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**A PROFILE OF LEARNER ENGAGEMENT WITHIN THE
COLLEGE OF AGRICULTURE AND NATURAL RESOURCES
AT MICHIGAN STATE UNIVERSITY**

By

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A THESIS

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ABSTRACT

A PROFILE OF LEARNER ENGAGEMENT WITHIN THE COLLEGE OF AGRICULTURE AND NATURAL RESOURCES AT MICHIGAN STATE UNIVERSITY

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This study was conducted to assess the undergraduate student experience within the College of Agriculture and Natural Resources (CANR) at Michigan State University. The target population of the study comprised of (N=2,353) CANR undergraduates from the fall 2002 semester. The researchers for the study to assess undergraduate engagement designed a questionnaire. The survey was administered via the World Wide Web (WWW). Findings from this census survey provide data, which depicts the level of engagement of undergraduate students within the CANR.

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DEDICATION

There were many endless nights and if it were not for,

**my parents Christina and Leonard Savala
my sisters Marisa, Andrea, Felicia
my brother Sergio
and
especially my wife Marcelina Trevino-Savala**

For their continued support I may not have completed my work.

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CHAPTER ONE

INTRODUCTION

State and land grant institutions experienced tremendous changes in the early 90's and as a result, the National Association of State Universities and Land-Grant Colleges (NASULGC) enlisted the support of the W.K. Kellogg Foundation to examine the future of public higher education. The Kellogg Commission on the Future of State and Land-Grant Universities has published numerous documents (NASULGC, 1997, 1998) detailing the changes that need to take place in order for Land-Grant Colleges of Agriculture (LGCA) to continue to exist.

A 1997 watershed document by the Commission, entitled *The Student Experience* (NASULGC, 1997), outlines a set of principles to guide academic reform (p. 7). The Commission further discussed the implications of these principles on the student experience: “[w]e believe that by means of those principles your institutions and ours can make sure the student experience includes several things for every student. In terms of education development, these principles meant that every student should have access: 1) to the courses required to graduate on schedule, in term and sequence required; 2) a meaningful set of experiences encouraging analysis and reflection, including seminar-style courses and courses requiring written evidence of independent thought; 3) appropriate academic advising and career counseling; and, perhaps most significant, 4) direct experience with process of discovery, i.e., with undergraduate research” (p.20). The Commission then published a document, entitled *Returning to Our Roots Student Access* (NASULGC, 1998), which called for institutions to be more flexible and user friendly for students. The Commission further stated “[a]ccess, per se, is not the issue;

academic success is. Access is the part of our work; meaningful engagement of our students with our communities remains the challenge” (1998, p.35).

Many of the Commission’s documents scrutinize State and Land-Grant Universities (SLGU) for many of the current failures of students. The Commission further reiterated that in order to change the current problems facing SLGU required active faculty engagement. The Kellogg Commission’s report *Return to our roots: Student access* (NASULGC, 1998) stated that “[f]aculty need to take responsibility for reviewing curriculum and instructional approaches, modifying both, if need be, to meet the diverse needs of students from different backgrounds” (1998, p. 49).

While numerous documents continue to examine the changes of LGCA (Board on Agriculture National Research Council, 1992; NASULGC, 1997, 1998), Meyer’s (1998) document, *The Historical Trek of the Land Grant College of Agriculture, Past, Present and Future*, explains “The trek ahead for these institutions will have many zigs and zags. The development of leaders and colleges with the vision and ability to create an environment for both short and long-term responses to societal concerns will be critical to their survival. They will need help in escaping from old ideas, which means escaping from old organizations built on the past” (p. 15). Meyer further stated in *Re-Engineering the Land-Grant College of Agriculture* (1997), when referring to LGCAs: “[t]his College is truly unique within universities. Unfortunately, few colleges or universities have changed unless felt threatened by outside forces and thought their survival was in question” (p.16).

Kuh (1988), however, contends that what students do with faculty, peers and the facilities and what happens to students as a result is more important than the resources

needed. Kuh (2001) further provides benchmarks that determine how effectively colleges are contributing to learning: 1) academic challenge; 2) active and collaborative learning; 3) student faculty interaction; 4) enriching educational experiences; and 5) supportive campus environment provide insight into what activities students are actively engaged. Kuh contends that the benchmarks provide insight into the learning and personal development of students by evaluating their experiences.

While research on evaluating the student experience has been studied outside of the agricultural education discipline, it has yet to be evaluated in the College of Agriculture and Natural Resources as noted by the 1992 NRC report, entitled *Agriculture and the Undergraduate*. Therefore, the focus of this study is on examining the student experience by means of the benchmarks provided by Kuh (2001). This study depicts how the undergraduate students in the college of agriculture and natural resources evaluate their learning experience, across gender, ethnicity and experience level.

Statement of Problem

Research has indicated that the student experience in undergraduate education has become incoherent and ineffective (Reagan et al. 1987). According to Boyer (1987), “[t]he disciplines have fragmented themselves into smaller and smaller pieces, and undergraduates find it difficult to see patterns in their courses or to relate what they learn to life” (p. 3).” A majority of the research on student experience has been studied outside of the agriculture and natural resources discipline. Although agricultural education has focused on variety of subject matter, topics within undergraduate education (Radhakrishna & Xu, 1997) researchers within the discipline have yet to evaluate the college experience by means of the five benchmarks proposed by Kuh (2001).

Purpose of Study

The researcher's purpose in this study was to assess the undergraduate experience within the College of Agriculture and Natural Resources across. To achieve the aforementioned purpose the following objectives guided this study:

1. To measure the level of academic challenge that CANR students encounter;
2. To assess the level of opportunity that CANR students have to experience active and collaborative learning;
3. To ascertain the level of student-faculty interaction;
4. To measure CANR student level of participation with enriching educational experiences; and
5. To assess CANR students level of awareness of various supportive campus environments.

Need for the Study

The necessity for this study is based on the absence of descriptive studies assessing undergraduate student experience within the CANR. The survey of undergraduate engagement will provide the CANR with immediate feedback on how to improve various aspects of institutional performance. This study provides feedback on what experiences students perceive as beneficial to their success within CANR. In addition, this study also depicts the shortcoming, which allows the CANR to strategize on how to provide a meaningful student experience. The results of the survey can be used to help CANR improve the quality of their performance and offer data for making informed decisions about the quality of the institution. Institutions of higher education need valid, credible, and usable information about the undergraduate experience so that administrators, faculty members, and others can see how their students stack up against similar missions and academic programs (Kuh, 2000).

Overview of Study

This study was concerned with conducting a descriptive study to examine the impact of the student experience within the CANR at Michigan State University (MSU).

A web-based census survey guided by Dillman's (2000) Total Design Method was used to collect data in this study. A web-based questionnaire was used to survey CANR undergraduates asking how they perceived their learning experience. The questionnaire consisted of n=414 of questions and took 20 minutes to complete.

Definition of Terms

Level of academic challenge—Challenging intellectual and creative work is central to student learning and collegiate quality. Colleges and universities promote high levels of student achievement by emphasizing the importance of academic effort and setting high expectations for student performance (Kuh, 2001).

Active and collaborative learning—Students learn first-hand how experts think about and solve practical problems by interacting with faculty members inside and outside the classroom. As result, their teachers become role models, mentors, and guides for continuous, life-long learning (Kuh, 2001).

Student-Faculty interaction—Students learn more when they are intensely involved in their education and are asked to think about and apply what they are learning in different settings. Collaborating with others in solving problems or mastering difficult material prepares students to deal with the messy, unscripted problems they will encounter daily during and after college (Kuh, 2001).

Enriching educational experiences—Complementary learning opportunities inside and outside classrooms augment academic programs. Experiencing diversity teaches

students valuable things about themselves and others. Technology facilitates collaboration between peers and instructors, internships, community service, and senior capstone courses provide opportunities to integrate and apply knowledge (Kuh, 2001).

Supportive campus environment—Students perform better and are more satisfied at colleges that are committed to their success and cultivate working and social relations among different groups on campus (Kuh, 2001).

Operational Definition of Terms

College of Agriculture and Natural Resources Programs/Departments: The diverse departments that degrees are offered from within the CANR at MSU.

Undergraduates: Persons who have not completed the requirements for a degree from with the CANR at MSU.

Abbreviations

ANR	Agriculture and Natural Resources
MSU	Michigan State University
CANR	College of Agriculture and Natural Resources
NASULGC	National Association of State Universities and Land-Grant Colleges
SLGU	State and Land-Grant Universities
WWW	World Wide Web

Assumptions

This study focuses on the student experience with CANR at MSU. Five assumptions are made concerning the undergraduate questionnaire.

1. All respondents will understand the questionnaire's directions and truthfully answer each question.
2. Undergraduates from the CANR will fill out the questionnaire.

3. Respondents will express their opinions and attitudes truthfully and without restraint.
4. The target population received the email asking for their participation.
5. The target population had access to the Internet.
6. The participants assessed only their experiences within CANR only and not MSU as whole.

Limitations

The population of this study is limited to CANR undergraduates in the Fall semester of 2002. This study assumes that the undergraduates were able to assess only the experiences within the CANR and did not evaluate their experiences outside of CANR. No attempt was made to evaluate the learning experiences outside of the CANR.

Chapter summary

This chapter has set the stage for the study. Chapter two discusses the literature available on student development assessment, level of academic challenge; active and collaborative learning; student faculty interaction; enriching educational experiences; and supportive campus environment. Chapter three examines the assessment tool used to evaluate the student experience with CANR. Chapter four presents the results of this study. Chapter five further discusses the conclusions and recommendations drawn from the results.

CHAPTER II

REVIEW OF LITERATURE

Much of the literature on student development assessment (Jones, 1938; McConnell, 1934; Pressy, 1946; Chickering, 1969; Clark, Heist, McConnell, Trow, & Young, 1972; Heath, 1968) provided the foundation from which current research has been directed. A major difficulty experienced by institutions throughout the brief history of assessment has been the relative lack of direction that its results provide about exactly where to invest resources in order to obtain desired results (Ewell & Jones, 1996).

The following specific topics are reviewed: (a) student development theories; (b) student development assessment tools; (c) supportive campus environment; (d) student interaction with faculty members; (e) active and collaborative learning; and (f) enriching educational experience.

There have been numerous theories that explain the development of people throughout the lifecycle. These theories relate to student experience in that they explain how individuals overcome personal challenges and growth issues.

The psychosocial theory described how individuals resolve challenges and personal growth issues at different stages or periods during the life cycle with the development of identity being central (Banta & Associates, 2002). It has been the work of Chickering (1969) that has provided a means of measuring how a person resolves challenges and personal growth issues. Chickering developed the seven “vectors of development” which are developing confidence, managing emotions, developing autonomy, establishing identity, developing freeing interpersonal relationships, developing purpose and developing integrity. In use currently to measure the seven

“vectors of development” are The Student Development Task and Lifestyle Inventory (Prince, Miller, & Winston 1974; Winston, 1990); Iowa Student Development Inventories (Hood, 1986); and Sue’s Minority Identity Development Model (Sue & Sue, 1990).

The cognitive-structural theory described the processes by which people move from fairly simplistic, dualistic (“right or wrong”) judgments and reasoning abilities to more complicated, reflective understandings and constructions of reality (Banta & Associates, 2002). Whereas, the person-environment interaction theory holds that individual performance is optimized when one’s needs and abilities are congruent with demands of the environment (Strange & Banning, 2001).

The typology model, which sorts individuals into categories according to their similarities and differences related to how they manage and cope with common developmental task inherent in the collegiate setting (Banta & Associates, 2002). An assessment tool used to evaluate this area of research is the Myers-Briggs (Myers & Myers, 1995) and Kolb (Ballou, Bowers, Boyatzis & Kolb, 1999; Boyatzis & Kolb, 1991). The research of Kuh, Hu, and Vesper (2000) discovered eight dominant groups of undergraduates some of whom were very engaged in educationally purposeful activities.

The theory of involvement (Astin, 1984) further explained the importance of student involvement. Student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experience (Astin, 1984). The involvement theory has five basic postulates (Astin, 1984):

1. Involvement refers to the investment of physical and psychological energy in various objects. The objects may be highly generalized (the student experience) or highly specific (preparing for a chemistry examination).
2. Regardless of its object, involvement occurs along a continuum; that is, different students manifest different degrees of involvement in a given object, and the same student manifests different degrees of involvement in different objects at different times.
3. Involvement has both quantitative and qualitative features. The extent of a student's involvement in academic work, for instance, can be measured quantitatively (how many hours the student spends studying) and qualitatively (whether the student reviews and comprehends reading assignments or simply stares at the textbook and day dreams).
4. The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program.
5. The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement.

The theory of student involvement encourages educators to focus less on what they do and more on what the student does: how motivated the student is and how much time and energy the student devotes to the learning process (Astin, 1984).

The term “indicator” has been used for many years to describe a relevant, easily calculable statistic that reflects the overall condition of an enterprise or the progress of a particular set of events (Burstein, Oakes, & Guiton, 1992).

Ewell and Jones (1996) stated that indicators of instructional delivery are particularly useful for three main purposes:

1. To quickly compare relative performances across units, institutions or settings.
2. To monitor what is happening with a particular unit, institution or setting over time.
3. To explicitly examine the effects of intervention or policy change—either settings or over time.

Some important advantages of indicators are that they:

- Can help mobilize concerted action
- Can help the institution communicate its goals explicitly to potential students and the public
- Can support and reinforce academic planning directed toward continuous improvement

Educational leaders should also recognize that indicators systems also have important negative aspects, which include:

- Their tendency to create false incentives for action
- Their tendency to focus attention on information gathering itself, rather than action to change conditions
- Their frequent inability to tell outsiders what they really want to know.

A new category, which much of the research in this study focuses on, is process indicators measures. Process indicators are a method to examine if students are doing the things that produce the desired outcome. The benefits of process indicators are that unlike assessment instrument that focus mostly on outcomes, process indicators are inexpensive to develop and are considered easy to administer. Another benefit of process indicators is that they produce results that can be used immediately to inform policy decisions, which could lead to enhanced student learning (Banta & Associates, 1993; Ewell & Jones, 1996).

Process indicators represent the extent to which students engage in the activities that predict desired learning and personal development outcomes (Banta & Associates, 2002). The research by Banta and Associates (1993) and Ewell and Jones (1996) further showed that process indicators are precursors to increased levels of student learning and development. To date the best-known set of process indicators are the “Seven Principles for Good Practice in Undergraduate Education” (Chickering & Gamson, 1987); the seven principles are:

1. Encourages contacts between students and faculty
2. Develops reciprocity and cooperation among students
3. Uses active learning techniques
4. Gives prompt feedback
5. Emphasizes time on task
6. Communicates high expectations
7. Respects diverse talents and ways of learning.

To increase student engagement in good educational practices, faculty members must be willing to embrace the philosophy undergirding “The Seven Principles” which emphasizes the centrality of student learning and what learners do as contrasted with instruction and what teachers do (Barr & Tagg, 1995).

The research on the seven principles for good practice in undergraduate education provided a direct correlation between the principles and aspects of programs that had shown clear improvement. Outcomes had risen dramatically in programs where student-faculty involvement had increased; there were more collaborative learning experiences; expectations had risen; immediate feedback was given, learning was active-not passive-experience, students were treated as individuals; and the diversity of talents was understood and respected. Outcomes also improved when learning communities existed outside the classroom and students had increased the amount of time devoted to studying (Banta & Associates, 1993). Regardless of the assessment tools utilized (portfolios, tests, or any other measures of student products), linking the program to Chickering and Gamson’s seven principles and constantly ask the question “How can we improve?” the kind of needed to effect genuine improvement (Banta & Associates, 1993). A set of indicators tied to important institutional practices provides clear guidance for action (Ewell & Jones, 1996).

Assessment tools use to assess student engagement include:

- College Student Experiences Questionnaire (Pace & Kuh, 1998)
- The College Student Report (Kuh, 1999)
- UCLA’s College Student Survey

The conceptual foundation for this assessment approach is consistent with Astin's "Theory of Involvement" (1984), Pace's concept of "quality of effort" (1982) and involving Colleges Framework by Kuh et al. (1991).

Supportive Campus Environment

The campus environment includes all the conditions and influences, such as physical, chemical, biological and social stimuli, that affect the growth and development of living things (Western Interstate Commission for Higher Education, 1973). An institution's physical, social, and organizational environments can be discouraging, confusing, and alienating, or orderly, predictable, coherent, and encouraging (Corbally, 1989; Snyder, 1971). In this area of research Purkey and Smith (1982) discussed the theory that student achievement is influenced by factors referred to as social inputs, social structure and social climate. Kuh (2001) further stated the importance of a campus environment. A critical component to student learning is the institutional environments that are perceived by students as inclusive and affirming and where expectations for performance are clearly communicated and set at reasonably high levels (Education Commission of the States, 1995; Kuh et al., 1991)

Student Interaction with Faculty Members

After relationships with peers, relationships with faculty members are most important for students (Chickering & Reisser, 1993). Pascarella and Terenzini (1991, p.620) reported "A large part of the impact of college is determined by the extent and content of one's interactions with major agents of socialization on campus, namely, faculty members and student peers. The influence of interpersonal interaction with these groups is manifest in intellectual outcomes as well as in changes in attitudes, values,

aspirations and a number of psychosocial characteristics.” Chickering and Reisser (1993) further stated “[w]hile students may ultimately bear the responsibility for involving themselves in academic pursuits, the faculty member who speaks with passion and invites active learning, who adapts the structure of the class to the interests and abilities of the students and whose articulate dynamism has students looking forward to every class does much to awaken dormant cognitive skills. With an engaging teacher, students learn that beyond the content lies the power of the knowledge-seeker.” Chickering and Gamson (1987) emphasized that professors who encourage student contact both in and out of classes enhance student motivation intellectual commitment, and personal development. In addition, Pascarella and Terenzini (1991, p.620) stated “the educational impact of a college’s faculty is enhanced when their contacts with students extend beyond the formal classroom to informal nonclassroom settings.”

Active and Collaborative Learning

The research on active learning within the college classrooms is so convincing that college professors cannot ignore the importance of active learning. Participation in learning is a concrete experience that can yield many benefits for higher education (Boud, Cohen, & Walker, 1993). Tinzmann and others (1990) stated, “Effective communication and collaboration are essential to becoming a successful learner. It is primarily through dialogue and examining different perspectives that students become knowledgeable, strategic, self-determined, and empathetic. Moreover, involving students in real-world tasks and linking new information to prior knowledge requires effective communication and collaboration among teachers, students, and others. Indeed, it is through dialogue and interaction that curriculum objectives come alive.”

Level of Academic Challenge

If undergraduate students are to develop their ability to think at higher levels of cognition, they must be challenged to do so by both professors' in-class instructional techniques, and by the academic challenges provided throughout the course (McCormick & Whittington, 2000). Studies have shown that effective use of academic challenges can increase student achievement (Foyle & Baily, 1985; Ziegler, 1986) and can contribute to challenging both students' progression through the thought processes and their development of thinking skills (Cooper, 1989; Meyers, 1986; Terenzini, Springer, Pascarella & Nora, 1995). However, there are few studies which have examined the cognitive level of academic challenges or which provide a system for assessing academic challenges (e.g. Newcomb & Trefz, 1987; Pickford & Newcomb, 1989; Ratcliff, Jones, Guthrie & Oehler, 1991). A rigorous course gives students the opportunities to reach the higher levels of cognitive learning, achieve academic excellence, and actively participate in the learning process (Miller & Shih, 1999).

Enriching Educational Experiences

The impact of the college experience on student is increased when they are more actively engaged in various aspects of college life (Kuh et al., 1991). Evidence shows that student's reports about their college experiences such as the frequency with which they participate in various educationally purposeful activities are reliably associated with general cognitive gains (Ewell & Jones 1993, 1996; NCHEMS 1994). The studies show that the more time and effort students invest in the academic and social opportunities available in the college environment, the greater will be their academic achievement and personal growth, their satisfaction with college, and their persistence in college (National

Institute of Education, 1984; Astin, 1985; Pace, 1989). Encounters with others who have diverse backgrounds and strongly held opinions create the contexts for an increased tolerance and integrity (Chickering & Reisser, 1993). Pascarella and Terenzini (1991) emphasized the importance of ‘socializing agents’ – the people with whom students come into contact – as playing a critical role in identity and ego development during college. Citing a number of studies, they suggest “it is the diversity of individuals (particularly other students) that developmentally challenges students’ conceptions of themselves and that requires adaptation and commitment to certain attitudes, values, beliefs, and actions” (Pascarella & Terenzini, 1991, p. 190). Kuh (2001) further stated that an “enriching educational experiences provides complementary learning opportunities inside and outside classrooms augment academic programs. Experiencing diversity teaches students valuable things about themselves and others. Technology facilitates collaboration between peers and instructors, internships, community service, and senior capstone courses provide opportunities to integrate and apply knowledge.”

Chapter summary

This chapter has discussed the literature available on student development. In addition this chapter further discussed several topics (student development theories, student development assessment tools, supportive campus environment, student interaction with faculty members, active and collaborative learning and enriching educational experience) which have provided a frame for this study.

CHAPTER III

METHODOLOGY

Design of Study

This chapter describes the survey procedures and research methods used in this study. The following specific topics are described: (a) population, (b) design, (c) instrumentation, (d) data collection and (e) data analysis.

The design of this study followed the format of a descriptive survey. This study specifically examines the undergraduate student experience at MSU in the CANR. Surveys, a method for collecting data was provided by Dillman (2000). The data-gathering technique consisted of a web-based questionnaire. In order to accurately assess undergraduate involvement within CANR, it was critical to adhere to proper research protocol throughout the study. The University Committee on Research Involving Human Subjects (UCRIHS) was sent a copy of the instrument, methodology section of the proposal, cover letter and a study approval application. Approval of the research project was contingent on minor revision.

Population and Sample

The target population of the study included CANR undergraduates in the Fall semester of 2002. A student roster of 2,353 undergraduates from all departments within CANR was obtained from personnel in the Office of Academic and Student Affairs (OASA) within CANR. Personnel from OASA then requested the information from the Office of Registrar's at MSU. The following student data was requested concerning students first and last name, gender, academic level, academic program, ethnicity, email address, personal Identification number and local address. The student data was then sent

via email as a Microsoft Excel document. Microsoft Excel 2000 software was used in managing the database. The student database consisted on all undergraduate students within CANR. Undergraduate students served as the population frame for this descriptive study. A census sample was used since characteristics of the entire population are a main concern. The sample was selected by the researcher, consisted of 2,353 undergraduates and consisted of individuals in 13 departments and 2 schools within the CANR. The participants were emailed a letter asking for their participations in completing the questionnaire. The email provided a link to a hypertext language version of the questionnaire.

Instrumentation

The design of the instrument followed recommendations described by Dillman (2000) in Mail and Telephone Surveys the Total Design Method. The survey instrument is included in Appendix A. The instrument was an adaptation of The College Student Report, NSSE's survey instrument (Kuh, 2001) and the Freshmen Agriculture Student Questionnaire (Dyer, Lacey & Osborne, 1996). The instrument was designed using Dreamweaver 11.0 software. Title selected for the cover page was College of Agriculture and Natural Resources Undergraduate Involvement Questionnaire (Appendix A). The title for the front cover was selected based on input provided by one of the reviewers serving on the panel of experts while gathering input on the face and content validity of the instrument. The instrumentation for this study was composed of a hypertext language version of a questionnaire. The instrument included open-ended and closed-ended questions.

Content

The content of the initial letter sent to participants included a brief comment asking them to participate in the survey and provided directions on how to access the questionnaire. In addition the initial email provided participants with the password: Spartan and were instructed to use lower case letters when accessing the questionnaire.

There were six sections in the undergraduate questionnaire which included the areas of engaged in college activities, engaged in educational and personal growth, cognitive development, opinions of academic programs, quality of relationships, program involvement about CANR, and demographics. These different sections consisted of Lykert scales ranging from three point, four point, and five point scales.

The first section included questions concerning with activities pertaining to class coursework. There were 25 questions in this section that were put into a Lykert scale. This section addresses the various activities that the undergraduates were involved in to determine the level of engagement within the various activities.

The second section of the undergraduate questionnaire focused on the cognitive development within the college. There were 6 questions on a five point Lykert scale from “never” to “always.”

The third section included items about educational and personal growth. The respondents were asked a series of questions regarding the extent to which CANR has contributed to their knowledge, skills and personal development in a variety of areas. There were 7 questions on a five-point Lykert scale from “never” to “always.”

The fourth section included items on program involvement. The respondents were asked how often their department or school emphasized a student support. There were 7 questions on five-point Lykert scale from “never” to “always.”

In the fifth sections students were also asked to rate their quality of relationship with other students, faculty members, administrative personal and office support staff. There were 3 questions on a five point Lykert scale from “strongly disagree” to “strongly agree.”

The fourth section included item of student attitudes and perceptions about agriculture and natural resources. These sections asked students to rate what had an influence on them to pursue a degree in the college of agriculture and natural resources. This section had questions in a five point Lykert scale from “never influenced” to “always influenced.”

Demographic information was requested including the areas of gender, age, academic level and major. The respondent selected the answer from given categories.

There were open-ended questions at the end of the questionnaire. The first question asked the respondents to state some of the positives associated with the college of agriculture and natural resources. The second open-ended question asked the respondents to state some of the negatives associated with the college of agriculture and natural resources. The third open-ended question asked the respondents if they had any additional comments regarding the college of agriculture and natural resources.

Validity and Reliability

Validity and reliability are two main important factors to recognize when designing a comprehensive questionnaire. Content and face validity were measured

through a panel of experts including faculty, administration and specialist within the Department of Agriculture and Natural Resources Education and Communication System and The Office of Academic and Student Affair in the College of Agriculture and Natural Resources. The questionnaire is an adaptation of National Study of Student Engagement (Kuh, 2001) and Freshmen Agriculture Student Questionnaire (Dyer, Lacey & Osborne, 1996).

The instrument was tested for scale reliability using Coefficients Alpha procedures as shown in Table 3.0. The questionnaire, an alpha coefficient of .85 was determined for the scale pertaining to college activities; .85 for cognitive development; .91 educational and personal growth; .77 program involvement; and .71 quality of relationships. These Cronbach Alpha values were considered adequate to establish reliability for the scales included in this study.

Table 3.0
Coefficient Alpha Reliability results

Section	N of Items	Alpha
College activities	25	.85
Cognitive development	6	.85
Educational and personal growth	18	.91
Program involvement	7	.77
Quality of relationships	3	.71

Collection of Data

Pilot test

The scales were pilot-tested for reliability with 30 undergraduates within the CANR. The pilot test group was given a paper copy of the questionnaire and instructed on how long it would take to complete the questionnaire.

An on-line questionnaire was designed by the researchers, which included an assortment of questions plus demographics. The questionnaire, written in the HTML (Hyper Text Markup Language) format, was posted on the WWW.

The data collection procedure used in this survey followed the recommendations of Dillman (2000). An initial email was sent to the participants informing them of a study that would be requesting their participation (Appendix B). Seven days after the initial email a second email was sent (Appendix B). In the second email a hyperlink was provided to participants, which directed them to the questionnaire. Once the link was connected, participants were prompted to enter the password spartan to assess and complete the questionnaire. Two weeks later a follow-up email (Appendix B) was sent thanking the respondents who completed the questionnaire. This email also instructed participants that had not completed the questionnaire to do so. The third email (Appendix B) was sent out three weeks after the initial email again thanking participants that had completed the questionnaire and asking those that had not completed the questionnaire to do so. A fourth and final email (Appendix B) was sent to participant's four weeks later instructing participants to complete the questionnaire.

Altogether 414 usable questionnaires were received from the undergraduate population, resulting in a response rate of 17% percent. The researchers recognized the need to have a higher response rate to be able to generalize findings to the population. However, early and late respondents were compared to determine if they differed significantly on selected variables under study, and no difference were observed. In this study the research dealt with non-responses using the double dipped sampling methodology. The double dipped technique further allowed the researcher to compare the

respondents and non-respondents. Table 3.1 shows the date questionnaires were received, the number received for each day, and the response rate by day. The questionnaires were date and time stamped when respondents completed the questionnaire. As shown the first questionnaires were received on February 5, 2003 and the last one was received on March 28, 2003

Data Analysis

The data were analyzed using the Statistical Package for the Social Science (SPSS). Statistical methods such as means, frequencies, percentages, cross tabs, standard deviations and t-test were used to analyze the closed –ended questions. The non-response error was dealt with through a t-test comparing responses from early and late respondents.

Table 3.1

Questionnaires by date received

Date Received	Number Received	Cumulative Running total	Date Received	Number Received	Cumulative Running total
2/5/2003	88	88	2/28/2003	1	291
2/6/2003	58	146	3/2/2003	1	292
2/7/2003	7	153	3/5/2003	16	308
2/8/2003	5	158	3/6/2003	20	328
2/9/2003	6	164	3/7/2003	5	333
2/10/2003	10	174	3/8/2003	4	337
2/11/2003	7	181	3/9/2003	4	341
2/12/2003	6	187	3/10/2003	5	346
2/13/2003	2	189	3/11/2003	4	350
2/14/2003	1	190	3/12/2003	1	351
2/15/2003	1	191	3/14/2003	2	353
2/16/2003	2	193	3/17/2003	1	354
2/17/2003	1	194	3/18/2003	7	361
2/18/2003	1	195	3/19/2003	4	365
2/19/2003	73	268	3/20/2003	7	372
2/20/2003	8	276	3/21/2003	9	381
2/21/2003	3	279	3/22/2003	2	383
2/22/2003	5	284	3/23/2003	2	385
2/23/2003	2	286	3/24/2003	22	407
2/24/2003	1	287	3/25/2003	2	409
2/25/2003	1	288	3/26/2003	2	411
2/26/2003	1	289	3/27/2003	1	412
2/27/2003	1	290	3/28/2003	2	414
			Total	414	

Chapter summary

This chapter has discussed the procedures and research methods used in this descriptive survey study. In addition this chapter described the population, design, instrumentation, data collection and data analysis methods used. Furthermore, in order to accurately assess undergraduate involvement within CANR, it was critical to adhere to proper research protocol throughout the study.

CHAPTER IV

FINDINGS

Survey data was analyzed using the Statistical Package for the Social Sciences (SPSS) 11.0. Findings are presented as follows: demographics, involved in class based activities, student interaction with faculty, participated in out of class activities, interact with diverse populations, engaging in mental activities, engaging in reading and writing, activities involved in before graduation, number of hours committed to each week, knowledge, skills and personal development, involvement in academic program, quality of academic relationships, and influence to pursue degree.

Questionnaires were sent to a total of 2353 CANR undergraduates. This represents all of the undergraduate students enrolled in the CANR in the Fall 2002 semester. Of this group, a total of 414 (17 %) responded. It is this group of 414 respondents that was used for the analyses presented in this chapter.

Demographics

Demographic data was collected from respondents relative to: gender, age, racial/ethnic background, classification in college, were they raised on a farm, complete high school courses in ANR, members of the FFA or 4-H, international student or foreign national, degree currently seeking, community size, currently living situation, did parents graduate from college, start college at M.S.U or elsewhere. Figure 4.0 depicts Undergraduate respondents by gender. As shown, males comprised 40.6% (n=168) and females 59.4% (n=246) of the respondents. An n of 414 was obtained.

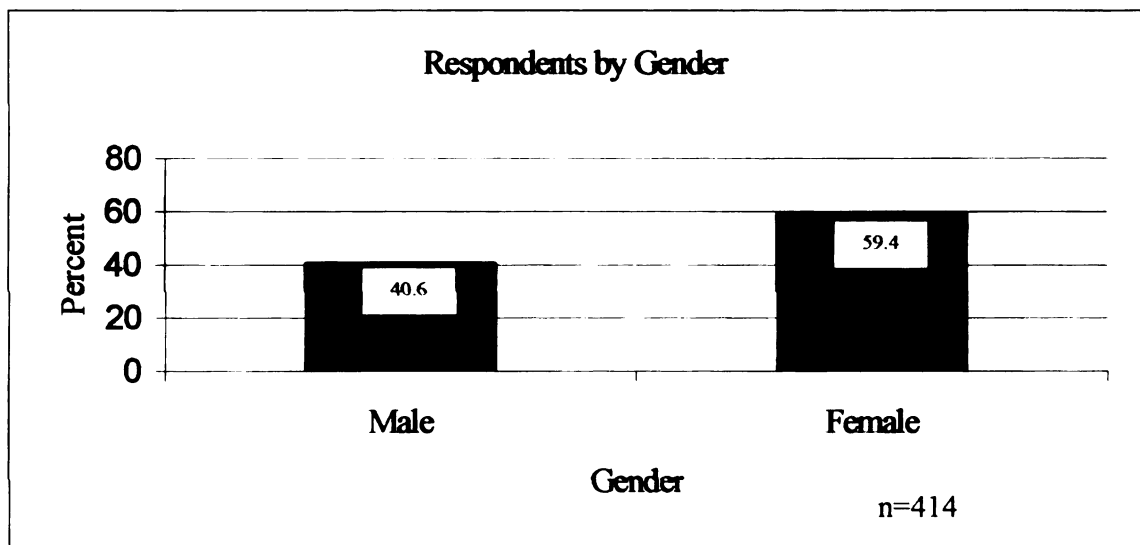


Figure 4.0 Undergraduate Respondents by Gender

Respondents were asked their ethnic background. As shown, in Table 4.0 1% (n=375) of the respondents were White/Caucasian non-Hispanic, 3.4% (n=14) Black/African American non-Hispanic, 1.2% (n=5) Chicano/Mexican American, .2% (n=1) Hispanic, .2% American Indian/Alaskan Native, 2.7%(n=11) Asian/Pacific Islander and 1.7% (n=7) Other.

Table 4.0
Participant demographics-ethnic breakdown

Ethnic Background	n=414		N=2353	
	<i>f</i>	%	<i>f</i>	%
White/Caucasian non-Hispanic	375	90.6	2071	88.01
Black/African American non-Hispanic	14	3.4	127	5.39
Chicano/Mexican American	5	1.2	14	0.59
Hispanic	1	.2	25	1.06
American Indian/Alaskan Native	1	.2	20	0.84
Asian/Pacific Islander	11	2.7	77	3.27
Other	7	1.7	-	-

There were 41.1% (n=170) were seniors, 33.6% (n=139), 14.3% (n=59) were sophomores, 7.5% (n=31) were freshman, and 3.6% (n=15) are other.

Table 4.1***Participant demographics-classification in college***

Classification in college	<i>f</i>	%	N	%
Freshman	31	7.5	211	8.96%
Sophomore	59	14.3	381	16.19%
Junior	139	33.6	806	34.25%
Senior	170	41.1	953	40.50%
Other	15	3.6		

(N=2353)

Respondents were asked to report their enrollment status Table 4.2. Finding indicates that a majority of the respondents 92.3% (n=383) were enrolled full-time. In addition 7.5% (n=31) of the respondents were attending school less than full-time.

Table 4.2***Participant demographics-enrollment status***

	Full-Time		Less than Full-Time		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	
Thinking about this current academic term, how would you characterize your enrollment?	383	92.5	31	7.5	1.07 (.26)

As shown in 4.3, 73.2% (n=303) of the respondents reported “no” when asked if they were raised on a farm. In addition, 73.2% (n=303) of the respondents reported “no” when asked if they completed any high school courses in agriculture or natural resources, while 26.8% (n=111) of the respondents that reported “yes” when asked if they completed any courses in agriculture or natural resources. Of the respondents that did complete high school courses 27.1% (n=112) report that these courses didn’t help them make a decision to study agriculture and natural resources.

Table 4.3
Participant demographics- ANR background

	Yes		No	
	<i>f</i>	%	<i>f</i>	%
Were you raised on a farm?	111	26.8	303	73.2
Did you complete any high school courses in agriculture or natural resources?	111	26.8	303	73.2
If, yes do you feel this course helped you make a decision to study in agriculture and natural resources in college?	68	16.4	112	27.1
Member of the FFA	71	17.1	343	82.9
Member of 4-H	133	32.1	281	67.9
Student organization within CANR	213	51.4	201	48.6
Student organization not associated with CANR	172	41.5	242	58.5
Student organization not associated with the university	97	23.4	317	76.6
Are you an international student or foreign national?	8	2.00	406	98.0

Respondents were asked if they had ever been a member of FFA or 4H. The respondents reported 82.9% (n=343) that they were members of FFA, 67.9% (n=281) of the respondents reported that they were members of 4-H. Respondents were asked if they were a part of a student organization within CANR, not associated with CANR, and an organization not associated with the university. In addition 51.4% (n=213) of the respondents reported that they were a part of a student organization within CANR, 58.5% (n=242) of the respondents were a part of an organization not associated with CANR and, 76.6% (n=317) of the respondents were apart of a student organization not associated with the university.

Table 4.4 highlights the degree break down of the respondents. Respondents were asked to report their primary degree that they were seeking within CANR. Findings indicate that 19% (n=80) of the respondents were majoring in packaging, 17.6% (n=73) in animal science, 9.4 % (n=39) in agribusiness management. These three degree areas had the highest number of responses. In addition, the degrees that have the highest yield

of student's college wide were as follows packaging 24.30% (n=572), animal science 12.66% (n=298) and building construction management 10.83% (n=255).

Table 4.4
Participant demographic-primary degree seeking

Degree	<i>f</i>	%	N	%
Packaging	80	19.3	572	24.30
Animal Science	73	17.6	298	12.66
Agribusiness Management	39	9.4	130	5.52
Fisheries and Wildlife	29	7.0	155	6.58
Horticulture	29	7.0	183	7.77
Agriscience	24	5.8	56	2.37
Environmental Studies and Application	24	5.8	87	3.69
Building Construction Management	22	5.3	255	10.83
Crop and Soil Sciences	20	4.8	86	3.65
Park, Recreation and Tourism Resources	16	3.9	110	7.67
Food Industry Management	14	3.4	214	9.09
Forestry	10	2.4	47	1.99
Food Science and Human Nutrition	9	2.2	40	1.69
Agriculture and Natural Resources	8	1.9	54	2.29
No preference in Agricultural and Natural Resources	6	1.4	19	0.80
Environmental Economics and Policy	5	1.2	33	1.40
Entomology	4	1.0	11	0.46
Biosystems Engineering	1	.2	-	-
Environmental Soil Science	1	.2	2	0.08
Other			1	0.04
Total	414	100.0	2353	100.0

(*f* = Frequency N = Population)

Respondents were asked if they were seeking a dual degree and a specialization. Findings indicate that 88.6% (n=367) of the respondents reported “no” when asked if they pursuing a dual degree. In addition, 63% (n=261) of reported “no” when asked if they were pursuing a specialization.

Table 4.5

Participant demographic-dual degree and specialization

	Yes		No		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	
Are you seeking a dual degree?	47	11.4	367	88.6	1.89 (.31)
Are you seeking a specialization?	153	37.0	261	63.0	1.63 (.48)

(1=yes, 2=no)

Respondents were asked where they started college at MSU or elsewhere.

Findings indicate that a majority of the respondents 70.5% (n=292) started their college experience as MSU. 24.2% (n=100) of the respondents started college at a community or junior college.

Table 4.6

Participant demographics-college attendance

	Other		Started at MSU		Vocational-technical school		Community junior college	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Did you start college at M.S.U or elsewhere?	19	4.6	292	70.5	2	.5	100	24.2

Respondents were asked if they started their degree in the CANR or another college. Findings indicate that 52.2% (n=216) of the respondents started their degree in CANR, while 47.8% (n=198) of the respondents reported that they transferred into CANR from another college.

Table 4.7
Participant demographics-degree acceptance

	Started in CANR		Transferred into CANR from another college	
	<i>f</i>	%	<i>f</i>	%
Did you start your degree in the College of Agriculture and Natural Resources or another college?	216	52.2	198	47.8

Respondents were asked if they had any work experience in agriculture or natural resources. Findings indicate that 43.5% (n=180) of respondents did not have any experience in agriculture where 35% (n=145) of the respondents report that they had both paid and unpaid work experience in agriculture. In addition 59.2% (n=245) of the respondents reported that they did not have any experience in natural resources.

Table 4.8
Participant demographics-ANR experience

	None		Paid work experience		Unpaid work experience		Both paid and unpaid work experience	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
What type of experience do you have in Agriculture?	180	43.5	65	15.7	24	5.8	145	35.0
What type of experience do you have in Natural Resources?	245	59.2	56	13.5	47	11.4	66	15.9

Respondents were asked if they intend to pursue a career in agriculture or natural resources while 50.2% (n=208) of the respondents intend to pursue a career in agriculture, 49.8% (n=206) of the respondents report “no” when asked if they were pursuing a degree in agriculture. In addition 55.3% (n=229) of respondents report “no” when asked if they would pursue a career in natural resources.

Table 4.9

Participant demographics-career choice

	Yes		No		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	
Do you intend to pursue a career in Agriculture related area as a career choice	208	50.2	206	49.8	1.50 (.50)
Do you intend to pursue a career in Natural Resources related area as a career choice?	185	44.7	229	55.3	1.55 (.49)

Respondents were asked what size of a community they were from. Figure 4.1 depicts the size of the community respondents were from. Findings indicate that a majority of the respondents 46.1% (n=191) were from a small town with a population less than 10,000 while 26.3% (n=109) of the respondents were from a medium urban neighborhood of a population between 10,000-99,999.

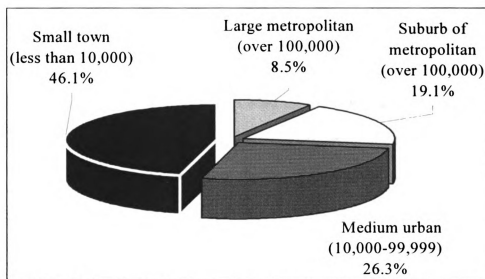


Figure 4.1 Breakdown of community size of respondents

Finding further indicated that 19.1% (n=79) of the respondents were from a suburb of a metropolitan city with a population over 100,000 while 8.5% of the respondents were from a large metropolitan city with a population over 100,000.

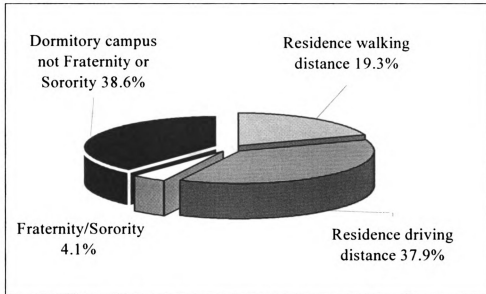


Figure 4.2 MSU undergraduate students by place of residency

Respondents were asked to report their place of residency while attending MSU. Figure 4.2 depicts MSU undergraduate students by place of residency with 38.6% (n=160) living within a dormitory or other campus housing (not fraternity/sorority), 37.9% (n=157) live within residence (house, apartment, etc.) within driving distance, 19.3% (n=80) live within residence (house, apartment, etc.) within walking distance and 4.1% (n=17) living within fraternity or sorority housing.

Table 4.10

Participant demographics-parental education level

	No		Yes, Father only		Yes, both parents		Yes, mother only	
	f	%	f	%	f	%	f	%
Did either of your parents graduate from college? (n=412)	143	34.5	63	15.2	147	35.5	59	14.3

Respondents were asked if their parents graduated from college Table 4.10.

Findings indicate that 35.5% (n=147) of the respondents reported that both of their parents had graduated while 34.5% (n=34.5) of the respondents reported that neither of their parents had graduated. In addition 15.2% (n=63) reported that their father graduated, 14.3% (n=14.3) report that their mother had graduated.

Involved in class based activities

Respondents were asked how often they participated in class activities Table 4.11.

Findings indicate that 73.7%(n=305) of the respondents “sometime” to “often” work on a papers or projects that required integrating ideas or information from various sources as shown in Table 4.11 Respondents were also asked how often they worked with other students on projects during class 76.8% (n=318) indicated that “sometime” to “often” do so. In addition respondents reported that 74.4% (n=308) have “sometime” to “often” worked with classmates outside of class to prepare class assignments. Finding also indicate that 78.7% (n=326) of the respondents “sometime” and “often” put together ideas or concepts from different courses when completing assignments while over 81.9% (n=339) of the respondents “sometimes” to “never” contribute to class discussions.

Table 4.11
Involved in class based activities

Question	Never		Seldom		Sometimes		Often		Always		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
Worked on a paper or project that required integrating ideas or information from various sources	18	4.3	34	8.2	122	29.5	183	44.2	57	13.8	3.55 (.97)
Worked with other students on projects during class	23	5.6	25	6.0	145	35.0	173	41.8	48	11.6	3.48 (.96)
Worked with classmates outside of class to prepare class assignments	18	4.3	54	13.0	130	31.4	178	43.0	34	8.2	3.38 (.96)
Put together ideas or concepts from different courses when completing assignments or during class discussions	14	3.4	45	10.9	152	36.7	174	42.0	29	7.0	3.38 (.89)
Worked harder than you thought you could to meet an instructor's standards or expectations	18	4.3	72	17.4	195	47.1	104	25.1	25	6.0	3.11 (.91)
Asked questions in class	25	6.0	81	19.6	176	42.5	97	23.4	35	8.5	3.09 (1.00)
Used an electronic medium to discuss or complete an assignment.	67	16.2	65	15.7	106	25.6	120	29.0	56	13.5	3.08 (1.27)
Made a class presentation	65	15.7	76	18.4	134	32.4	111	26.8	28	6.8	2.91 (1.16)
Came to class without completing readings or assignments	26	6.3	117	28.3	177	42.8	88	21.3	6	1.4	2.83 (.88)
Prepared two or more drafts of a paper or assignment before turning it in	70	16.9	105	25.4	117	28.3	92	22.2	30	7.2	2.78 (1.18)
Contributed to class discussions	116	28.0	67	16.2	156	37.7	30	7.2	45	10.9	2.57 (1.26)

(1=Never, 2=Seldom, 3=Sometimes, 4=Often, 5=Always)

Student- Faculty Interaction

Questions about how often student interact with faculty were asked using a Lykert-type scale and included items such as used e-mail to communicate with an instructor, discussed assignments and grades, and discussed class readings Table 4.12.

The majority of the respondents 89.6% (n=371) “sometimes” to “always” used e-mail to communicate with an instructor. Findings also indicate that 74.7% (n=309) of the respondents “sometime” to “often” have received prompt feedback from faculty on academic performance. When respondents were asked how often do they discuss assignments and grades with an instructor 64.7% (n=268) reported that they “sometimes” to “often” interact with instructors while over 76.4% (n=316) of the respondents have “seldom” to “never” conduct research with a faculty member.

Table 4.12

Student-faculty related activities

Question	Never		Seldom		Sometimes		Often		Always		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
Used e-mail to communicate with an instructor	12	2.9	31	7.5	103	24.9	149	36.0	119	28.7	3.80 (1.03)
Received prompt feedback from faculty on your academic performance	16	3.9	59	14.3	158	38.2	151	36.5	30	7.2	3.29 (.93)
Discussed assignments and grades with an instructor	22	5.3	81	19.6	162	39.1	106	25.6	43	10.4	3.16 (1.02)
Talked about career plans with an advisor	47	11.4	96	23.2	127	30.7	107	25.8	37	8.9	2.98 (1.14)
Talked about career plans with a faculty member	84	20.3	92	22.2	109	26.3	98	23.7	31	7.5	2.76 (1.23)
Worked with faculty members on activities other than coursework	150	36.2	96	23.2	79	19.1	68	16.4	21	5.1	2.31 (1.25)
Discussed ideas from your readings or classes with faculty members outside of class	115	27.8	152	36.7	102	24.6	41	9.9	4	1.0	2.20 (.98)
Conducted research with a faculty member	257	62.1	59	14.3	50	12.1	31	7.5	17	4.1	1.77 (1.16)

(1=Never, 2=Seldom, 3=Sometimes, 4=Often, 5=Always)

Table 4.13
Out of class activities

	Never		Seldom		Sometimes		Often		Always		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
Discussed ideas from your readings or classes with others outside of class	17	4.1	66	15.9	151	36.5	146	35.3	34	8.2	3.28 (.96)
Tutored or taught other students (paid or voluntary)	170	41.1	122	29.5	88	21.3	27	6.5	7	1.7	1.98 (1.01)
Participated in a community-based project as part of a regular course	246	59.4	88	21.3	55	13.3	20	4.8	5	1.2	1.67 (.96)

(1=Never, 2=Seldom, 3=Sometimes, 4=Often, 5=Always)

Participated in out of class activities

Respondents were asked to report how often they participated in outside class activities Table 4.13. Findings indicate that 71.8% (n=297) “sometimes to “often” discuss ideas and readings with others out of class. Findings further indicate that 70.6% (n=292) of the respondents have “seldom” to “never” tutored or taught other students. In addition 80.7% (n=334) of the respondents “seldom” to “never” participate in community based project as part of a course.

Interact with diverse populations

Respondents were asked how often they interacted with diverse populations Table 4.14. Findings indicate that 60.6% (n=251) of the respondents “sometime” to “often” had conversation with students who were different in terms of religious beliefs, political opinions, or personal values. When the respondents were asked if they had serious conversations with students of a different race or ethnicity than their own 31.4% (n=130)

stated “sometimes” while 65.9% (n=273) of the respondents “sometimes” to seldom” include diverse perspectives in class discussions and writing assignments.

Table 4.14
Interaction with diverse populations

	Never		Seldom		Sometimes		Often		Always		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	31	7.5	88	21.3	152	36.7	99	23.9	44	10.6	3.09 (1.08)
Had serious conversations with students of a different race or ethnicity than your own	46	11.1	99	23.9	130	31.4	92	22.2	47	11.4	2.99 (1.16)
Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions and writing assignments	47	11.4	125	30.2	148	35.7	76	18.4	18	4.3	2.74 (1.02)

(1=Never, 2=Seldom, 3=Sometimes, 4=Often, 5=Always)

Table 4.15

Cognitive development

Question	Never		Seldom		Sometimes		Often		Always		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
Comprehend facts, ideas, or methods from your course and readings so you can grasp meaning, explain and restate ideas	1	.2	9	2.2	75	18.1	246	59.4	83	20.0	3.97 (.70)
Analyze the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components	2	.5	28	6.8	125	30.2	203	49.0	56	13.5	3.68 (.80)
Applied theories or concepts to practical problems or in new situations	6	1.4	34	8.2	138	33.3	181	43.7	55	13.3	3.59 (.87)
Memorized facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	8	1.9	42	10.1	148	35.7	175	42.3	41	9.9	3.48 (.87)
Making judgments about the value of information, arguments, or methods such as examining how others gathered and interpreted data and assessing the soundness of their conclusions	13	3.1	57	13.8	145	35.0	158	38.2	41	9.9	3.38 (.94)
Synthesized and organizing ideas, information, or experiences into new, more complex interpretations and relationships	11	2.7	61	14.7	150	36.2	156	37.7	36	8.7	3.35 (.92)

(1=Never, 2=Seldom, 3=Sometimes, 4=Often, 5=Always)

Engaging in mental activities

Respondents were asked during the school year, to what extent has their coursework focused on comprehending fact, analyzing ideas, applying theory, memorizing facts, making judgments and synthesizing and organizing ideas Table 4.15.

Finding indicate that 79.4% (n=329) of the respondents report that their coursework

“often” to always” focuses on the comprehension facts. Respondents further report that 79.2% (n=328) of their coursework “sometimes” to “often” requires them to analyze basic elements of an idea, experience, or theory. 77% (n=319) of the respondents report that their coursework “sometimes” to “often” requires them to apply theory or concepts to practical problems or in new situations. 78% (n=323) of the respondents report that their coursework “sometimes” to “often” required them to memorize facts and ideas. Finding indicate that 73.2% (n=303) of respondents report that their coursework “sometimes” to “often” required them to make judgments about the value of information, arguments, or methods such as examining how others gathered and interpreted data. Lastly, respondents reported that 73.9% (n=306) of their coursework has “sometimes” to “often” emphasized synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships.

Engaging in reading and writing

Respondents were asked during the current school year how much reading and writing have they done Table 4.16. Finding indicate that 67.4% (n=279) of the respondents have written “between 1 and 10” papers or reports 5 pages or fewer. Respondents further indicate that 84.3% (n=349) have read “between 1 and 10” textbooks, books, or book-length packs of course readings. In addition 80.7% (n=334) of the respondents report that they have read “between 1 and 4” to “none” books for personal enjoyment or academic enrichment while 68.8% (n=285) of the respondents report “none” when asked how many written papers or reports of 20 pages or more have done during the current school year.

Table 4.16
Engaging in reading and writing

	None		Between 1 and 4		Between 5 and 10		Between 11 and 20		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
Number of written papers or reports 5 pages or fewer	30	7.2	136	32.9	143	34.5	105	25.4	2.78 (.90)
Number of assigned textbooks, books, or book-length packs of course readings	15	3.6	192	46.4	157	37.9	50	12.1	2.58 (.74)
Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	111	26.8	223	53.9	59	14.3	21	5.1	1.98 (.79)
Number of written papers or reports of 20 pages or more	285	68.8	118	28.5	10	2.4	1	.2	1.34 (.53)

(1=None, 2=Between 1 and 4, 3=Between 5 and 10, 4=Between 11 and 20)

Activities involved in before graduation

Respondents were asked which of the following activities in Table 4.17 do they planned to be involved in before they graduate. Finding indicate that 88.9% (n=368) of the respondents stated “yes” they plan to be involved in a practicum, internship, field experience, or co-op experience. In addition 71.7% (n=297) of the respondents stated “yes” when ask if they will be doing community service or volunteer work. 43% (n=178) of the respondents when asking if they will be participating in an independent study or self-designed course report “no.” The finding further indicate 48.1% (n=199) of the respondents stated “no” when asked if they will be participating in a learning community, 45.7 % (n=189) will not participate in study abroad, and 64% (n=265) will not participate in foreign language coursework.

Table 4.17
Pre-graduation involvement

	Yes		No		Undecided		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
Practicum, internship, field experience, or a co-op experience	368	88.9	21	5.1	25	6.0	.99 (.51)
Community service or volunteer work	297	71.7	57	13.8	60	14.5	.99 (.73)
Work on a research project with a faculty member outside of course or program requirements	135	32.6	175	42.3	104	25.1	1.17 (.75)
Independent study or self-designed course	131	31.6	178	43.0	105	25.4	1.18 (.75)
Participate in a learning community or some other formal program where groups of students take two or more classes together	108	26.1	199	48.1	107	25.8	1.22 (.72)
Study abroad	139	33.6	189	45.7	86	20.8	1.25 (.72)
Foreign language coursework	83	20.0	265	64.0	66	15.9	1.48 (.59)

(0=Undecided 1=Yes, 2=No)

Number of hours committed to each week

Respondents were asked how many hours in a typical 7 day week do they spend involved the activities shown in Table 4.18. Findings indicated that 64.1 % (n=265) of the respondents will spend between “6 and 20” hours a week relaxing and socializing. In addition 78.3% (n=324) of the respondents spend between “1 and 15” hours a week preparing for class. Findings further indicate that 61.4% (n=254) of the respondents will not work any hours off campus. While, 78.5% (n=325) of the respondents will spend between “1 and 10” hours a week commuting to class. When respondents were asking how many hours will they spend during a week involved in community service 65% (n=269) will not spend any time in such activities.

Knowledge, skills and personal development

Respondents were asked how their educational experience has contributed to their knowledge, skills and personal development in the following areas listed in Table 4.19. Findings indicate that 94.2% (n=390) of the respondents “sometimes” to “always” report that their educational experience has emphasized working effectively with others. Findings further indicate that 92.7% (n=321) of respondents report that their educational experience has “sometimes” to “always” focus on acquiring job or work-related knowledge and skills. While 79.9% (n=331) of the respondents report that their educational experience has “sometimes” to “often” provided them with a broad and general education. Findings depict that 70.2% (n=291) of the respondents report that their educational experience “sometimes” to “often” has helped them to write clearly and effectively. When respondents were asked if their educational experience has helped them solve complex real-world problems 70.5% (n=292) report “sometimes” to “often”. In addition, 60.4% (n=250) of respondents report that their educational experience has “sometimes” to “seldom” helped them understand people of other racial groups. 64% (n=265) of respondents report that their educational experience has “sometimes” to “seldom” helped them understand people of other ethnic backgrounds while 83.8% (n=347) of the respondents report that their educational experience has “sometimes” to “never” contributed to their understanding people of other sexual-orientations.

Table 4.18

<i>Commitment of time</i>		0		1-5		6-10		11-15		16-20		21-25		26-30		30+		Mean	S.D.
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>		
Relaxing and socializing (watching TV, partying, exercising, etc.)	4	1.0	83	20.0	105	25.4	100	24.2	60	14.5	35	8.5	8	1.9	19	4.6	3.87	1.58	
Preparing for class (studying, reading, writing, and other activities related to your academic program)	2	.5	81	19.6	144	34.8	99	23.9	44	10.6	24	5.8	13	3.1	7	1.7	3.63	1.39	
Working for pay on campus	218	52.7	20	4.8	53	12.8	57	13.8	38	9.2	16	3.9	6	1.4	6	1.4	2.47	1.82	
Working for pay off campus	254	61.4	30	7.2	30	7.2	28	6.8	33	8.0	10	2.4	12	2.9	17	4.1	2.32	2.04	
Participating in extra curricular activities (organizations, campus publications, student government, etc.)	107	25.8	201	48.6	64	15.5	18	4.3	22	5.3	—	—	—	—	2	.5	2.17	1.10	
Commuting to class	66	15.9	247	59.7	78	18.8	18	4.3	3	.7	1	.2	1	.2	0	0	2.16	.81	
Community service working not for pay on campus	269	65.0	124	30.0	16	3.9	3	.7	—	—	2	.5	—	—	0	0	1.42	.68	

Table 4.19

Knowledge, skills and personal development

	Never		Seldom		Sometimes		Often		Always		Mean	SD
	f	%	f	%	f	%	f	%	f	%		
Work effectively with others	7	1.7	17	4.1	101	24.4	195	47.1	94	22.7	3.85	.87
Acquire job or work-related knowledge and skills	9	2.2	21	5.1	97	23.4	204	49.3	83	20.0	3.80	.89
Acquire a broad general education	3	.7	15	3.6	128	30.9	203	49.0	65	15.7	3.75	.78
Think critically and analytically	7	1.7	13	3.1	129	31.2	199	48.1	66	15.9	3.73	.82
Learn effectively on your own	8	1.9	23	5.6	123	29.7	193	46.6	67	16.2	3.70	.87
Using computing and information technology	5	1.2	50	12.1	118	28.5	161	38.9	80	19.3	3.63	.96
Develop leadership skills	15	3.6	39	9.4	145	35.0	136	32.9	79	19.1	3.54	1.01
Analyze quantitative problems	5	1.2	39	9.4	148	35.7	182	44.0	40	9.7	3.51	.84
Understand yourself	21	5.1	50	12.1	123	29.7	156	37.7	64	15.5	3.46	1.05
Speak clearly and effectively	11	2.7	47	11.4	170	41.1	139	33.6	47	11.4	3.40	.92
Write clearly and effectively	10	2.4	62	15.0	160	38.6	131	31.6	51	12.3	3.36	.96
Solve complex real-world problems	19	4.6	65	15.7	148	35.7	144	34.8	38	9.2	3.28	.98
Develop a personal code of values and ethics	40	9.7	62	15.0	129	31.2	132	31.9	51	12.3	3.22	1.14
Contribute to the welfare of your community	56	13.5	100	24.2	144	34.8	88	21.3	26	6.3	2.83	1.10
Understand people of other racial (Black, Caucasian, Asia etc.)	60	14.5	110	26.6	140	33.8	79	19.1	25	6.0	2.76	1.10
Understand people of other ethnic backgrounds (French, African, Polish, Mexican etc.)	57	13.8	113	27.3	152	36.7	70	16.9	22	5.3	2.73	1.06
Vote in local, state, or national elections	134	32.4	101	24.4	94	22.7	54	13.0	31	7.5	2.39	1.26
Understand people of other sexual-orientations	122	29.5	121	29.2	104	25.1	48	11.6	19	4.6	2.33	1.14

(1=Never, 2=Seldom, 3=Sometimes, 4=Often, 5=Always)

Table 4.20
Academic program

Question	Never		Seldom		Sometimes		Often		Always		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
Career, internship opportunities	5	1.2	26	6.3	73	17.6	167	40.3	143	34.5	4.01 (.94)
Providing the support you need to help you succeed academically	9	2.2	26	6.3	100	24.2	186	44.9	93	22.5	3.79 (.93)
Involvement in student organizations	10	2.4	41	9.9	105	25.4	168	40.6	90	21.7	3.69 (.99)
Attending campus events and activities (special speakers, cultural performances, athletic events, etc.)	28	6.8	72	17.4	148	35.7	123	29.7	43	10.4	3.20 (1.05)
Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	51	12.3	128	30.9	130	31.4	81	19.6	24	5.8	2.76 (1.08)
Providing the support you need to thrive socially	53	12.8	116	28.0	148	35.7	72	17.4	25	6.0	2.76 (1.07)
Helping you cope with your non-academic responsibilities (work, family, etc.)	95	22.9	143	34.5	108	26.1	50	12.1	18	4.3	2.40 (1.09)

(1=Never, 2=Seldom, 3=Sometimes, 4=Often, 5=Always)

Involvement in academic program

Respondents were asked to what extent their department emphasized the areas listed in Table 4.20. Findings indicate 74.8% (n=310) of respondents report that their department emphasized career and internship opportunities. A majority of the respondents 91.6% (n=379) report that their department “sometimes” to “always” provided the support needed to succeed academically. 66% (n=273) of the respondents report their department “sometimes” to “often” emphasized involvement in student

organizations. Findings also indicate 74.6% (n=309) of the respondents report that their department “sometimes” to “never” encouraged contact among students from different economic, social, and racial or ethnic grounds. In addition 83.5% (n=346) of the respondents report their department “sometimes” to “never” help students cope with non-academic responsibilities.

Table 4.21
Supportive relationships

	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Mean (SD)
	f	%	f	%	f	%	f	%	f	%	
Your relationships with other student were supportive	3	.7	6	1.4	47	11.4	217	52.4	141	34.1	4.18 (.74)
Your relationships with Faculty Members were supportive	6	1.4	9	2.2	60	14.5	196	47.3	143	34.5	4.11 (.83)
Your relationships with Administrative Personnel and Offices were supportive	7	1.7	17	4.1	126	30.4	173	41.8	91	22.0	3.78 (.89)

(1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree)

Quality of academic relationships

Respondents were asked to rate their quality of relationship with people in their department Table 4.21. Finding indicate 86.5% (n=358) of respondents “agree” to “strongly agree” that the relationships in their departments with other students were supportive. 81.8% (n=339) of respondents “agree” to “strongly agree” that the relationships with faculty member were supportive. In addition, 72.2% (n=299) of the respondents report “neutral” to “agree” when asked if relationships with administrative personnel and office staff were supportive.

Table 4.22

Evaluation of educational experience

	Poor		Fair		Good		Excellent		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
How would you evaluate your educational experience thus far	6	1.4	89	21.5	241	58.2	78	18.8	2.94 (.67)

(1=Poor, 2=Fair, 3=Good, 4=Excellent)

Evaluation of educational experience

Respondents were asked to evaluate their education experience and 79.7% (n=330) reported that their experience was rated from “good” to “fair” Table 4.22.

Table 4.23

Desire to pursue degree

	Definitely no		Probably no		Probably yes		Definitely yes		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
If you could start over again, would you pursue the same degree you are now pursuing?	18	4.3	42	10.1	177	42.8	177	42.8	3.24 (.80)

(1=Definitely no, 2=Probably no, 3=Probably yes, 4=Definitely yes)

Desire to pursue degree

Respondents were asked if they were to start school all over again would they pursue the same degree Table 4.23. Findings indicate that 85.6 % (n=354) of the respondents report “probably yes” to “definitely yes” in that they would pursue the same degree again.

Table 4.24
Influence degree enrollment

	Never Influenced		Seldom Influenced		Sometime Influenced		Often Influenced		Always Influenced		Mean (SD)
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
Career opportunities	22	5.3	42	10.1	102	24.6	155	37.4	93	22.5	3.62 (1.10)
Positive reputation of college faculty	73	17.6	57	13.8	88	21.3	146	35.3	50	12.1	3.10 (1.29)
Relative	158	38.2	74	17.9	67	16.2	77	18.6	38	9.2	2.43 (1.39)
Teacher/Counselor	139	33.6	80	19.3	99	23.9	71	17.1	25	6.0	2.43 (1.27)
Friend	177	42.8	63	15.2	83	20.0	68	16.4	23	5.6	2.27 (1.31)
Mentor	180	43.5	84	20.3	78	18.8	52	12.6	20	4.8	2.15 (1.24)
Agriculture teacher	228	55.1	64	15.5	52	12.6	39	9.4	31	7.5	1.99 (1.31)
Financial aid/scholarship	217	52.4	91	22.0	52	12.6	43	10.4	11	2.7	1.89 (1.13)
Brother/Sister	264	63.8	60	14.5	49	11.8	26	6.3	15	3.6	1.71 (1.12)

(1=Never, 2=Seldom, 3=Sometime, 4=Often, 5=Always)

Influence to pursue degree

Respondents were asked what influenced them the most to pursue a degree in the CANR Table 4.24. Findings indicate that 84.5% (n=350) of the respondents report “career opportunities” as an influence “sometimes” to “always.” In addition 68.7% (n=284) of respondents report “positive reputation of college faculty” as an influence “sometimes” to “always.” Respondents report 63.8% (n=264) that a mentor “seldom influenced” to “never influenced” them to pursue a degree in CANR. Findings further indicate 70.6% (n=292) of the respondents report “seldom” to “never” influenced by an “agriculture teacher” when pursuing a degree in the CANR.

CHAPTER V

SUMMARY/CONCLUSIONS/RECOMMENDATIONS

Summary

The purpose of this study was to assess the undergraduate experience within the College of Agriculture and Natural Resources. To achieve this purpose the following objectives guided this study:

1. To measure the level of academic challenge that CANR students encounter;
2. To assess the level of opportunity that CANR students have to experience active and collaborative learning;
3. To ascertain the level of student—faculty interaction;
4. To measure CANR student level of participation with enriching educational experiences;
5. To assess CANR student's level of awareness of various supportive campus environments.

The population of this study consisted of 2,353 CANR undergraduates in the fall 2002 summer from all departments and schools within the college.

The instrumentation for the study was a web based questionnaire. Participants were provided with the hyperlink to web site where the questionnaire was located. Participants were asked to enter MSU Personal Identification Number the password Spartan that was provided to them in the initial mail. The instrument included both open-ended and closed questions. The instrument was an adaptation of The College Student Report, NSSE's survey instrument (Kuh, 2001) and the Freshmen Agriculture Student Questionnaire (Dyer, Lacey and Osborne, 1996). Content and face validity was measured

through a panel of experts including faculty, administration and specialist within the within the Department of Agriculture and Natural Resources Education and Communication System and The office of Academic and Student Affair in the College of Agriculture and Natural Resources.

There were four emails sent to the participants. The first email was sent to all undergraduates in the CANR and informed them that in the weeks ahead there would be a survey requesting their participation. The second included an email cover letter with a link to the questionnaire. A follow-up email letter thanking the respondents and asking those who had not completed the questionnaire sent out two weeks after the second mailing. The third and final mailing was sent out asking those who had not responded to do so three weeks after the initial email.

Altogether, 414 usable questionnaires were received from the undergraduate population resulting in a response rate of 17 percent. The researchers identify the need to have a higher response rate to be able to generalize findings to the population.

In this study the research dealt with non-responses using the double dipped sampling methodology. The double dipped technique further allowed the researcher to compare the respondents and non-respondents.

Conclusions

Conclusions are limited to CANR undergraduates in the fall 2002 and are based on findings from this study.

1. To measure the level of academic challenges that CANR student's encounter.

Questions were asked concerning the undergraduate's opinion of the academic challenge that they encounter within the CANR. Findings indicated that undergraduate

“sometimes” worked harder than they thought they could to meet an instructor’s standards or expectations. Undergraduates further reported that they often are challenged to think critically and analytically. Undergraduates often work on papers or projects that required integrating ideas or information from various sources. Undergraduates report that their coursework often requires them to 1) comprehend facts; 2) analyze basic elements of an idea, experience, or theory; 3) apply theory or concepts to practical problems or in new situations; 4) memorize facts and ideas; 5) make judgments about the value of information, arguments, or methods; 6) and synthesize or organize ideas, information, or experiences into new, more complex interpretations and relationships. In addition, undergraduates report that CANR frequently provided the support needed to help you succeed academically.

2. To assess the level of opportunity that CANR students have to experience active and collaborative learning.

Undergraduates report that they are often presented with the opportunities to work with other students on projects during class while a majority of undergraduates will not participate in a practicum, internship, field experience, or a co-op experience. In addition the majority will not participate in community service or volunteer work nor will they participate in a learning community or some other formal program where groups of students take two or more classes together. In addition a majority of the undergraduates will never participate in a community-based project as part of a regular course.

3. To ascertain the level of student—faculty interaction.

A majority of the undergraduate students continue to utilize email to interaction with faculty. Undergraduates further reported that they often receive prompt feedback from

faculty on their academic performance. In addition undergraduates often discuss assignments and grades with instructors. The majority of undergraduates report that they had a supportive relationship with faculty members within CANR while undergraduates seldom work with faculty on activities other than coursework (committees, orientation, student life activities, etc.). Undergraduates rarely discuss ideas from readings or classes with faculty members outside of class nor do they talk about career plans. The majority further indicate that they never conducted research with a faculty member.

4. To measure CANR student level of participation with enriching educational experiences;

Undergraduate sometimes go to class without completing readings or assignments. In addition they seldom prepare two or more drafts of a paper or assignment before turning it in. A majority of undergraduates rarely have the chance to give a class presentation. Findings further indicated that undergraduates hardly ever tutor or teach other students (paid or voluntary). The Undergraduate majority also spend between 1 and 15 hours a week preparing for class (studying, reading, writing, and other activities related to your academic program) and 0 to 5 hours participating in extra curricular activities (organizations, campus publications, student government, etc.).

Undergraduates will engage in writing 1 to 10 papers or reports of 5 pages or fewer in a school year. They will also engage in reading 1 to 10 assigned textbooks, books, or book length packs of course readings while a majority of undergraduates were not actively in a study abroad experience nor were they engaged in independent study or self-designed course. In addition the undergraduate majority were not engaged in student organization not associated with CANR or student organization not associated with the

university while a majority of students were engaged in a student organization within CANR. Undergraduates report that their departments will frequently encourage them to attend campus events and activities (special speakers, cultural performances, athletic events, etc.). In addition their departments will sometimes encourage them to interact with students from different economic, social, and racial or ethnic backgrounds.

5. To assess CANR student's level of awareness of various supportive campus environments.

Undergraduates reported that they sometimes had serious conversations with students who are very different from themselves in terms of their religious beliefs, political opinions, personal values, race, or ethnicity than their own. In addition undergraduates infrequently include diverse perspectives (different races, religions, gender, political beliefs, etc.) in class discussions and writing assignments.

Undergraduates reported that CANR has slightly contributed to their knowledge, skills and personal understanding of people of other racial and ethnic groups. The majority reports that CANR has rarely helped them understand people of other sexual-orientations. In addition undergraduates report that CANR sometimes provides the support needed to thrive socially while the majority of undergraduates report that CANR rarely helps you cope with non-academic responsibilities (work, family, etc.).

Recommendations

In the area of educational experience a majority of the respondents indicated that they lack experience in agriculture or natural resources. In addition a majority of the respondents were not raised on a farm nor did respondent take high school courses in agriculture or natural resources. Findings further indicate that the majority of respondents

were not apart of FFA or 4-H. Recommendations are to encourage students to seek opportunities to gain educational experience in agriculture and natural resources.

In the area of community service a majority of the respondents are involved in community service or volunteer work. In addition, they will not perform a community-based project as part of a regular course. In addition students will not spend any time in community service work not for pay on campus. Recommendations are to develop additional community based course projects for students to be engaged.

Respondents reported that they perceive their relationships with faculty members, administrative personnel and office staff as supportive while respondents report that they were rarely provided the support needed to thrive socially or help cope with non-academic responsibilities (work, family, etc.). Recommendations are to facilitate discussion with respondents to better understand the resources needed by students.

Respondents reported that the CANR has provided them with the experience to work effectively with others. In addition, respondents report that they seldom included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions and writing assignments. In addition respondents report that CANR rarely provides them with the knowledge needed to understand people of other ethnic background or sexual orientations. Recommendations include emphasizing and encouraging diverse perspective in classroom discussions.

Recommendations for Further Research

Additional areas of research may consist of:

1. Utilizing this study as bases in which to analyze future levels of involvement of agriculture and natural resources students.
2. Further evaluations of undergraduate to ascertain how student involvement can lead to a higher quality institution.
3. A follow-up study of CANR undergraduates focusing on the impact of institutional engagement.

Appendix A: Questionnaire

Dear Students,

Thank you for taking the time to express your opinion of undergraduate education within the College of Agriculture and Natural Resources. **Instructions:** The survey will take approximately 30 minutes to complete. Please read each question carefully before selecting your answers. **Place an X in the box that best represents your answer.**

College Activities Items

1. In your experience in the College of Agriculture and Natural Resources (CANR) during the current school year, about how often have you done each of the following?	Never	Seldom	Sometimes	Often	Always
a. Asked questions in class					
b. Contributed to class discussions					
c. Conducted research with a faculty member					
d. Made a class presentation					
e. Prepared two or more drafts of a paper or assignment before turning it in					
f. Worked on a paper or project that required integrating ideas or information from various sources					
g. Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions and writing assignments					
h. Came to class without completing readings or assignments					
i. Worked with other students on projects during class					
j. Worked with classmates outside of class to prepare class assignments					
k. Put together ideas or concepts from different courses when completing assignments or during class discussions					
l. Tutored or taught other students (paid or voluntary)					
m. Participated in a community-based project as part of a regular course					
n. Used an electronic medium (list-serv, chat group, Internet, etc.) to discuss or complete an assignment.					
o. Used e-mail to communicate with an instructor					
p. Discussed assignments and grades with an instructor					
q. Talked about career plans with an advisor					
r. Talked about career plans with a faculty member					

100

	2
	b
	c
	d
	e.
f.	

In your experience in the College of Agriculture and Natural Resources during the current school year, about how often have you done each of the following?	Never	Seldom	Sometimes	Often	Always
a. Discussed ideas from your readings or classes with faculty members outside of class					
b. Received prompt feedback from faculty on your academic performance (written or oral)					
c. Worked harder than you thought you could to meet an instructor's standards or expectations					
d. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)					
e. Discussed ideas from your readings or classes with others outside of class (students, family members, coworkers, etc.)					
f. Had serious conversations with students of a different race or ethnicity than your own					
g. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values					

2. During the current school year, to what extent has your coursework emphasized the following mental activities in your department or school within CANR?	Never	Seldom	Sometimes	Often	Always
a. Memorized facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form					
b. Comprehend facts, ideas, or methods from your course and readings so you can grasp meaning, explain and restate ideas					
c. Analyze the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components					
d. Synthesized and organizing ideas, information, or experiences into new, more complex interpretations and relationships					
e. Making judgments about the value of information, arguments, or methods such as examining how others gathered and interpreted data and assessing the soundness of their conclusions					
f. Applied theories or concepts to practical problems or in new situations					

3. During the current school year, about how much reading and writing have you done pertaining to coursework within Department or School within CANR?	None	Between 1 and 4	Between 5 and 10	Between 11 and 20
a. Number of assigned textbooks, books, or book-length packs of course readings				
b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment				
c. Number of written papers or reports of 20 pages or more				
d. Number of written papers or reports 5 pages or fewer				

4. Which of the following have you done or do you plan to do before you graduate?	Yes	No	Undecided
a. Practicum, internship, field experience, or a co-op experience			
b. Community service or volunteer work			
c. Participate in a learning community or some other formal program where groups of students take two or more classes together			
d. Work on a research project with a faculty member outside of course or program requirements			
e. Foreign language coursework			
f. Study abroad			
g. Independent study or self-designed course			

5. About how many hours do you spend in a typical 7-day week doing each of the following?	# of hours per week							
	0	1-5	6-10	11-15	16-20	21-25	26-30	30 +
a. Preparing for class (studying, reading, writing, and other activities related to your academic program)								
b. Community service working not for pay on campus								
c. Participating in extra curricular activities (organizations, campus publications, student government, etc.)								
d. Relaxing and socializing (watching TV, partying, exercising, etc.)								
e. Providing care for dependents living with you (parents, children, spouse, etc.)								

f. Commuting to class									
g. Working for pay on campus									
h. Working for pay off campus									

Educational and Personal Growth

6. To what extent has your experience in the College of Agriculture and Natural Resources contributed to your knowledge, skills and personal development in the following areas?	Never	Seldom	Sometimes	Often	Always
a. Acquire a broad general education					
b. Acquire job or work-related knowledge and skills					
c. Write clearly and effectively					
d. Speak clearly and effectively					
e. Think critically and analytically					
f. Analyze quantitative problems					
g. Using computing and information technology					
h. Work effectively with others					
i. Vote in local, state, or national elections					
j. Learn effectively on your own					
k. Understand yourself					
l. Understand people of other racial (Black, Caucasian, Asia etc.)					
m. Understand people of other ethnic backgrounds (French, African, Polish, Mexican etc.)					
n. Understand people of other sexual-orientations					
o. Solve complex real-world problems					
p. Contribute to the welfare of your community					
q. Develop a personal code of values and ethics					
r. Develop leadership skills					

Opinions about your Program

7. To what extent does your department or school within CANR emphasize each of the following?	Never	Seldom	Sometimes	Often	Always
a. Involvement in student organizations					
b. Providing the support you need to help you succeed academically					
c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds					
d. Helping you cope with your non-academic responsibilities (work, family, etc.)					
e. Providing the support you need to thrive socially					
f. Attending campus events and activities (special speakers, cultural performances, athletic events, etc.)					
g. Career, internship opportunities					

8. Mark the box that best represents the quality of your relationships with people in your department or school within CANR.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. Your relationships with other student were supportive					
b. Your relationships with Faculty Members were supportive					
c. Your relationships with Administrative Personnel and Offices were supportive					

<p>9. How would you evaluate your educational experience thus far within CANR?</p> <p><input type="checkbox"/> Poor</p> <p><input type="checkbox"/> Fair</p> <p><input type="checkbox"/> Good</p> <p><input type="checkbox"/> Excellent</p>
<p>10. If you could start over again, would you pursue the same degree you are now pursuing?</p> <p><input type="checkbox"/> Definitely no</p> <p><input type="checkbox"/> Probably no</p> <p><input type="checkbox"/> Probably yes</p> <p><input type="checkbox"/> Definitely yes</p>

Student Attitudes and Perceptions about Agriculture and Natural Resources

11. What influenced you most to pursue a degree in the College of Agriculture and Natural Resources?	Never Influenced	Seldom Influenced	Sometime Influenced	Often Influenced	Always Influenced
a. Career opportunities					
b. Financial aid/scholarship					
c. Positive reputation of college faculty					
d. Mentor					
e. Relative					
f. Teacher/Counselor					
g. Agriculture teacher					
h. Brother/Sister					
i. Friend					
j. Other (please specify)					

Student Background and Characteristics Demographics

12. Age:
13. Gender: (Check One): _____ Male _____ Female
14. Ethnic <div style="margin-left: 40px;"> <input type="checkbox"/> WHITE/CAUCASIAN NON-HISPANIC <input type="checkbox"/> BLACK/AFRICAN AMERICAN NON-HISPANIC <input type="checkbox"/> CHICANO/MEXICAN AMERICAN <input type="checkbox"/> HISPANIC <input type="checkbox"/> AMERICAN INDIAN/ALASKAN NATIVE <input type="checkbox"/> ASIAN/PACIFIC ISLANDER (ASIAN AMERICAN) <input type="checkbox"/> MULTIRACIAL </div>
15. Are you an international student or foreign national? _____ Yes _____ No
16. What is your current classification in college? <div style="margin-left: 40px;"> <input type="checkbox"/> Freshman <input type="checkbox"/> Sophomore <input type="checkbox"/> Junior <input type="checkbox"/> Senior <input type="checkbox"/> Other specify _____ </div>

17. What size community did you come from? (Choose one)			
<input type="checkbox"/>	Large metropolitan (over 100,000)		
<input type="checkbox"/>	Suburb of metropolitan city of over 100,000		
<input type="checkbox"/>	Medium urban (10,000-99,999)		
<input type="checkbox"/>	Small town (less than 10,000)		
18. Were you raised on a Farm? _____ Yes _____ No			
19a. Did you complete any high school courses in agriculture or natural resources? _____ Yes _____ No			
19b. If yes, do you feel this course helped you make a decision to study in agriculture and natural resources in college? _____ Yes _____ No			
20. Have you ever been a:			
a. Member of the FFA	_____ Yes	_____ No	
b. Member of the 4-H	_____ Yes	_____ No	
21. Are you a member of a:			
a. Student organizations within CANR	_____ Yes	_____ No	
b. Student organization not associated with CANR	_____ Yes	_____ No	
c. Student organization not associated with the university	_____ Yes	_____ No	
22. Which of the following best describes where you are living now while attending college?			
_____	Residence (house, apartment, CO-OP etc.) within walking distance of the institution		
_____	Residence (house, apartment, CO-OP etc.) within driving distance		
_____	Fraternity or sorority		
_____	Dormitory or other campus housing (not fraternity/sorority)		
23. Did either of your parents graduate from college?			
_____	No		
_____	Yes, father only		
_____	Yes, both parents		
_____	Yes, mother only		
_____	Don't know		

24.	Did you start college at M.S.U or elsewhere?
<input type="checkbox"/>	Started here at M.S.U
<input type="checkbox"/>	Vocational-technical school
<input type="checkbox"/>	Community or junior college
<input type="checkbox"/>	4-year college other than this one
<input type="checkbox"/>	Other: Specify _____
25.	Did you start your degree in the College of Agriculture and Natural Resources or another college?
<input type="checkbox"/>	Started in CANR
<input type="checkbox"/>	Transferred into CANR from another college
26.	What type of experience do you have in Agriculture? (Check one)
<input type="checkbox"/>	None
<input type="checkbox"/>	Paid work experience
<input type="checkbox"/>	Unpaid work experience
<input type="checkbox"/>	Both paid and unpaid work experience
27.	What type of experience do you have in Natural Resources? (Check one)
<input type="checkbox"/>	None
<input type="checkbox"/>	Paid work experience
<input type="checkbox"/>	Unpaid work experience
<input type="checkbox"/>	Both paid and unpaid work experience
28.	Do you intend to pursue a career in Agriculture related area as a career choice?
<input type="checkbox"/>	Yes
<input type="checkbox"/>	No
29.	Do you intend to pursue a career in Natural Resources related area as a career choice?
<input type="checkbox"/>	Yes
<input type="checkbox"/>	No
30.	Thinking about this current academic term, how would you characterize your enrollment?
<input type="checkbox"/>	Full-time
<input type="checkbox"/>	Less than full-time

31. What is your primary degree that you are seeking with in the College of Agriculture and Natural Resources? (Please check the box that applies)

- ☐ Agribusiness Management
☐ Agriculture and Natural Resources Communications
☐ Animal Science
☐ Biosystems Engineering
☐ Building Construction Management
☐ Agriscience
☐ Crop and Soil Sciences
☐ Entomology
☐ Environmental Economics and Policy
☐ Environmental Soil Science
☐ Environmental Studies and Application
☐ Fisheries and Wildlife
☐ Food Industry Management
☐ Food Science and Human Nutrition
☐ Forestry
☐ Horticulture
☐ Packaging
☐ Park, Recreation and Tourism Resources
☐ Plant Pathology
☐ No preference in Agricultural and Natural Resources
☐ Other specify _____

32. Are you seeking a dual degree? ☐ Yes ☐ No
If yes, in what program? _____

33. Are you seeking a specialization ☐ Yes ☐ No
If yes, which _____

34. In your opinion what are some of the positives associated with The College of Agriculture and Natural Resources?

35. In your opinion what are some the negatives associated with The College of Agriculture and Natural Resources?

36. Additional comments regarding The College of Agriculture and Natural Resources?

Appendix B: Email Cover letters

INTRODUCTORY LETTER TO STUDY POPULATION

January 31, 2003

Dear CANR Students,

Welcome back. All of us in the Office of Academic and Student Affairs would like to wish you the best for this Spring Semester. I want to inform you about an important study that will be taking place in the weeks ahead. In one week, Leonard Savala, an ANR graduate student, and Dr. Michael Woods, professor in the department of Agriculture and Natural Resources Education and Communication Systems, will ask for your participation in completing the Undergraduate Student Involvement questionnaire. The questionnaire is part of their study to evaluate student involvement within the College of Agriculture and Natural Resources. Your input will be extremely valuable to the College in evaluating undergraduate student engagement. The questionnaire will be entirely online. When they email you the web page link to the questionnaire, please take a few minutes to complete the questionnaire. Participants will be entered into a drawing to receive one of three-palm pilots that will be given away at the completion of the study.

This study will be very helpful to the College. Please take a few minutes to complete it when you are contacted. If you have any questions or comments please contact Leonard Savala (savalale@msu.edu) 517/ 353-1835 or Dr. Michael Woods (mwoods@msu.edu) 517/355-6580 ext.202.

Thank you and have a great semester,
Eunice Foster

1ST EMAIL LETTER TO PARTICIPANTS

February 5, 2003

Dear Student,

Who knows more than you do about the learning environment and opportunities needed by future undergraduate students? But it's usually administrators, university faculty, and others who make the big decisions about an undergraduate education. What has been missing is the undergraduate students perspectives and opinions of what actually happens inside and outside of the classroom and what they think about their educational experience. The College of Agriculture and Natural Resources undergraduate questionnaire takes about 20 minutes to complete. What you and other undergraduates say will help the College of Agriculture and Natural Resources to improve the level of engagement with students. Please take a few minutes to visit the website and complete and return the survey. There will be three palm pilots given away at the completion of the study. Therefore, please make sure you complete the questionnaire to be eligible for the giveaway.

If you are using Pilot via telnet to check your mail please highlight and save the following address <http://www.jsri.msu.edu/squestionnaire/> Once you have saved the address, paste it in your web browser (Internet explorer, Netscape Navigator, etc.). Once you have located the page, please enter your MSU Student PID number and the password: **spartan** to access the questionnaire. We ask that if you choose not to participate in the study that you still access the questionnaire and tell us why.

If you are using Pilot Web Mail (TWIG) or any other email provider, Click on the hyperlink address <http://www.jsri.msu.edu/squestionnaire/> where you will then be prompted to enter your MSU Student PID number and the password: **spartan** to access the questionnaire. We ask that if you choose not to participate in the study that you still access the questionnaire and tell us why.

If you have any questions about the survey, please email either Leonard Savala (savalale@msu.edu) or Michael Woods Ph.D. (mwoods@msu.edu) or call 517/355-6580 ext.202

Sincerely,

Leonard Savala

2nd EMAIL LETTER TO PARTICIPANTS

February 19, 2003

Dear Students,

I would like to remind you that your participation is needed in filling out the College of Agriculture and Natural Resources Undergraduate Student Involvement Questionnaire. If you have completed the questionnaire thank you for participation. If you have not completed the questionnaire please do so at your earliest convenience. Your participation in this survey is greatly needed. I have provided the web address along with the password in order for you to access the site. The College of Agriculture and Natural Resources undergraduate questionnaire takes about 20 minutes to complete. There will be three palm pilots given away at the completion of the study. Therefore, please make sure you complete the questionnaire to be eligible for the giveaway.

If you are using Pilot via telnet to check your mail please highlight and save the following address <http://www.jsri.msu.edu/squestionnaire/> Once you have saved the address, paste it in your web browser (Internet explorer, Netscape Navigator, etc.). Once you have located the page, please enter your MSU Student PID number and the password: spartan to access the questionnaire. If you choose not to participate we ask that you still access the questionnaire and tell why.

If you are using Pilot Web Mail (TWIG) or any other email provider, Click on the hyperlink address <http://www.jsri.msu.edu/squestionnaire/> where you will then be prompted to enter your MSU Student PID number and the password: spartan to access the questionnaire. We ask that if you choose not to participate in the study that you still access the questionnaire and tell us why.

If you have any questions about the survey, please email either Leonard Savala (savalale@msu.edu) or Michael Woods Ph.D. (mwoods@msu.edu) or call 517/355-6580 ext.202

Sincerely,

Leonard Savala

3rd EMAIL LETTER TO PARTICIPANTS

March 3, 2003

Dear Students,

This is a final remind to ask you for your participation in filling out the College of Agriculture and Natural Resources Undergraduate Student Involvement Questionnaire. If you have completed the questionnaire, please accept our sincere thank you for participation. If you have not completed the questionnaire please do so today. Your participation in this survey is greatly needed. We are especially grateful for your help because we believe your response will be very useful in determining the level of engagement of undergraduate students.

If you are using Pilot via telnet to check your mail please highlight and save the following address <http://www.jsri.msu.edu/squestionnaire/> Once you have saved the address, paste it in your web browser (Internet explorer, Netscape Navigator, etc.). Once you have located the page, please enter your MSU Student PID number and the password: **spartan** to access the questionnaire. If you choose not to participate we ask that you still access the questionnaire and tell why you have chosen not to participate.

If you are using Pilot Web Mail (TWIG) or any other email provider, Click on the hyperlink address <http://www.jsri.msu.edu/squestionnaire/> where you will then be prompted to enter your MSU Student PID number and the password: **spartan** to access the questionnaire. We ask that if you choose not to participate in the study that you still access the questionnaire and tell us why.

If you have any questions about the survey, please email either Leonard Savala (savalale@msu.edu) or Michael Woods Ph.D. (mwoods@msu.edu) or call 517/355-6580 ext.202

Sincerely,

Michael D. Woods, Ph.D.
Assistant Professor
College of Agriculture and Natural Resources
Education

Leonard Savala
Research Assistant
ANRECS

FINAL LETTER TO ADDRESS NON-RESPONDENTS

March 20, 2003

Dear Academic Advisors,

Currently, Leo Savala and I are in the process of collecting data for a study entitled "College of Agriculture and Natural Resources Undergraduate Student Involvement: Across Gender, Ethnicity and Experience Level." The objective of this study is to provide CANR undergraduate students with the opportunity to reflect on and assess their educational experience, including how and where they spend their time, the types of assignments they complete, and the nature and quality of their interaction with faculty and other students.

Specifically, we are asking if you would please send out the email below to your students. Note that we are asking that you would personalize the email to address students from your respective programs. This study has been endorsed by Dr. Foster, Associate Dean of Academics and retains UCRIHS approval. Your assistance is greatly appreciated. Should you have questions, please contact either myself (mwoods@msu.edu or 355.6580) or Leo Savala (savalale@msu.edu).

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

Best regards,
Michael Woods
Assistant Professor
ANRECS

Appendix C: Posted Flyer

College of Agriculture and Natural Resources Undergraduate Student Involvement Questionnaire

Undergraduate Students,

Who knows more than you do about the learning environment and opportunities needed by future undergraduate students? The College of Agriculture and Natural Resources undergraduate questionnaire takes about 20 minutes to complete. What you and other undergraduates say will help the College of Agriculture and Natural Resources to improve the level of engagement with students. Please take a few minutes to visit the website and complete and return the survey. There will be **three palm pilots** given away at the completion of the study. Therefore, please make sure you complete the questionnaire to be eligible for the **giveaway**.

<http://www.jsri.msu.edu/squestionnaire/>

If you have any questions about the survey, please email either Leonard Savala (savalale@msu.edu) or Michael Woods Ph.D. (mwoods@msu.edu) or call 517/355-6580 ext.202

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