Professor, 3.2 percent Associate Professor, 3.2 percent Assistant Professor, 4.3 percent Instructor and 1 percent Specialist. An n of 24 was obtained. The majority of respondents were tenure track (20.4%) and had attained tenure (15.2%) . Table 1 summarizes these results.

Research question #2: What are the characteristics of non-service-learning faculty in the College of Agriculture and Natural Resources in terms of the

following: gender, academic rank, tenure status, educational level, appointment percentages, years taught, and completion of a teaching methods course?

Fifty three percent of the respondents were male and 21.3 percent were female. An n of 70 was obtained. Respondents' educational levels were: 69.1 percent had attained a doctorate and 5.3 percent had attained a master's degree. The academic rank for faculty was represented by 29 percent with the rank of Professor, 11.8 percent Associate Professor, 23.7 percent Assistant Professor, 9.7 percent Instructor and 1 percent Specialist. An n of 70 was obtained. The majority of respondents were tenure track)62.4%) and had attained tenure (43.5%). Table 1 summarizes these results.

Respondents were asked to indicate whether they had taken a teaching methods course. Of the service-learning faculty 13.4 percent had taken a teaching methods course and 25.8 percent of the non-service-learning faculty had taken a teaching methods course. Of the faculty who had not taken a teaching methods course, 10 percent were service-learning faculty and 7.6 percent were non-service-learning. An n of 92 was obtained.

Respondents were asked the number of years they taught with 4.3 percent of the service-learning faculty respondents teaching 1-5 years, 8.6 percent teaching 6-10 years, 2.1 percent teaching 11-15 years, 3.2 percent teaching 16-20 years and 5.4 percent teaching for more that twenty years. The years taught by non-service learning were represented with 22.7 percent teaching 1-5 years, 16.3 percent teaching 6-10 years, 6.5 percent teaching 11-15 years, and 7.6 percent teaching 16-20 years, and 23.9 percent teaching for more than twenty years. An n of 96 was obtained.

Table 1

Service-Learning Faculty and Non-Service-Learning Faculty Demographics

Variable	*n*	Service-Learning		Non-Service-Learning	
Gender	94	Frequency	%	Frequency	%
Male		15	16%	50	53.2%
Female		9	10%	20	21.3%
Degree Completed	94				
Ph.D.		19	20.2%	65	69.1%
Master		5	5.3%	5	5.3%
Academic Rank	93				
Professor		8	8.6%	27	29%
Associate		3	3.2%	11	11.8%
Assistant		8	8.6%	22	23.7%
Instructor		4	4.3%	9	9.7%
Specialist		1	1.1%	0	0%
Academic Appointment	93				
Tenure System		19	20.4%	58	62.4%
Fixed Term		4	7.5%	12	12.9%
Tenured	92				
No		14	15.2%	28	30.4%
Yes		10	10.7%	40	43.5%
Teaching Methods	88				
No		8	10%	45	50.6%
Yes		12	13.4%	23	25.8%
Years of Teaching Experience	92				
1 – 5 years		4	4.3%	20	22.7%
6 – 10 years		8	8.6%	15	16.3%
11 – 15 years		2	2.1%	6	6.5%
16 – 20 years		3	3.2%	7	7.6%
20+ years		5	5.4%	22	23.9%

Of the 15 departments in the college, responses were received from all departments. The departments with the most respondents were: Fisheries and Wildlife (14) Agricultural Economics (10), Animal Science (10), Horticulture (9), Agricultural Engineering (Jointly with College of Engineering), Forestry (8) (7), Crop and Soil Sciences (7), Agriculture and Natural Resources Education and Communication Systems (6). See Table 2 for the total number of respondents. An *n* of 93 was obtained.

Table 2

Department Totals

Variable	*n*	Value Label	Frequency	%
Appointment	93	Agricultural Economics	10	10.8
		Agricultural Engineering	7	7.5
		Animal Science	10	10.8
		ANR Education & Communication	6	6.5
		Crop & Soil Science	7	7.5
		Entomology	3	3.2
		Fisheries & Wildlife	15	15.1
		Food Science	3	3.2
		Forestry	8	8.6
		Horticulture	9	9.7
		Parks & Recreation	5	5.4
		Plant Biology	1	1.0
		Research Development	5	5.4
		Packaging	5	5.4
Total	93			100

Respondents were asked to indicate the percent of their appointment that was in Research, Administration, Teaching and Extension. The mean percentage for each appointment was 48.2 percent for research, 41.0 percent for administration, 40.4 for teaching and 39.4 percent for extension.

As indicated in Table 3, the highest percentage of appointment was in research, followed by administrative, teaching and extension.

Table 3

Faculty Appointment Percentages

Variable	*n*	Mean %
Research	66	48.2
Administrative	15	41.0
Teaching	83	40.4
Extension	32	39.4

Teaching Methods used by CANR Faculty

Research question #3: To what degree are teaching faculty in the College of Agriculture and Natural Resources using experiential learning, community service and service-learning in their courses?

Respondents used experiential learning more than (mean=3.36) community service (mean=1.5) or service-learning (mean=1.5). About 18 percent of the respondents always used experiential learning and 32 percent used experiential learning very often. One percent of the respondents always used community service as a teaching method and was used very often by 4 percent. About 2 percent of respondents always used service-learning as a teaching method, and 4 percent used it very often. An *n* of 105 was obtained for experiential learning. An *n* of 102 was obtained for community service and service-learning. Table 4 summarizes these results.

Table 4

CANR Faculty Teaching Methods

Question
To what extent do you utilize the following teaching methods?

Variable	*n*	M	S.D.
Experiential Learning	105	3.36	1.19
Community Service	102	1.51	.887
Service Learning	102	1.51	.972

.5-1.5 = never, 1.51-2.5 = rarely, 2.51-3.5 = sometimes, 3.51-4.5 = very often, 4.51-5.0 = always

Motivational Factors for CANR Service-Learning Faculty

Research question #4: What factors motivated CANR faculty to integrate service-learning into their course curriculum?

Respondents were asked to select factors that motivated them to use service-learning. Respondents indicated that student development was the most important motivators (mean=4.06). An *n* of 16 was obtained.

Table 5

Motivators for Service-Learning Faculty

Question

What motivated you to integrate service-learning into your curriculum?

Variable	*n*	M	S.D.
Student development need	16	4.06	1.436
Professional development	16	3.50	1.265
Departmental need	15	3.20	1.612
Community/Stakeholder need	14	3.14	1.406
My scholarly research	16	2.81	1.601
Colleague	14	2.73	1.335
Publication/Article on service-learning	14	2.21	1.188
Conference presentation	15	2.00	1.069
University program	14	1.71	1.204
M.S.U. Service Learning Center	14	1.43	.756

.5-1.5 = never, 1.51-2.5 = rarely, 2.51-3.5 = sometimes, 3.51-4.5 = very often, 4.51-5.0 = always

Respondents indicated that professional development (mean=3.50) was an important motivator. An *n* of 16 was obtained.

Respondents indicated that departmental need was a motivating factor (mean=3.20). An *n* of 15 was obtained.

Respondents indicated that community/stakeholder need (mean=3.14) was an important source of motivation. An *n* of 14 was obtained.

Respondents indicate that scholarly research (mean=2.81) was sometimes a motivator. An *n* of 16 was obtained. Fifty percent of the respondents indicated that they were motivated to use service-learning by their scholarly research.

Respondents indicated that colleagues (mean=2.73) were sometimes a motivator. Twenty percent of the respondents indicated that colleagues were very often to always a motivator for using service-learning. An n of 14 was obtained.

Respondents indicated that publication/ article on service-learning was rarely a motivator (mean=2.21). However, 14.3 percent of respondents indicated that a publication/article on service-learning was very often a motivator.

Respondents indicated that a conference presentation (mean=2.00) was rarely a motivator. However 6.7 percent of the respondents indicated that a conference presentation was very often a motivator. An n of 15 was obtained. Respondents indicated that university programs were rarely a motivator (mean=1.71). However, 7.1 percent of the respondents indicated that a university program was a motivator for integrating service-learning. An n of 14 was obtained. The M.S.U. Service-Learning Center was never a motivating factor (mean=1.43), although 14.3 percent of the respondents indicated that the MSU Service-Learning Center was sometimes a motivator for integrating service-learning. An n of 14 was obtained. Table 5 summarizes these results.

Respondents added comments regarding motivators that were not listed. One respondent commented that the most important factor for inclusion of service-learning into the curriculum was, "my own view, is that it is one of most valuable tools." Another respondent indicated that he had been exposed to service-learning as a student and that was a motivating factor, "actually this was a method used when I was a student, so it seemed a natural approach."

Important Factors for CANR Service-Learning Faculty

Research question #5: What factors are important to CANR faculty who are integrating service-learning into their courses?

Respondents were asked to indicate the factors that were important for the inclusion of service-learning into their curriculum.

Respondents indicated that personal interest was important (mean= 4.32). For 84.3 percent of the respondents their personal interest in service-learning was important to very important for inclusion in their courses. An n of 19 was obtained.

Table 6

Important Factors for Service-Learning Faculty

Question

How important were the following factors in deciding to utilize service learning in your course(s)?

Variable	*n*	M	S.D.
Personal interest	19	4.32	1.157
Need for student civic engagement	17	4.24	1.147
Student interest	18	3.83	1.150
Community interest	17	3.65	1.455
Desire to engage external stakeholders	18	3.50	1.689
Service projects appropriate for ANR issues	18	3.28	1.447
University mission	17	2.88	1.495
Land-Grant mission	16	2.81	1.559
College mission	17	2.76	1.522
Preparation Time	17	2.76	1.300
Community sites interested in ANR service learning	16	2.63	1.586
Administrative support	17	2.29	1.312
Available funding	17	2.18	1.468
Colleagues	17	2.00	1.522
Promotion and tenure requirement	17	1.65	.996

.5-1.5 = unimportant, 1.51-2.5 = of little importance, 2.51-3.5 = moderately important, 3.51-4.5 = important, 4.51-5.0 = very important

Respondents indicate that the need for student civic engagement (mean=4.24) was important. However, 76.4 percent of the respondents indicated that student need for civic engagement was important to very important for their decision to use service-learning in their courses. An n of 17 was obtained.

Respondents indicated student interest was important (mean=3.83). Sixty-seven percent of the respondents indicated that student interest was an important to very important factor in deciding to use service-learning in their courses. An n of 18 was obtained.

Respondents indicated that community interest was an important factor (mean=3.65) and 35.3 percent indicated that community interest was an important factor in the decision to use service-learning in their course. An n of 17 was obtained.

Respondents indicated that the desire to engage external stakeholders was important (mean= 3.50), and 67 percent of the respondents indicated that a desire to engage external stakeholders was an important to very important factor in their decision to use service-learning in their courses. An n of 18 was obtained.

Respondents indicated that service projects appropriate for ANR issues were moderately important (mean=3.28) and 50 percent of the respondents stated that service projects that were important for Agricultural and Natural Resources was an important factor in including service-learning in their course. An n of 18 was obtained.

Respondents indicated that preparation time was moderately important as a factor for deciding to use service-learning (mean=3.11). The importance of preparation time as a factor for including service-learning in their course was reported as important to very important by 35.3 percent of the respondents. An n of 17 was obtained.

Respondents were asked to report on the importance of institutional mission for the inclusion of service-learning into their courses. Respondents indicated that the university mission (mean=2.88) was moderately important. University mission was important to very important for 35.2 percent of the respondents. An *n* of 17 was obtained.

Respondents indicated that the land grant mission (mean=2.81) was moderately important. The land-grant mission was indicated as a factor as important to very important by 37.6 percent of the respondents. An *n* of 16 was obtained. Respondents indicated that the college mission (mean=2.76) was also moderately important. The college mission was an important to very important factor for 35.2 percent of the respondents. An *n* of 17 was obtained.

Respondents indicated that community sites interested in ANR service-learning was moderately important (mean=3.28). Community interest in Agriculture and Natural Resources service-learning was important to very important factor to 31.3 percent of the respondents. An *n* of 16 was obtained.

Respondents indicated administrative support was of little importance to respondents as a factor for deciding to use service-learning (mean=2.29). However, administrative support was reported as moderately important to very important by 49 percent of the respondents. An *n* of 17 was obtained.

Respondents indicated that contributions to my research were of little importance to respondents (mean=2.24), although 5.9 percent indicated that it was very important. An *n* of 17 was obtained.

Respondents indicated that available funding was of little importance (mean=2.18), while 17.6 percent of the respondents indicated that it was very important.

Respondents indicated colleagues were not an important factor in their decision to use service-learning (mean=2.00), while 70.4 percent indicated that colleagues were not important in the decision to use service-learning. An n of 17 was obtained.

Respondents indicated that promotion and tenure was of little importance to (mean=1.65), while 11.8 percent indicated that it was an important factor. An n of 17 was obtained. Table 6 summarizes these results.

CANR Non-Service-Learning Faculty Knowledge of Service-Learning

Research question #6: To what degree are teaching faculty in the College of Agriculture and Natural Resources familiar with service-learning?

In determining the status of the department it was important to know how many of the respondents who were non-service-learning faculty had heard about service-learning prior to completing the survey. The findings indicated that 52.5 percent of the respondents had heard of service-learning prior to completing the survey, while 47.5 percent had no prior service-learning knowledge. An n of 99 was obtained. Table 7 summarizes these results.

Table 7

Non-Service-Learning Faculty Knowledge of Service Learning Prior to Survey

Question

Prior to this survey, had you heard of service learning?

Variable	n			
Knowledge of Service-Learning	99			
		Value Label	**Frequency**	**%**
		Yes	52	52.5
		No	47	47.5
Total	99			100

Important Factors for CANR Non-Service Learning Faculty

Research question #7: What factors would be important to CANR faculty who are not integrating service-learning to consider its use in their courses?

The non-service-learning faculty were asked to respond to factors that would be important for them to consider using service-learning in their curriculum. Non-service-learning respondents indicated that student interest was important (mean=3.77). Seventy-two percent indicated that student interest would be important to very important in deciding to use service-learning in their courses. An *n* of 79 was obtained.

Table 8

Important Factors for Non-Service-Learning Faculty

Question

How important would the following factors be in your decision to use service learning in your curriculum?

Variable	*n*	**M**	**S.D.**
Student interest	79	3.77	1.198
Personal interest	79	3.72	1.280
Preparation time	78	3.64	1.279
Service projects appropriate for CANR issues	77	3.60	1.195
Community interest	78	3.55	1.374
Available funding	78	3.55	1.316
Lack of time to implement service learning	75	3.49	1.369
More information on service learning pedagogy	76	3.42	1.369
Community sits interested in CANR service learning	77	3.36	1.287
Other (specify)	12	3.25	2.006
Administrative support	78	3.14	1.346
Contributes to my research	77	2.55	1.262
Colleagues	75	2.53	1.212
Promotion and tenure requirements	76	2.36	1.521

.5-1.5 = unimportant, 1.51-2.5 = of little importance, 2.51-3.5 = moderately important, 3.51-4.5 = important, 4.51-5.0 = very important

Non-service-learning respondents indicated personal interest (mean=3.72) was important, with 64.5 percent of the non-service-learning respondents indicated personal interest as an important to very important factor for deciding to use service-learning. An *n* of 79 was obtained.

Preparation time was an important factor for non-service-learning respondents

(mean=3.64), and 62.8 percent indicated that it was important to very important. An n of

78 was obtained.

Non-service-learning respondents indicated that service projects appropriate for

CANR issues was important (mean=3.60), and 62.4 percent of the respondents indicated

that service projects that were appropriate for CANR would be important to very

important for the decision to use service-learning. An n of 77 was obtained.

Non-service-learning respondents indicated that the lack of time to implement

service-learning (mean=3.49) was moderately important. A majority of the respondents,

58.7 percent indicated that the lack of time to implement service-learning would be

important to very important in their decision to use service-learning. An n of 75 was

obtained.

Non-service-learning respondents indicated that more information on service-

learning pedagogy was moderately important (mean=3.42). However, 55.3 percent of the

respondents indicated that having more information on service-learning pedagogy would

be important to very important for their decision to use service-learning in their

curriculum. An n of 76 was obtained.

Non-service-learning respondents indicated that available funding (mean=3.55)

was important, and 60.2 percent indicated funding was important to very important. An n

of 78 was obtained.

Non-service-learning respondents indicated that community interest (mean=3.55)

was moderately important, and community interest was indicated as important to very

important for their decision to use service-learning 60.2 percent. An *n* of 78 was obtained.

Non-service-learning respondents indicated that community sites interested in CANR service-learning (mean=3.36) was moderately important. Community sites interested in CANR service-learning was important to very important to 52 percent of the respondents. An *n* of 77 was obtained.

Non-service-learning respondents indicated that administrative support was moderately important (mean=3.14). Administrative support was indicated as important to very important by 43.6 percent of the respondents. An *n* of 78 was obtained.

Non-service-learning respondents indicated that the contribution that service-learning would make to their research was moderately important (mean=2.55). The contribution of service-learning to their research was reported as important to very important by 22.1 percent of the respondents. An *n* of 77 was obtained.

Non-service-learning respondents indicated that colleagues were of little importance (mean=2.53). Colleagues were an important to very important factor in the decision to use service-learning for 22.7 percent of the respondents. An *n* of 75 was obtained.

Non-service-learning respondents indicated that promotion and tenure requirements were of little importance (mean=2.36), while 30.2 percent of the respondents indicated that promotion and tenure requirements would be important to very important for their decision to include service-learning in their courses. An *n* of 76 was obtained.

Comments by non-service-learning faculty were:

- It would have to be relevant to the learning objectives of my course.

- Ability to use service learning to cover course topics- seems difficult to do in a science course.

- Our accredited curriculum is very full. The students succeed without this item.

- Administrative support very important: only to get funding

- Again continuation/sustainability is the key.

- Liability issues

- Course (TV) does not lend to SL.

- Must fit educational objectives of class

In comparing the important factors of both service-learning and non-service-learning faculty, faculty found personal interest, student interest and community interest to be important (mean=3.51-4.5). For faculty community sites interested in ANR, preparation time, and service projects appropriate for ANR issues were moderately important (mean=2.51-3.5). The role of colleagues, contributions to research, promotion and tenure were of little importance (mean=1.51-2.5). The role of funding was more important to non-service learning faculty (mean=3.55) than to service-learning faculty (mean=2.18), and administrative support was more important to non-service-learning faculty (mean=3.14) than to service-learning faculty (mean=2.2). These results are summarized in Table 9.

Table 9

Important Factors for Service-Learning and Non-Service Learning Faculty

		n	**M**	**S.D.**
Personal interest	Service-Learning	19	4.32	1.15
	Non-Service-Learning	79	3.72	1.28
Student interest	Service-Learning	18	3.83	1.15
	Non-Service-Learning	79	3.77	1.19
Community interest	Service-Learning	17	3.65	1.45
	Non-Service-Learning	78	3.55	1.37
Service projects appropriate for ANR issues	Service-Learning	18	3.28	1.44
	Non-Service Learning	77	3.60	1.19
Preparation time	Service-Learning	17	2.76	1.30
	Non-Service-Learning	78	3.64	1.27
Community sites interested in ANR service learning	Service-Learning	18	2.63	1.58
	Non-Service-Learning	77	3.36	1.28
Administrative Support	Service-Learning	17	2.29	1.31
	Non-Service-Learning	78	3.14	1.34
Contributes to my research	Service-Learning	17	2.24	1.14
	Non-Service-Learning	77	2.55	1.26
Available funding	Service-Learning	17	2.18	1.46
	Non-Service Learning	78	3.55	1.31
Colleagues	Service-Learning	17	2.00	1.52
	Non-Service-Learning	75	2.53	1.21
Promotion and tenure requirements	Service-Learning	17	1.65	.99
	Non-Service-Learning	76	2.36	1.52

.5-1.5= unimportant, 1.51-2.5= of little importance, 2.51-3.5=moderately important,
3.51-4.5= important, 4.51-5.0 = very important

Additional comments by faculty are listed in this section and will also be

addressed in Chapter V.

Service-learning Faculty:

I couldn't answer some questions because they were not relevant to my experience with service learning. I've only done service-learning at my previous jobs not at MSU.

It's long, and while I sometimes have students do service-learning activities, it has never occurred to me to use the center for it.

I had trouble relating to "experiential learning" as defined in Phase 1. My definition, as it applied to my teaching over the years would have been something like: "Experience-based learning where the student gains understanding and motivation through actual involvement and participation in relevant setting." Changed behavior is difficult to measure because it commonly happens long after the actual experience.

In my opinion, SL is extremely valuable & I try to incorporate elements in all.

Non-Service-Learning Faculty:

The course I teach is focused on concepts, models and mathematics _ I don't see where service learning would be critical in this course.

This would not fit well in my classes.

Sorry, I don't think I received this earlier. I'm interested! But I think we have to work hard to find projects that actually serve the community rather than just create work for the community.

To some extent, we do "service-learning" but not in the sense that you use the terms. Our students are prepared to serve the community as consulting engineers- for hire. They deal with clients. They with governmental agencies. Many of our students will be employees in large companies. In "Senior Design", the students undertake real-

world problems and interact with clients outside academics. Altruism is seldom accommodated.

Could you provide more information about service-learning and opportunities. Thanks.

I have trouble thinking of examples in my field where service learning seems like a viable option/opportunity.

I plan to implement service learning. I just haven't found a good time. Partnerships are important. Student learning is important, meaningful service is important.

First time to hear service-learning as a teaching methodology. Would be interested in learning more about it. Thanks.

I'd rather not continue participating. P.S. we get frequent request to do "work" off-campus. Logistically not very feasible, competition w/local businesses, insurance issues, lack of consistency, etc. are some of the barriers to service learning in this field landscape horticulture.

I'd use service-learning in a different course structure/charge, especially for FW majors.

Some of our senior design projects (such as wet land protection) have a community service component.

At Kellogg Biological Station. Mostly graduate students and interns, undergraduates at summer school, several colleges represented

My lack of use of these methods is not because I do not value their contribution to learning. The nature of the course I teach just does not lend itself to these methods.

Summary

The findings for this study were from a mail survey of 107 teaching faculty in the College of Agriculture and Natural Resources at Michigan State University. The study was designed to provide descriptive information on the use of service-learning by faculty in the College of Agriculture and Natural Resources. The significant findings from this study will be presented and discussed in chapter V.

CHAPTER V

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Study Overview

This study was designed to provide descriptive data on the use of experiential learning, community service, and service-learning by the faculty in the College of Agriculture and Natural Resources. The mail survey was administered to 107 teaching faculty in the College of Agriculture and Natural Resources at Michigan State University.

The research questions which guided the study were: 1) What are the characteristics of service-learning faculty in the College of Agriculture and Natural Resources in terms of the following: gender, academic rank, tenure status, educational level, appointment percentages, years taught, and completion of a teaching methods course? 2). What are the characteristics of non-service-learning faculty in the College of Agriculture and Natural Resources in terms of the following: gender, academic rank, tenure status, educational level, appointment percentages, years taught, and completion of a teaching methods course? 3) To what degree are faculty in the College of Agriculture and Natural Resources using experiential learning, community service and service-learning in their courses? 4) What factors motivated CANR faculty to integrate service-learning into their course curriculum? 5) What factors are important to CANR faculty who are integrating service-learning into their courses? 6) To what degree are teaching faculty in the College of Agriculture and Natural Resources familiar with service-learning? 7) What factors would be important to motivate CANR faculty who are not integrating service-learning to consider its use in their courses? Each of the research

questions will be addressed along with the related implications and recommendations for future research.

Characteristics of Service-Learning Faculty Conclusions

Research Question # 1 What are the characteristics of service-learning faculty in the College of Agriculture and Natural Resources in terms of the following: gender, academic rank, tenure status, educational level, years of teaching expereinece, and completion of a teaching methods course?

The service-learning faculty respondents were primarily male which differed from the faculty profile in the study by Abes et al. (2002) and Hammond (1994), where service-learning faculty were primarily female. Given that agriculture is a male dominated discipline, and the respondents were predominantly male, could account for the higher percentage of male respondents who were using service-learning in their courses. In this study non- tenured faculty were the predominant users of service-learning, which was consistent with the findings of Abes (2002). Service-learning faculty had attained doctorates(20.2%), were professors (8.6%) and assistant professors(8.6%) who had not received tenure (15.2%). This finding differs from Hammond (1994) who found that more established and tenured faculty tended to use service-learning. Given the College of Agriculture has a curriculum that is based on experiential learning the experienced faculty appear to be using experiential learning methods, rather than service-learning which is a relatively new teaching innovation. It would seem that for faculty in the College of Agriculture the use of service-learning will be an extension of existing practices rather than the adoption of an innovation. The challenge will be to get

more experienced faculty to change their methods and to re-configure their courses to meet the requirements of a service-learning curriculum.

With regard to teaching methods, a higher percentage of service-learning faculty had taken a teaching methods course. Among non-service learning faculty a majority (83%) had not taken a teaching methods course as compared to service-learning faculty (16.8%). This is consistent with the findings of Leder and McGuiness (1996) which stated that faculty are less likely to use experiential methods because they have not received the training and have not had opportunities to observe experiential methods used in courses.

Characteristics of Service-Learning Faculty Implications

While the CANR has an experientially based curriculum, with a majority of faculty using those method, they are not choosing to adopt service-learning as a teaching methods. The more experienced faculty are continuing to use experiential methods, while less experienced non-tenured faculty are choosing to use an alternative experiential teaching method. Given that most of the faculty have not taken a teaching methods course and that the majority of the faculty are not using service-learning, it would seem that teaching methods courses provide teachers with alternative ways of presenting material.

Characteristics of Service-Learning Faculty Recommendations

A recommendation for this area would be the development of a graduate curriculum that provides instruction in experiential learning methods or the design of faculty mentoring opportunities for new faculty to develop the skills needed to design experientially based courses within the College of Agriculture. This could be

accomplished through a collaborative effort with the College of Education to include teaching methods for all candidates for advanced degrees in the department. Future study needs to be conducted on the ways in which faculty in the college define "experiential learning" and "service-learning." One respondent comments about the use of the definition for experiential education in the study and provides an alternative definition:

"I had trouble relating to "experiential learning" as defined in Phase 1. My definition, as it applied to my teaching over the years would have been something like: "Experience-based learning where the student gains understanding and motivation through actual involvement and participation in relevant settings".

The literature on both service-learning and experiential learning suggests that these methods have myriad definitions and ways in which they are expressed in academic settings (Hammond, 1994; Knobloch, 2001; Cantor, 1995). The definitions used for this study were limited in scope to simplify the questionnaire, and to provide the latitude for faculty to self-define and not exclude themselves based on the definition. Qualitative studies could be useful in looking at the ways in which CANR faculty describe their use of experiential teaching methods in the college.

Characteristics of Non-Service-Learning Faculty Conclusions

Research Question # 2 What are the characteristics of non-service-learning faculty in the College of Agriculture and Natural Resources in terms of the following: gender, academic rank, tenure status, educational level, years of teaching experience, and completion of a teaching methods course?

The non-service-learning faculty respondents were primarily male which would be consistent with the findings of Abes et al. (2002) and Hammond (1994) that indicated that the non-service-learning faculty were primarily male. However, the CANR is a male dominated college therefore, this finding does not represent the same impact as a college that may have a higher representation of female faculty. This would require further study, which was not the intent of this descriptive research.

The non-service-learning faculty had doctorates (69.1%), were professors (29%) and assistant professors (23.7%) who were tenured (43.5%). The non-service-learning faculty were split between faculty who had over 20 years of teaching experience (23.9%) and new faculty with less than 1-5 years of teaching experience (22.7%). This would indicate that senior faculty and faculty with the least seniority were most often not using service-learning. .This finding differs from Hammond (1994) who found that more established and tenured faculty tended to use service-learning.

Characteristics of Non-Service-Learning Faculty Implications

In the CANR it appears that the more secure and senior faculty are not using service-learning, therefore it would seem that faculty either have not been introduced to service-learning as an option or that faculty are more attached to their traditional method of teaching. Given that a majority of the non-service-learning faculty had not taken a teaching methods course it would seem that staff development seminars might be most effective for this group.

Characteristics of Non-Service-Learning Faculty Recommendations

A recommendation for this area would be the development of staff development seminars that address the needs of the tenured, established, traditionally oriented faculty

member. It would be instructive to conduct research on the ways in which faculty are motivated to adopt new teaching methods. It will be important to have established faculty members using service-learning as well as the junior faculty. However, further study needs to be conducted.

Teaching Methods Used by CANR Faculty Conclusions

Research Questions # 3 To what degree are teaching faculty in the College of Agriculture and Natural Resources using experiential learning, community service, and service-learning in their courses?

Faculty in the college of agriculture tended to use experiential learning more as a teaching method in CANR (mean=3.36), while community service (mean=1.51) and service-learning (mean=1.51) were rarely used as teaching methods. Given that the foundation of much of agricultural education is based in experiential learning (Knoblock, 2001; Cantor, 1995), it would be expected that faculty would use the most familiar teaching method. Service-learning is a form of experiential learning (Kendall, 1990; Jacoby, 1996; Wutzdorff & Giles, 1997) and has been a part of university life for over 25 years. The College of Agriculture and Natural Resources has the unique opportunity to build upon its existing curriculum to encourage greater use of service-learning by faculty.

Teaching Methods Used by CANR Faculty Implications

Given that the CANR already has a curriculum that is experientially based (Knoblock, 2001) it would seem relatively simple to introduce the innovation of service-learning into the curriculum. This is an advantage over other colleges or disciplines that do not have the experiential foundation, where faculty have to first understand experiential learning, and then learn to use it. It would seem that the CANR would be the

most likely place to find service-learning, and in the study by Abes (2002), agriculture was represented as one of the disciplines that used service-learning the most. The issue becomes one of which methods will succeed in getting faculty in the CANR to adopt service-learning as another way of extending the experiential curriculum.

Teaching Methods Used by CANR Faculty Recommendations

The MSU College of Agriculture and Natural Resources has the opportunity to build upon its historical use of experiential teaching methods to provide a template for other colleges of agriculture that share this foundation in hands-on education. The creation of faculty development seminars that build upon experiential learning may provide motivation for experienced faculty to attend, because they already have an understanding of experiential learning. Additional support will be needed for faculty who do not use experiential methods; they could be accommodated through other university programs, or through mentoring opportunities with faculty who are using service-learning and experiential methods.

Further research on service-learning within the context of land-grant institutions needs to be encouraged. The Kellogg Commission working paper on the engaged institution, features the role of the land-grant institution, and its mission and service to communities. This is a pivotal time in the history of the College of Agriculture and Natural Resources at Michigan State University to highlight its unique history as the premier land grant institution and to renew its mission as a leader in community outreach and service through the use of service-learning in the curriculum of the college.

Motivational Factors for Service-Learning Faculty Conclusions

Research Question # 4 What factors motivated CANR faculty to integrate service-learning into their course curriculum?

Service-learning faculty in CANR were most often motivated by student development needs (mean=4.0). This is consistent with the research by Abes (2002) and Hammond (1994) on faculty motivation that indicated that service-learning is motivated primarily by student interest. As faculty design their courses they will look for methods that will be educative as well as motivational. The service-learning curriculum when properly integrated can provide for the needs of both faculty and students.

The faculty indicated that professional development was a motivator (mean=3.50), however, it is not clear due to the research format of the study whether faculty attended a service-learning professional development activity, or if they were referring to their plan for on-going professional development. Abes (2002) found that service-learning faculty were encouraged to use service-learning through attending institutional faculty development programs.

Service-learning faculty indicated that departmental need (mean=3.20) provided motivation for their use of service-learning. This finding is consistent with Abes (2002) in that faculty were encouraged to use service-learning by the departmental chair. The literature on faculty work in Blackburn & Lawrence (1995) indicated that faculty who understand their institutional mission or climate may exhibit teaching behaviors that support the goals or mission of the institution. Therefore, the role of the department in motivating service-learning faculty is just as important as the role of the college.

Service-learning faculty were also motivated by community/stakeholder needs (mean=3.14). This is an important aspect of the development of service-learning. The curriculum of service-learning is developed in conjunction or partnership with community members or community representatives. This "voice" provides the focus for academically enriched service that will meet the authentic needs of the community. (Eyler & Giles, 1999; Kendall, 1990).

Motivational Factors for Service-Learning Faculty Implications

Although, this study did not list the departmental chairperson as a choice for motivation, one can infer that the motivation to use service-learning might be articulated in some way through the departmental chairperson. The chairperson is representative of departmental objectives and may have been selected from the teaching faculty in the college. The chairperson has the background to understand the needs of teaching faculty and possibly a perspective on the ways in which innovative teaching methods may impact the faculty. Therefore, if the chairpersons in the departments became advocates for service-learning it might increase the likelihood of faculty adopting it as a teaching method.

Service-learning faculty have indicated that the needs of the students, followed by the department and community, are all factors that have motivated their use of service-learning. However, in a broad context I would suggest that faculty have been influenced by some aspect of professional development programming and have a basic understanding of the key components of the service-learning model, community need, and student need. In the CANR it will be important to maintain an atmosphere that is cognizant and supportive of the needs of students and their possible interest in service-

learning courses. In a service-learning leadership course that I taught a student wrote a reflection statement:

> Service learning is something that many people never take the chance to be a part in. I took a class at MSU where we volunteered to help an organization in the E. Lansing or MSU communities. It was truly a good experience and it is too bad that more people do not take part in classes like ours.

> As a college it will be important to find out the value of service-learning through the voices of the students. It would appear those faculties who use service-learning in the college are in tuned to the needs of students to connect to communities through their academic curriculum.

> As the college becomes a part of the "engaged institution" there will be other opportunities to work in partnership with community members to provide and to understand the ways in which the curriculum of the college can be supportive of the goals of the communities surrounding the college. The importance of understanding the mission of land-grant institutions and the College of Agriculture and Natural Resources will also provide a natural link to the development of an "engaged" college within the "engaged institution" at Michigan State University.

Motivational Factors for Service-Learning Faculty Recommendations

However, future research needs to be conducted on faculty understanding of course material integration of service-learning, student learning, the role of reflection, and the ways in which community voice and partnership development are components of service-learning curriculum design (Stanton, 1994). Additional research should be

conducted in the college to assess the level of service-learning participation of students in the college. Given that there are few courses that are listed as service-learning for the college it would be important to have an understanding of the degree to which students in the College of Agriculture and Natural Resources are involved in service-learning curriculum options.

Important Factors for Service-Learning Faculty Conclusions

Research Question # 5 What factors are important to CANR faculty who are integrating service-learning into their courses?

Service-learning faculty indicated that their personal interest (mean=4.32) was an important factor in integrating service into their courses. This is consistent with the literature (Bringle & Hatcher, 1997; Hammond, 1994; Stanton, 1994) which indicates that although student interest is important for sustaining service-learning, it is the faculty member that is the guiding force for making it happen. The issue then becomes how to get other faculty members interested in service-learning.

Service-learning faculty indicated that student interest (mean=3.83) was an important factor in integrating service-learning into their courses. As stated earlier, faculty were motivated most often by student interest. As service-learning faculty seek to develop their courses the needs of students are of primary concern. This factor is also consistent with the research conducted by Hammond (1994).

As faculty design courses, they are aware that students also have input into their evaluation process. This is one of the challenges of assessing teaching outcomes (Blackburn & Lawrence, 1995) not because students should not be a part of the process, but because excellence in teaching is subjective. It would stand to reason that faculty

would consider the interest level of students in the development of courses. In the CANR many of the service-learning faculty (10%)were not tenured, therefore the importance of student evaluations of their teaching as a factor in getting tenure may impact the course content.

In service-learning the needs of the community provide the situation for the academically based service. The understanding of the importance of community was evidenced by faculty indicating that community interest was an important factor (mean=3.65) for using service-learning in their courses. This provides support for the importance of faculty being aware of the community issues that may relate to their academic discipline. The development of sound service-learning programs depends upon the validation of the community voice as an integral part of the design of the curriculum (Kendall, 1990). The importance of community is a part of the mission of land-grant institutions and the college mission. The importance of community to the development of service-learning and its relationship to the land-grant mission is important for the development of service-learning curricula that will reinforce the mission of CANR and the university at large. College mission (mean=2.76), land-grant mission (mean=2.81), and university mission (mean=2.88) were within acceptable ranges for importance. This does not show the relationship between the mission and service-learning, but it does indicate that faculty consider it a part of the process for their service-learning courses.

Faculty use of service-learning was also related to the types of service projects that were relevant for ANR issues (mean=3.28) and community interest in ANR service-learning (mean=3.28). This is a continuing challenge to assist faculty in providing service opportunities that are integrated into the course curriculum that is attached to

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measurable educational outcomes. This study did not look at service-learning curriculum design, but it is important to understand that faculty want to be involved in service that can be linked directly to the curriculum in the College of Agriculture and Natural Resources.

Important Factors for Service-Learning Faculty Implications

The promotion of service-learning in the CANR is contingent upon the interest of the faculty and its link to students. Students' interest coupled with faculty interest in the pedagogy will provide the foundation for the increased use of service-learning in the department. In will be important for faculty and administrators to look at ways to encourage faculty to attend seminars, workshops, and conferences that will provide exposure to service-learning and that will provide the motivation to incorporate the information gained into their courses. This study did not ask faculty to recount when or where they first became interested in service-learning; this information would be useful to understanding factors that influenced their personal interest in service-learning. I remember the moment that I realized that service-learning was a teaching method that I would use in my courses. It will continue to be important to understand the factors that influence the use service-learning for individuals.

Important Factors for Service-Learning Faculty Recommendations

It would be informative to present the stories of service-learning faculty about their entry into service-learning. In the book <u>Service-Learning: A Movement's Pioneers Reflect on Its Origins</u> (Stanton et al., 1999) readers get a historical view of the leading service-learning educators and advocates in the country and their legacies in service-learning. I am sure that similar stories exist in CANR departments and the college that

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would be motivating for faculty who are considering adding a service component to their courses. Perhaps small informal seminars could be held where faculty could discuss with service-learning faculty the stories of getting started and sustaining service-learning in their courses.

Research that is focused on the community perspective is also needed in order to assist faculty in understanding various communities. There has been renewed interest in forming community partnerships and with insuring that the "community voice" is heard, acknowledged, and valued.

Non-Service-Learning Faculty Knowledge Conclusions

Research Question # 6 To what degree are teaching faculty in the College of Agriculture and Natural Resources familiar with service-learning?

About 50 percent of the non-service-learning faculty were aware of service-learning prior to taking the survey. The knowledge of service-learning did not translate into use of service-learning in their courses as the findings for teaching methods indicated. Faculty who are interested in service-learning need sources of support to engage in new teaching methods (Hammond, 1994; Stanton; 1994). Given that faculty in the college were using experiential learning it was interesting to read some of the comments of faculty who were not using service-learning to ascertain the knowledge of the pedagogy. The most frequent comments related to an inability to see how service-learning would fit into their discipline or their course content.

"I have trouble thinking of examples in my field where service learning seems like a viable option/opportunity," wrote one. Another described the difficulty in using service-learning in a science or mathematics course: "The course I teach is focused on

concepts, models and mathematics. I don't see where service-learning would be critical in this course." Another respondent adds, "Ability to use service-learning to course topics seems difficult to do in a science course." These comments are important for the creation of faculty development seminars that will take faculty through the steps of integrating service into the course content. This finding is consistent with the factors that Abes (2002) describes as deterrents to faculty use of service-learning. Non-service-learning faculty may not have a way of relating their curriculum to what they perceive service-learning would require.

Many of the non-service-learning faculty requested more information on service-learning. Service-learning as was mentioned has many models and definitions, and non-service-learning faculty may have seen only one model, as evidenced by this comment: "First time to hear service-learning as a teaching methodology. Would be interested in hearing more about it," and this respondent queried, "Could you provide more information about service-learning and opportunities?" The faculty who are not using service-learning may simply need more information and do not know where to locate the resources to increase their knowledge of service-learning. Given that most faculty have multiple assignments it may be a challenge to sort through these resources in an institution the size of MSU.

Some service-learning faculty were not aware of the support services available on campus at the Service-Learning Center as evidenced by this comment: "While I sometimes have students do service-learning activities, it has never occurred to me to use the center for it." Providing informational resources for faculty who may be interested in

service-learning will be key to increasing the use of service-learning among faculty in the College of Agriculture and Natural Resources.

Non-Service-Learning Faculty Knowledge Implications

The lack of use of service-learning in the CANR is not indicative of lack of interest. Many faculty may not know how it fits in their discipline or what resources are available on campus to help them with the integration of service into their courses. It will be important for college administrators and service-learning faculty to provide non-service-learning faculty with information on the supports available for using experiential teaching methods.

Non-Service-Learning Faculty Knowledge Recommendations

There needs to be more in-depth study of the knowledge of service-learning beyond the parameters of this study to determine the informational needs of non-service-learning faculty. The Service-Learning Center and Michigan Campus Compact should continue to promote their services in the college through presenting programs and providing promotional literature, and service-learning faculty should be encouraged to share service-learning information with colleagues.

Important Factors for Non-Service-Learning Faculty Conclusions

Research Question # 7 What factors would be important to CANR faculty who are not using service-learning to consider its use in their courses?

In this study non-service-learning faculty were asked to indicate what factors would be important for them to consider using service-learning. Non-service-learning faculty indicated that student interest (mean=3.77) would be an important factor for using service-learning in their courses. This factor is also consistent with the research

conducted by Hammond (1994). As faculty design courses they are aware that students also have input into their evaluation process. Non-service-learning faculty indicated that their personal interest (mean=2.55) would be an important factor. The role of community in the design of service-learning was recognized by non-service-learning faculty, indicating that community interest (mean=3.55) was an important factor. Non-service-learning faculty indicated that service projects that were relevant for ANR issues (mean=2.36) and community interest in ANR service-learning (mean=3.36) were important.

Important Factors for Non-Service-Learning Faculty Implications

Although non-service-learning faculty indicated that student interest was the most important factor for including service-learning in their courses I suggest that it would take more than student interest to encourage non-service-learning faculty to use service-learning. As evidenced by comments such as, "I plan to implement service learning, I just haven't found a good time" 58 percent of the respondents felt that lack of time was an important factor in the decision to use service-learning.

It was interesting to see that student interest came first for non-service learning faculty as compared to service-learning faculty who indicated that their personal interest was the most important factor.

It is important that community was of importance to faculty who have not implemented service-learning, but who nevertheless have an understanding that there is a need to have input from the community. The development of sound service-learning programs depends upon the validation of the community voice as an integral part of the design of the curriculum (Kendall, 1990; Eyler & Giles, 1999).

In developing a new program it would be important to start with service projects that are directly related to the discipline. The integration of the discipline into the service project can be problematic for faculty without the appropriate faculty development. Many comments from non-service-learning faculty centered on the inability to relate the service to their discipline: "I have trouble thinking of examples in my field where service-learning seems like a viable option/opportunity." Some respondents seemed to understand the importance of community voice and the way in which it could be facilitated through an appropriate service project. A non-service-learning respondent stated, "I think we have to work hard to find projects that actually serve the community, rather than just create work for the community." Again this study did not include structured interviews, which would have provided greater insight into the thoughts of faculty who were not using service-learning.

Important Factors for Non-Service-Learning Faculty Recommendations

Given that most studies have looked at faculty who are using service-learning, it would be important to develop a research agenda for the study of the barriers (Giles & Eyler, 1998). There needs to be greater exploration of the impact of tenure on the use of service-learning by faculty. In many instances teaching is not valued as highly as research and publishing, and faculty are forced to prioritize their research efforts and are "teaching for tenure" rather than having the opportunity to try innovative teaching methods that are time intensive. I would also like to see more studies of the knowledge of service-learning by non-service-learning faculty and why they do not use it even after they are aware of it. In this study I was surprised that many of the non-service-learning faculty had heard about service-learning but were not using it.

Summary

The service-learning faculty were primarily male, non-tenured faculty who had been teaching less than ten years. The faculty in the department used experiential learning (90.5 %) more than community service (31.3%) or service-learning (26.5%) as a teaching method. Service-learning faculty were always motivated by student needs (56.3%), professional development (25%), departmental need (33.3%), and community needs (33.3%).

The factors most important to service-learning faculty were their personal interest in service-learning, student interest, and community interest. Additionally, faculty indicated that the college, university, and land-grant missions were also important factors in using service-learning in their courses (mean=2.8).

In the college, about 52 percent of the non-service-learning faculty indicated that they had heard of service-learning prior to responding to the survey. However, none of these faculty members were actually using service-learning in their courses. Therefore, it becomes increasingly important to understand what will motivate faculty to use service-learning after they have heard about it and to investigate the barriers that exist for non-service-learning faculty.

This study was important to the CANR faculty and administrators who are interested in the development of programs that will encourage and support the use of service-learning in the college curriculum. It is hoped that the information gathered from this study will be useful in designing future studies to further investigate the use of service-learning in the CANR.

Importance of the Study to the College of Agriculture and Natural Resources

This study has provided the College of Agriculture and Natural Resources with greater insight into the level of knowledge that faculty possess regarding service-learning. It has provided a starting point for understanding the perceived barriers to implementing service-learning by faculty who have experience in experiential education. Although most of the faculty used experiential learning as a teaching method, this study indicated that use of experiential learning does not translate into use of service-learning. Additionally, the key to faculty use of service-learning is faculty development seminars that address the concerns of faculty who are not using service-learning. Therefore, the CANR and ANRECS should institute a series of service-learning faculty development seminars that address the unique needs of faculty in the college in collaboration with the MSU Service-Learning Center. In this climate of limited resources, partnerships and utilizing our own resources will be paramount in continuing to provide educational enrichment for faculty. Given that faculty indicated that student interest was a major factor for developing service-learning, the college should provide a student orientation to service-learning for incoming students to assess their knowledge of or interest in courses that would incorporate service-learning.

Opportunities For Further Research

During this study, areas for further research became evident as follows:

1. A quantitative/qualitative study of faculty motivation to use service-learning in the CANR. This would include in-depth analysis of motivational factors for faculty using service-learning.

2. Qualitative study of the ways that faculty describe and use experiential teaching methods in CANR. This could determine if faculty are using service-learning and experiential learning interchangeably.

3. A study of the role of community in the development of service-learning in the CANR.

4. A comparative analysis of faculty use of service-learning, experiential learning and community service in CANR.

Key Recommendations for CANR

1. The creation of a series of service-learning faculty development seminars that address the curriculum needs of faculty in the college in collaboration with the MSU Service-Learning Center.

2. The creation of faculty development seminars that provide faculty with an introduction to teaching methods with emphasis on experiential and service-learning teaching methods.

3. The development of mentoring relationships between current faculty who are using service-learning and those faculty who have expressed an interest in using service-learning in their course curriculum.

4. The development of service-learning courses that are team taught so that the time-intensive nature of service-learning course development and implementation would be shared.

5. The institution of funding lines that support the development of innovation in the course curriculum through the use of service-learning.

6. The institution of release time for faculty to prepare service-learning course curricula.

7. The institution of a seminar or elective course for students to introduce them to service-learning in the Ag curriculum.

8. The development of an undergraduate and graduate seminar that provides the history of the College of Agriculture and Natural Resources and Michigan State University and the relationship of mission to community outreach and service-learning.

9. The creation of a collaborative faculty development model for service-learning implementation that takes into the account the research, teaching, and service dimensions of faculty work in the College of Agriculture.

10. The development of a series of seminars in collaboration with community partners, the CANR, and the MSU Service-Learning Center to encourage college engagement with the surrounding community.

Appendix A

University Committee On Research Involving Human Subjects Letter of Approval

MICHIGAN STATE
U N I V E R S I T Y

May 8, 2003

TO: David KRUEGER
        409 Agriculture Hall
        MSU

RE: **IRB #** **02-295** CATEGORY: 1-2 EXEMPT

        RENEWAL APPROVAL DATE: May 8, 2003

              EXPIRATION DATE: April 8, 2004

TITLE: A STUDY OF SERVICE LEARNING USAGE BY MSU COLLEGE OF AGRICULTURE AND NATURAL RESOURCES FACULTY

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete and I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the **UCRIHS APPROVED THIS PROJECT'S RENEWAL.**

This letter notes approval for the change in primary investigator to Dr. David E. Kruger.

RENEWALS: UCRIHS approval is valid until the expiration date listed above. Projects continuing beyond this date must be renewed with the renewal form. A maximum of four such expedited renewals are possible. Investigators wishing to continue a project beyond that time need to submit a 5-year renewal application for complete review.

REVISIONS: UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please include a revision form with the renewal. To revise an approved protocol at any other time during the year, send your written request with an attached revision cover sheet to the UCRIHS Chair, requesting revised approval and referencing the project's IRB# and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.

PROBLEMS/CHANGES: Should either of the following arise during the course of the work, notify UCRIHS promptly: 1) problems (unexpected side effects, complaints, etc.) involving human subjects or 2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

OFFICE OF RESEARCH ETHICS AND STANDARDS If we can be of further assistance, please contact us at 517 355-2180 or via email: UCRIHS@msu.edu.

Sincerely,

Ashir Kumar, M.D.
UCRIHS Chair

AK rt

cc: Julianne Price
      409 Ag Hall

University Committee on
Research Involving
Human Subjects

Michigan State University
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**A Profile Study of Service Learning
Usage in the MSU
College of Agriculture and Natural Resources**

May 2002

Dear CANR Faculty:

This study is intended to assess and present the status of experiential learning,

community service and service learning within the College of Agriculture and Natural

Resources. Your thoughts and experiences will be of great help in gaining a deeper

understanding of the current status and challenges of service learning within the CANR.

We respect your confidentiality by removing any name, university/departmental
information and any other identifying information from your survey. Your participation
in this study is voluntary and you may withdraw at any time.   You indicate voluntary
participation by completing and returning this survey. **Your privacy will be protected
to the maximum extent allowable by law.**

The survey should take about 15 minutes to complete.

For this survey, experiential learning, community service and service learning are defined
as follows:

Experiential Learning concerns an individual changing their behavior and previous
conceptions as a result of knowledge gained from an experience.

Community Service is defined as any voluntary student activities that meet important
community needs.

Service Learning is a teaching strategy that uses meaningful community service
combined with guided reflection, to enrich and enhance student learning of course
material.

For more information regarding this study, please contact:

Julianne Price   Michael Woods, Ph.D.
Research Assistant   Assistant Professor
ANRECS   ANRECS
409 Agriculture Hall   408 Agriculture Hall

517.355.6580   517.355.6580 x 202
pricejul @msu.edu   mwoods@msu.edu

Part I

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1. Do you teach courses for academic credit in the College

of Agriculture and Natural Resources (CANR)?

Yes_____   No____

If yes: Proceed to **Part II**

If no: Thank you for your time. This survey is directed at
those that teach in the College of Agriculture and Natural
Resources. If you would please return the survey, we will
remove your name from the research database.

Part II

Directions: Circle the number that best reflects your view of the following questions.

2. To what extent do you utilize the following teaching methods?	Never	Rarely	Someti mes	Very Often	Always
a. Experiential Learning	1	2	3	4	5
b. Community Service	1	2	3	4	5
c. Service Learning	1	2	3	4	5

If you have used service learning in your course(s) go to Part III.

If you have NOT used service learning in your course(s) go to Part IV.

Part III - Answer questions 3 -9 if you have used service learning

3. Who was responsible for the service content of your course(s)?	Never	Rarely	Sometimes	Very Often	Always
Faculty	1	2	3	4	5
Student	1	2	3	4	5
Community org./recipients	1	2	3	4	5
MSU Service Learning Center	1	2	3	4	5
Advisory committee	1	2	3	4	5
Other (Specify):	1	2	3	4	5

4. How often do you utilize the following service learning elements in your course(s)?	Never	Rarely	Sometimes	Very Often	Always
Class discussion prior to service	1	2	3	4	5
Class discussion on service project throughout course	1	2	3	4	5
Class discussion after completion of service project	1	2	3	4	5
Discussion with community recipients	1	2	3	4	5
Student service learning journals	1	2	3	4	5
Discussion with community organization	1	2	3	4	5

5. How do you evaluate student learning of course content based on the service experience?	Never	Rarely	Sometimes	Very Often	Always
Exam	1	2	3	4	5
Student Journal	1	2	3	4	5
Final Paper	1	2	3	4	5
Presentation	1	2	3	4	5
Portfolio	1	2	3	4	5
Product (specify)	1	2	3	4	5
Other (specify)	1	2	3	4	5

6. What motivated you to integrate service learning into your curriculum?	Never	Rarely	Sometimes	Very Often	Always
Publication/Article on service learning	1	2	3	4	5
Conference presentation	1	2	3	4	5
University program	1	2	3	4	5
Colleague	1	2	3	4	5
Community/Stakeholder need	1	2	3	4	5
Departmental need	1	2	3	4	5
Professional development	1	2	3	4	5
Student development need	1	2	3	4	5
M.S.U. Service Learning Center	1	2	3	4	5
My scholarly research	1	2	3	4	5

7. How important were the following factors in deciding to utilize service learning in your course(s)?	Unimportant	Of little importance	Moderately Important	Important	Very Important
Administrative support	1	2	3	4	5
Available funding	1	2	3	4	5
Colleagues	1	2	3	4	5
College mission	1	2	3	4	5
Community interest	1	2	3	4	5
Community sites interested in ANR service learning	1	2	3	4	5
Contributes to my research	1	2	3	4	5
Desire to engage external stakeholders	1	2	3	4	5
Land-Grant mission	1	2	3	4	5
Need for student civic engagement	1	2	3	4	5
Personal interest	1	2	3	4	5
Preparation time	1	2	3	4	5
Promotion and tenure requirements	1	2	3	4	5
Service projects appropriate for ANR issues	1	2	3	4	5
Student interest	1	2	3	4	5
University mission	1	2	3	4	5

8. How are students prepared for the service learning activity?	Never	Rarely	Sometimes	Very Often	Always
Formal orientation in class	1	2	3	4	5
Formal orientation at service learning site	1	2	3	4	5
Faculty presentation	1	2	3	4	5
Written materials	1	2	3	4	5
Presentation by community representative	1	2	3	4	5
Video	1	2	3	4	5
Students that have participated in service learning activity	1	2	3	4	5
MSU Service Learning Center	1	2	3	4	5
Other (specify):	1	2	3	4	5

9. In your opinion, students exposed to service learning in your course improved their:	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Problem solving skills	1	2	3	4	5
Civic mindedness	1	2	3	4	5
Leadership skills	1	2	3	4	5
Character development	1	2	3	4	5
Motivation for learning	1	2	3	4	5
Interpersonal skills	1	2	3	4	5
Team building skills	1	2	3	4	5
Oral communication skills	1	2	3	4	5
Written communication skills	1	2	3	4	5
Critical thinking skills	1	2	3	4	5
Content knowledge	1	2	3	4	5
Academic achievement	1	2	3	4	5
Knowledge of career opportunities	1	2	3	4	5
Awareness of diversity issues	1	2	3	4	5
Other (specify):	1	2	3	4	5

Go to Part V – page 7

Part IV

> 10. Prior to this survey, had you heard of service learning?
>
> Yes___ No___

Answer question 11 if you have NOT used service learning.

11. How important would the following factors be in your decision to use service learning in your curriculum?	Unimportant	Of little importance	Moderately Important	Important	Very Important
Administrative support	1	2	3	4	5
Community interest	1	2	3	4	5
Student interest	1	2	3	4	5
Personal interest	1	2	3	4	5
Available funding	1	2	3	4	5
Promotion and Tenure Requirements	1	2	3	4	5
Community sites interested in CANR service learning	1	2	3	4	5
Service projects appropriate for CANR issues	1	2	3	4	5
Preparation time	1	2	3	4	5
Lack of time to implement service learning	1	2	3	4	5
More information on service learning pedagogy	1	2	3	4	5
Contributes to my research	1	2	3	4	5
Colleagues	1	2	3	4	5
Other (specify)	1	2	3	4	5

Go to Part V – page 7

Part V Demographics

Gender	____ Male ____ Female
Please indicate your academic rank	____ Professor ____ Associate ____ Assistant ____ Instructor
Please identify your academic appointment?	____ Tenure system ____ Fixed term
Are you tenured?	____ Yes ____ No
Please indicate your highest degree completed. (check one)	____ Ph.D. ____ Master ____ Bachelor

Which department is your appointment?
____ Agricultural Economics ____ Forestry ____ Agricultural Engineering ____ Horticulture ____ Animal Sciences ____ Park, Recreation & ____ ANRECS ____Tourism Resources ___ Crop & Soils Sciences ____ Plant Pathology ____ Entomology ____ Resource Development ____ Fisheries and Wildlife ____ School of Packaging ____ Food Science & Human Nutrition ____ Other: Note: (If your appoint resides in two departments please indicate here _____   (place a check mark and identify both departments)

Please indicate your appointment percentages (should equal 100%)	____ Extension ____ Teaching ____ Research ____ Administrative
Have you ever completed a teaching methods course?	____ Yes ____ No
How many years have you taught?	____ 1-5 years ____ 6-10 years ____ 11-15 years ____ 16- 20 years ____ 20 + years

Thank you for taking time to complete this survey. Your assistance in providing this information is greatly appreciated. Please feel free to share any additional comments you feel would be appropriate for this study.

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

After completing the survey, please return to us by putting the survey into campus mail.

Again, thank you for your time and assistance with this study.

Appendix C

Initial Survey Cover Letter

May , 2002

Dear CANR Faculty,

This study is intended to assess and present the status of experiential learning, community service and service learning within the College of Agriculture and Natural Resources. Your thoughts and experiences will be of great help to gaining a deeper understand of the current status and challenges with service learning within the CANR.

We respect your confidentiality by removing any name, university/departmental information and any other identifying information from your survey. Participation in this survey is voluntary; and you may choose to withdraw at any time, or to answer only certain questions. You may discontinue the experiment at any time without penalty or loss of benefits to which the subject is otherwise entitled. You indicate your voluntary agreement to participate by submitting completing and returning this survey. **Your privacy will be protected to the maximum extent allowable by law.**

For more information regarding this study, please contact:

Julianne Price	Michael Woods, Ph.D.
Research Assistant	Assistant Professor
ANRECS	ANRECS
409 Agriculture Hall	408 Agriculture Hall
517.355.6580	517.355.6580 x 202
pricejul@msu.edu	mwoods@msu.edu

If you have any questions about your rights as a study participant you may contact:

Michigan State University
Ashir Kumar, MD
Chair of the University Committee on Research Involving Human Subjects
202 Olds Hall, East Lansing, MI 48824
(517) 355-2180
(517) 432-4503 fax
e-mail: ucrihs@msu.edu

Thank you for your time and assistance with this survey.

Best regards,

Julianne Price   Michael Woods

Appendix D

First Follow Up Postcard

May 24, 2002

About two weeks ago, a questionnaire was sent to you regarding your use of experiential learning, community service, and service-learning in the courses that you teach .

If you have already completed and returned the questionnaire to us, please accept our sincere thanks. If not, please do so today. We are especially grateful for your assistance, because it is only by asking people like you to share your experiences that we can assess and present the status of these teaching methodologies in the College of Agriculture and Natural Resources.

If you did not receive a questionnaire, or it has been misplaced please call Julianne Price at (517) 272-9584 and we will get another one in the mail to you today.

Julianne Price	Michael Woods, Ph.D.
Research Assistant	Assistant Professor
ANRECS	ANRECS
409 Agriculture Hall	408 Agriculture Hall

Appendix E

Second Follow Up Letter

June 11, 2002

Dear CANR Faculty,

About three weeks ago we sent a questionnaire to you that asked about your experience and knowledge of service- learning, experiential learning and community service. To the best of our knowledge, it's not yet been returned.

The comments of faculty who have already responded include a wide variety of reasons for using or not using service-learning. We think the results are going to provide a useful background for understanding the usage of this teaching method in the College of Agriculture and Natural Resources.

As stated in the initial letter sent to you, this study is intended to assess and present the status of experiential learning, community service and service- learning within the College of Agriculture and Natural Resources. Your thoughts and experiences will be of great help in gaining a deeper understanding of the current status and challenges of implementing service- learning within the CANR.

This questionnaire is directed at those who teach in the College of Agriculture and Natural Resources. If you are not teaching in the college, please complete Part I of the questionnaire or phone Julianne Price at (517) 272-9584 so that we can delete your name from the mailing list.

We respect your confidentiality by removing any name, university/departmental information and any other identifying information from your survey. Participation in this survey is voluntary; and you may choose to withdraw at any time, or to answer only certain questions. You may discontinue the experiment at any time without penalty or loss of benefits to which the subject is otherwise entitled. You indicate your voluntary agreement to participate by submitting completing and returning this survey. **Your privacy will be protected to the maximum extent allowable by law.**

We hope that you will fill out and return the questionnaire soon, but if for any reason you prefer not to answer it, please let us know by returning the questionnaire with Part I completed or phoning Julianne Price at (517) 272-9584 and your name will be removed from the mailing list.

If you have any questions, please feel free to contact us.

Sincerely,

Julianne Price	Michael Woods, Ph.D.
Research Assistant	Assistant Professor
ANRECS	ANRECS
409 Agriculture Hall	408 Agriculture Hall
517.355.6580	517.355.6580 x 202
pricejul@msu.edu	mwoods@msu.edu

Appendix F

Third and Final Follow Up Letter

August 28, 2002

Dear CANR Faculty,

During the summer we sent a questionnaire to you that asked about your experience and knowledge of service- learning, experiential learning and community service. We hope that you will take the time to respond to the questionnaire. You possibly were not on campus during the summer months to receive the mailing, and to the best of our knowledge, it has not been returned.

The comments of faculty who have already responded include a wide variety of reasons for using or not using service-learning. We think the results are going to provide a useful background for understanding the usage of this teaching method in the College of Agriculture and Natural Resources.

As stated in the initial letter sent to you, this study is intended to assess and present the status of experiential learning, community service and service- learning within the College of Agriculture and Natural Resources. Your thoughts and experiences will be of great help in gaining a deeper understanding of the current status and challenges of implementing service- learning within the CANR.

This questionnaire is directed at those who teach in the College of Agriculture and Natural Resources. If you are not teaching in the college, please complete Part I of the questionnaire or phone Julianne Price at (517) 272-9584 so that we can delete your name from the mailing list.

We respect your confidentiality by removing any name, university/departmental information and any other identifying information from your survey. Participation in this survey is voluntary; and you may choose to withdraw at any time, or to answer only certain questions. You may discontinue the experiment at any time without penalty or loss of benefits to which the subject is otherwise entitled. You indicate your voluntary agreement to participate by submitting completing and returning this survey. **Your privacy will be protected to the maximum extent allowable by law.**

We hope that you will fill out and return the questionnaire soon, but if for any reason you prefer not to answer it, please let us know by returning the questionnaire with Part I completed or phoning Julianne Price at (517) 272-9584 and your name will be removed from the mailing list.

If you have any questions, please feel free to contact us.

Sincerely,

Julianne Price	Michael Woods, Ph.D.
Research Assistant	Assistant Professor
ANRECS	ANRECS
409 Agriculture Hall	408 Agriculture Hall
517.355.6580	517.355.6580 x 202
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